RILA Issue Brief:

Sustainability in Retail Logistics & Transportation

Today’s customers expect access to a wide range of products that may be manufactured in all parts of the world, making product transportation a critical part of the retail equation. A significant cost for the industry, transportation also involves fuel consumption that emits carbon dioxide and particulates. Retailers are reshaping logistics to take advantage of lower cost solutions with less environmental impact.

Keys to Success in Retail

In retail, small, frequent deliveries by road and air are increasingly common as retailers strive to keep inventories low, and meet consumer demand for local produce, high-obsolescence electronic goods, and other short shelf-life goods. Retailers are working in two key ways to reshape logistics and transportation: reducing transport and improving transportation efficiency.

How Do Retailers Make Logistics & Transport More Sustainable?

1. Reducing Transport—Fewer Trips. With one quarter of the trucks on U.S. highways running empty on a given day, retailers are finding ample opportunity to reduce transportation overall—from eliminating empty space in the transportation chain to applying data-rich management systems that enable more detailed planning. Moving the same goods with fewer trips reduces spending on fuel, fleet maintenance, and/or contracting with vendors. Visit EDF Smart Moves for retail examples.

Retailer activities to reduce transport include:

- **Management Systems.** Retailers, such as Home Depot, collect detailed data on their transportation chain and use a transportation management system to improve route planning, load optimization, carrier mix, and mode selection. Retailers also integrate data with logistics and warehouse management processes to optimize both transport and warehouse networks.

- **Load Planning.** Loading trailers to capacity reduces the number of outbound trips. In its “Truckload Utilization Project,” SC Johnson found new opportunities to combine orders by changing the incentives they offered to customers, and to combine products of different size and weight, such as Ziploc storage bags with Windex cleaner. Brands and retailers also consider transportation in the design of products and packaging.

- **Increasing Load Utilization.** Replacing printed user guides and other documentation with electronic files, concentrating water-based products, and eliminating air and unused space
has enabled many retailers to increase the number of products per pallet, reduce overall trips, optimize loading, and minimize damage during transport (and subsequently, transport associated with returns).

- **Route Planning.** Optimizing routes enables retailers to reduce empty runs, and plan for backhauling or other methods to fully utilize transport capacity in both directions. A pilot conducted by Macy’s and Schneider National matched companies in order to fill empty backhauls. The average annual savings per lane was $25,000 and 150 tons of greenhouse gas emissions, with potential to expand across Macy’s portfolio. With thirty percent of the space in trucks on U.S. highways underutilized, and one quarter of trucks running empty, capturing even half of this wasted capacity will save thirty billion USD in spending on diesel fuel and reduce total freight emissions in the U.S. by twenty percent.

- **Lane Sharing & Pooling.** Colgate Palmolive, Mondelēz International, and Nestle are among the companies pooling shipments in order to achieve the volumes needed to replace some truck shipments with rail. Ocean Spray opened a new distribution center and collaborated with a competitor to use empty rail cars returning from deliveries in Florida, reducing transportation costs for its Southeast distribution operations by forty percent and cutting carbon emissions by twenty percent. In other examples, grocery and non-grocery retailers combine transportation networks with shared suppliers to minimize trips and maximize loads. In successful collaborations, companies address differences in vehicle sizes, temperature regimes, methods, and equipment for delivering products into the store, including the size of roll cages, dollies and merchandising units. When competitors collaborate on distribution and pool shipments, third-parties are engaged to keep business-sensitive information confidential.

- **Local Sourcing.** Retailers are increasingly seeking out local suppliers to meet consumer demand and reduce the costs and emissions of long-distance transportation.

- **Postponement.** Performing final assembly closer to a product’s final destination, such as in the Distribution Center, and delaying final assembly until shipment is known as postponement. Given the challenges of “just-in-time” inventory management, postponement helps avoid frequent, unplanned use of expedited freight (often air, which can be high in GHG emissions and cost). It “allows more efficient inbound shipments, because shipping individual components takes up less space than finished goods that are already packaged,” and it lets retailers “better match supply with demand.”

