

inbound logistics



INTERMODAL TRANSPORT:

The Little Engine That Could

Despite an uphill climb, intermodal trains chug merrily along as they carry wonderful products to good little consumers.

C hug, chug, chug. Puff, puff, puff. After two years of steady acceleration, intermodal transportation in North America hit a slowdown in 2016. Intermodal volume in the second quarter of 2016 fell by 6.1 percent compared with the same quarter in 2015, according to the Intermodal Association of North America (IANA).

Shippers actually used more intermodal containers for domestic moves in Q2 2016—3.4 percent more than in 2015. But a 28.6-percent decrease in domestic intermodal trailer volumes and a 9.3-percent drop in international shipments using ISO containers offset that growth enough to keep the total picture in negative numbers.

Strictly speaking, “intermodal” refers to any freight movement that involves transferring a shipping container from one mode of transportation to another—including, for example, a move from ship to truck or vice versa. But in common parlance, “intermodal” means a movement that uses rail for part of the trip.

By Merrill Douglas

The Price Is Right

Why did shippers start using intermodal less in 2016? The short answer is that over-the-road (OTR) truck capacity has grown more abundant, driving trucking rates down.

“You can get truck capacity at a good price, and shippers are taking advantage of that,” says Lawrence Gross, president of Gross Transport Consulting in Durango, Colo., and a senior consultant and partner with FTR Transportation Intelligence.

Many shippers once avoided intermodal because they deemed rail service too slow and unreliable for their needs. Rail carriers have made significant upgrades in recent years, though, turning intermodal into an economical alternative when the supply of trucks was tight and rates were high.

Illustrations by Lynnor Bontigao

"The intermodal industry has advanced, creating new capacity for future growth, as well as better and more consistent service," says Darren Field, senior vice president of intermodal at J.B. Hunt Transport in Lowell, Ark. He points to the major investments that railroads have made in linehaul and terminal capacity over the past five years. "In 2015 alone, key players invested as much as \$10.9 billion in equipment and infrastructure to improve railroad velocity," he says.

"Service is currently at its highest level in three to four years," says Brian Alexander, executive vice president of Unyson Logistics, a St. Louis-based third-party logistics (3PL) provider that is a division of intermodal marketing company Hub Group. Besides sticking to schedules more reliably, railroads also have reduced transit times, providing high-speed service in regions such as the Northeast and the Los Angeles-to-Chicago corridor, he adds.

Dollars and Sense

But now that demand for capacity is softer, and motor carriers have reduced their rates, intermodal is less often the obvious choice.

For sophisticated shippers, though, intermodal is one of several core options to be exercised case by case as market conditions dictate. "There's nothing intrinsically good or bad about intermodal," Gross says. "It makes sense in some situations; it doesn't in others."

Mainly, it makes sense when there are intermodal terminals close to both the origin and destination, and/or the rail portion of the trip is sufficiently long. "The farther you are from the terminal, the farther you have to go over the rail for it to make sense," Gross says.

Domestic shippers seem to be following that logic as the average length of a domestic intermodal haul has been growing longer. But the average rail trip involving ISO containers moving to or from a seaport has been shrinking.

That's because U.S. importers now use a wider variety of ports, rather than bringing most freight through Los Angeles and Long Beach. Several factors have prompted that trend: the 2015 labor disputes at the West Coast ports; the Panama Canal's recent expansion; and migration of some manufacturing from China to countries such as Vietnam and India, where the optimal route to the United States often runs through the Suez Canal.

Large U.S. importers might divide incoming shipments among as many as five regions: the Northwest or Western Canada, Los Angeles-Long Beach, the



To improve rail service, Union Pacific invested more than \$1.1 billion in intermodal facilities since 2000.

Northeast, the Southeast, and the Gulf Coast. "Importers then have the ability to 'turn the dials' and change the mix of volumes moving to each port in response to local conditions," Gross says. "That's a less intermodal-friendly stance than in the past, when every shipment came through Los Angeles and Long Beach and was railed beyond."

As shippers switch among different modes, many continue to gain advantages from intermodal transportation.

"Small shippers are coming in and out of the intermodal space, largely based on price," says Bryan Foe, vice president of intermodal at C.H. Robinson, Eden Prairie, Minn. Large shippers stick with intermodal more consistently, to lock in

capacity as market conditions vary.

"They may renegotiate some prices with intermodal providers, but by and large they try to maintain their strategies and continue to manage risk across multiple modes."

Those shippers want to take advantage of today's lower rates, but they also realize that those bargains won't last forever. For instance, observers point to new regulations requiring all commercial trucks to use electronic logging devices (ELDs) by December 2017. Because they will control drivers' hours of service (HOS) more precisely, ELDs could put a fresh squeeze on trucking capacity, resetting the equation that shippers employ to choose between OTR and intermodal.

Thanks to such concerns, larger shippers are working collaboratively with their service providers, trying to secure better rates while maintaining long-term relationships with intermodal carriers.

Consider a shipper that has been using intermodal transportation to move 10 loads daily from Point A to Point B. "They might choose to move three of those loads by truck today to take advantage of truck pricing, but leave the other seven loads on the rail to be true to their contracts and make sure they're spreading that risk, to provide for the future," Foe explains.

In short, intermodal helps shippers manage uncertainty. "Intermodal provides a flexible capacity source, with customizable transportation plans to accommodate for fluctuations in volume demands from shippers, while minimizing the costs associated with spikes in demand," Field says.

Retailers Get On Board

New shippers also continue to explore intermodal. Their numbers include retailers, who haven't used this strategy much in the past. "Many of our retailers doing pilot testing are pleased with the results, with cost savings on longer hauls for deliveries into retail stores," says Alexander. Those retailers use the rails to move product from distribution centers (DCs) to intermodal terminals, where trucks pick up the loads for last-mile delivery.

Lactalis American Group, a major cheese producer based in

Buffalo, N.Y., has been using intermodal for about 10 years to ship some product between its facilities in Buffalo and Boise for inventory replenishment. "Cost was the initial reason we moved to intermodal," says Terrance Martin, the company's general manager, corporate logistics. "And it helped when capacity was tight." The trip takes about one and a half days longer than it would over the road, but the cost advantage has been worth the small slowdown, he says.

For trips originating in Boise, Lactalis has its containers drayed to the Union Pacific (UP) intermodal terminal in Salt Lake City. "We run the freight on the UP to Chicago and then on CSX to Buffalo," Martin says. The product travels in double-stacked refrigerated containers. "Then we dray it from the Buffalo rail yard to our facility," he adds. The

Buffalo-to-Boise trip is similar, but in reverse.

Lactalis outsources the management of these moves to Salt Lake City-based trucking company C.R. England, which provides technology that lets the shipper track its loads and monitor their temperature.

The company also operates plants and DCs in Belmont and Merrill, Wis., but doesn't use intermodal for shipments to or from those locations. That's because there aren't enough opportunities there to create round trips. "If we do one-way intermodal, we lose our cost advantage," Martin says.

Lactalis uses intermodal for only about 15 percent of its moves between Buffalo and Boise. And now that trucking capacity has expanded and rates have come down, the business case for those moves isn't as clear as it used to be. The company has

Kia Motors: I Think I Can Join an Inland Port

Once upon a time, Jonathan Lafevers and his father decided to build an intermodal terminal in Cordele, Ga. One attraction that location offered was a path to and from the Port of Savannah entirely on short line railroads.

"Short line operators are entrepreneurial and grassroots, and they don't have the overhead of a Class I railroad," says Lafevers, president and chief commercial officer at Cordele Intermodal Services (CIS), which owns and operates the inland port. A short line could take on as few as 10 containers weekly for CIS, making it possible for the new terminal to start small and then grow incrementally. "A Class I railroad would look for a minimum of 150 containers before even considering doing an intermodal pool," he says.

Opened in 2011, the 40-acre CIS site currently offers service between its facility and the Port of Savannah using the Heart of Georgia railroad (which has common ownership with CIS) and Georgia Central. CIS also provides warehousing at the site. It uses its own fleet, plus trucks operated by partners, to provide drayage services in Cordele and Savannah.

Traditionally, CIS has mainly served companies that grow and export agricultural commodities such as peanuts and cotton. But in 2016, the facility acquired a new customer that is a significant importer in the area: Kia Motors Manufacturing Georgia (KMMG). The automotive manufacturer works with

CIS to bring container loads of parts by rail from Savannah to the inland port, store them there, and then truck them as needed to its assembly plant in West Point, Ga.—a trip of about 130 miles.

KMMG used to warehouse those parts in Savannah and then truck them about 270 miles to West Point. The new solution gives the company easier, faster access to its inventory.

"We run three shifts, five days per week, and occasional Saturdays as well," says Kevin Kinsey, senior manager of procurement at KMMG. If staff at West Point should find that they were missing crucial inventory during a shift, they could send to Cordele for replenishment at any time and know the product would arrive without delay.

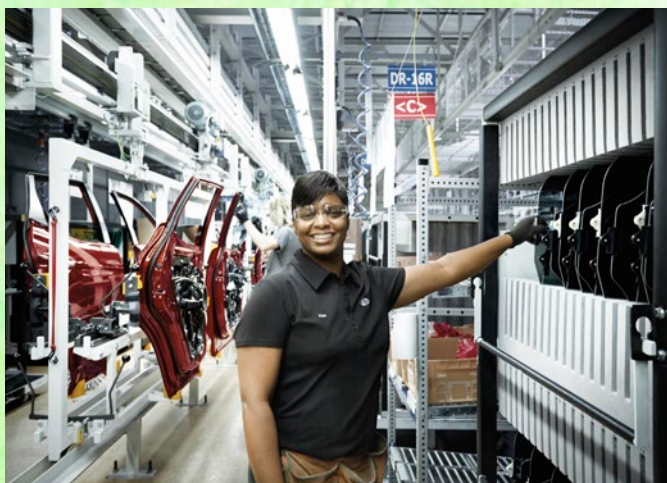
The intermodal strategy also brings cost benefits.

"Rail is a more efficient way of transporting many containers at one time," Kinsey says. It allows the company to use the same chassis multiple times per day, instead of just once. And it provides similar efficiencies with regard to drivers, who have to watch their hours of service carefully under the latest federal regulations. "With Cordele being a few hours away, versus six hours away to Savannah, that allows

those drivers to get a full two turns a day to support our needs," he says.

It took several years to develop the rail connection between CIS and Savannah to the point where it could handle inbound traffic. "Inbound cargo moves at a much higher velocity and has much tighter time constraints," says Lafevers.

At the outset, the rail service ran only



Georgia's first inland port in Cordele has entered into a partnership with Kia Motors Manufacturing Georgia. Imported auto parts arriving at the Port of Savannah will be transported by rail to the inland terminal, then moved to Kia's West Point plant.

two days per week, with transit times of two to three days. "Now we run five days per week, and it's an overnight transit," he says.

"That was the key to landing the Kia deal: to behave like a truck but have the capacity of a rail."



Cargo is loaded onto rail cars at the Georgia Ports Authority Chatham Intermodal Container Transfer Facility.

also seen some service issues on the rail, particularly in the fourth quarter of the year. “But for the most part, it’s still worth it for us to do it,” he adds.

Network Georgia

As shippers weigh the pros and cons of intermodal, railroads, terminal operators, and others continue to invest in facilities and technologies to make it an even more attractive option.

The Georgia Ports Authority (GPA), for example, has launched an initiative called Network Georgia that promotes development of new inland ports, and encourages shippers to collaborate to gain efficiencies.

One new intermodal terminal, the privately owned Cordele Inland Port in Cordele, Ga., started operations in 2011. Cordele Intermodal Services (CIS) owns and operates the port. “We partnered with CIS to market that facility internationally and create connectivities,” says John Trent, senior director of strategic operations and safety at GPA.

Several Georgia companies that export products through the Port of Savannah have been using the CIS inland port. In September 2016, Kia Motors Manufacturing Georgia became the first importer there (*see sidebar*).

In July 2016, GPA’s board of directors and the State of Georgia approved a \$19.7-million investment in a second inland intermodal facility, the Appalachian Regional Port in Murray

County. GPA will own and operate that terminal. GPA hopes to see three more inland ports open in Georgia.

Network Georgia’s second focus is to help shippers reduce empty container miles. In one case — this one not involving rail — it connected a large retailer with several clay exporters to optimize container moves for everyone concerned.

The retailer had been trucking as many as 40,000 ISO containers annually from the Port of Savannah to a DC on Interstate 16 and then returning the empties to the port. Clay exporters had been trucking empty containers into their fields and then sending them to Savannah. Now, the containers make a loop, loaded both ways, saving money for the retailers and exporters.

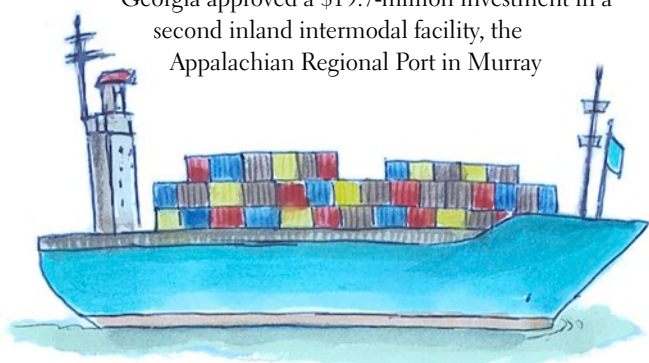
Ongoing Investment

UP continues to invest in its intermodal network. For example, in 2015 it started construction on the first phase of a terminal expansion project at Port Laredo, Texas. “This expansion will enhance the terminal’s ability to serve as a strategic focal point for freight moving across the border to Mexico,” says Mark Simon, assistant vice president, international intermodal at the Class I railroad, based in Omaha.

To keep international containers moving, UP puts a priority on loading containers directly on dock at ocean ports. “This is the most efficient method of moving a container and minimizes emissions by eliminating a truck move,” Simon says. “We currently handle more than 70 percent of port traffic on-dock.”

UP has been developing new strategies for other kinds of moves as well. One is an export solution called Dallas to Dock, for plastic pellets manufactured on the Gulf Coast. UP will use a carload service to transport that product to Dallas.

“Once in Dallas, the pellets will be packaged and loaded into intermodal containers and travel to ocean ports on our premium intermodal service,” Simon says. The service reduces the drayage



Intermodal or OTR? Make It Happen

"Intermodal transportation can be efficient, flexible, and cost effective," says a whitepaper published by third-party logistics company C.H. Robinson. But it's not the right mode for every shipment. How to decide where intermodal fits into a particular supply chain strategy? Consider these factors:

■ **Location:** Intermodal makes the most sense when origin and destination points are relatively close to intermodal ramps, eliminating the need for backtracking and line changes, which lengthen transit times and increase costs.

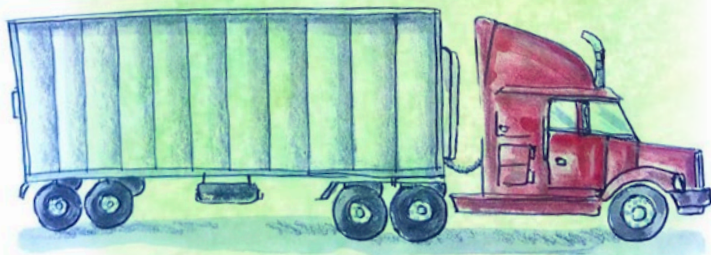
■ **Length of haul:** Longer intermodal hauls make better economic sense than shorter ones. "Typically, shipments traveling at least 600 miles are where yields start paying dividends for customers in the right lanes," the paper says.

■ **Freight characteristics:** Except for hazardous freight that railroads prohibit, most products can travel via intermodal. But if you're shipping fragile products, keep in mind that best practices for securing your load will differ from the methods you use for truck hauls.

■ **Seasonality:** If you require more capacity to accommodate seasonal surges in volume, intermodal carriers may provide the space you need.

Several myths about intermodal continue to circulate among shippers: transit times are slow, ramp locations are inflexible, deliveries are unreliable, shipments often get damaged, and shipping by intermodal is unnecessarily complex. But, says C.H. Robinson, thanks to the efforts of the railroads, and expertise available from intermodal marketing companies (IMCs), intermodal offers an effective and reliable alternative.

Integrating intermodal transportation into a broader logistics strategy requires expertise and careful planning, the paper cautions. But the payoff is well worth the effort.



required to get pellets to the intermodal terminal. It also takes advantage of greater container availability in Dallas and expedited intermodal service available between Dallas and the ports.

As a UP customer, Alexander at Unyson Logistics says he's excited about upgrades the railroad is making to its terminals. "They're making sure the product can flow in and out of their rail ramps with ease," he says. "They don't lose hours. It's coming down to managing transit hours versus transit days."

IANA recently introduced three electronic services that make the exchange of containers and chassis among carriers more efficient. The first, Street Interchange, provides an official, automated way for one motor carrier to transfer a container to another without first returning the container to the pickup location. This occurs, for example, when one carrier drops a loaded container at a customer's DC, the customer unloads it, and another carrier picks it up for transport elsewhere.

Street Interchange benefits shippers because when a motor



Hub Group expects its intermodal volumes to increase between 2 and 4 percent in 2016 over 2015 levels.

carrier comes onto a shipper's facility, the service validates that the carrier has the authorization and insurance necessary for picking up a container, says Dennis Monts, who leads IANA's new product development efforts. By facilitating container transfers, Street Interchange ultimately can save shippers money. "If the Street Interchange system can always keep a motor carrier loaded or pulling equipment, then it's more efficient," he adds.

The second service, Chassis Gate Control, automatically validates that when a carrier picks up an intermodal chassis, that carrier has an agreement with the chassis owner allowing it to handle that particular piece of equipment.

The Bad Order Equipment Status service maintains a clearinghouse of information on chassis that have been damaged. It notifies everyone concerned about the status of that equipment, both when it's damaged and when it's ready to go back into circulation. "All these systems provide safe equipment, efficiency, and throughput to the terminals," Monts says. "Ideally, this will save all parties a lot of money."

With so many developments to improve speed and service, intermodal will remain an essential transportation strategy, helping shippers negotiate the ups and downs of a dynamic transportation marketplace.

We thought it could. ■