2. **Improving Transportation Efficiency—Less Fuel, Fewer Emissions.** Retailers are optimizing existing fleets, shifting to new technologies and alternative transportation methods, and employing a mix of transport modes. Moving the same goods with less fuel reduces costs and greenhouse gas emissions. Retailer activities for improving efficiency include:

- **Existing Fleet.** Retailers are improving the efficiency of existing truck fleets by performing regular vehicle maintenance, adding advanced tires, wind fairings, aerodynamic skirts, auxiliary power, and fuel tank covers, as well as introducing “no-idling” policies, governing maximum speeds, training drivers, and employing vehicle telematics.

- **Modernized Fleet.** Newly designed vehicles offer improved trailer design and greater carrying capacity, as well as alternative fuel or engine options. Alternative fuels, including natural gas, biodiesel, and electricity can emit fewer GHGs than diesel. Hybrid fuel-electric engines operate more efficiently than their conventional counterparts.

- **Carrier Incentives.** Retailers that hire transport and logistics vendors ask for information on GHG emissions and progress on emissions reductions. For example, HP incentivizes carriers to reduce GHG emissions, partnering to establish shared freight arrangements and to introduce natural gas vehicles at West Coast distribution centers. Other retailers evaluate bids based on the modes

**Sharing warehouse and distribution operations among shippers can reduce costs by thirty percent, and greenhouse gases by 25 percent. Companies with products headed for the same destinations, including Best Buy, Sun-Maid Growers, Just Born, Hershey’s and Ferrero, establish collaborative distribution agreements so that trucks can be loaded more efficiently and deliveries can be made more often.**
of transport used, or based on third party rankings. For example, The Home Depot contracts exclusively with SmartWay certified carriers. Carriers ranking in the top twenty percent gain an advantage over lower-ranked carriers. The Home Depot inflates bid rates between one percent and one-quarter of one percent for the lowest ranking carriers, placing sustainability criteria alongside cost and reliability criteria when evaluating carrier bids. In addition to SmartWay, retailers can encourage third-party carriers to participate in the Coalition for Responsible Transportation, the Future of Fuels, or other existing initiatives.

- **Intermodal Transport.** EDF calculates savings of one billion gallons of fuel from shifting ten percent of truck shipments to other forms of transportation. The Container Store and Michael Kors are among the companies shifting to intermodal transport. (See side bars.)

- **Unmanned Transport.** Retailers are exploring the potential cost, time, and environmental advantages of transport via unmanned vehicles—both driverless trucks and drones. Driverless trucks, able to operate every day of the year and twenty four hours a day, have the ability to move today's freight volumes with forty percent fewer trucks on the road, potentially reducing traffic congestion and emissions. Retailers are experimenting with drones, in particular to transport goods the “last mile” from the warehouse to the customer’s home, which can be a highly expensive, inefficient, and problematic leg of the supply chain.

**Intermodal Ocean and Road.** Michael Kors reduced transit time for its products by thirty percent, reduced freight costs by twenty dollars per item, and reduced transport-related GHG emissions by shifting a portion of its transport from air to ocean freight. Given that its volumes were significantly less than the size of a container, Michael Kors used a service that matched its shipments into full containers. Typically “less than container load” (LCL) shipping adds transit time, because goods are re-sorted on arrival and transported as “less than truckload” (LTL) freight to their final destination. In partnership with a logistics firm, Michael Kors had a single provider for its LCL and LTL freight that improved transit times.

**Proponents suggest driverless trucks** will lead to significant changes to the U.S.'s $700 billion dollar trucking industry and to the way transportation is managed, benefitting carriers with higher returns on assets and shippers with lower rates. In 2016, the driverless vehicle industry formed a lobbying group and Nevada, California, Michigan, Florida, North Dakota, Tennessee, and Utah authorized self-driving vehicles. The Self Driving Coalition for Safer Streets—including Volvo, Ford, Google, Uber, and Lyft—aims to promote self-driving vehicles. “Many believe the driverless trucks will initially be deployed to the interstate systems only, with local drivers engaging with the driverless trucks to perform the first mile and final mile pickups and deliveries on the secondary road systems.”

**Intermodal Rail and Road.** The Container Store saved an initial $300,000 and reduced its greenhouse gas emissions by forty percent when it began servicing one third of its stores via intermodal transport—moving goods long distances by rail and delivering them to the final destination by truck. The Container Store uses intermodal transport for both inbound and outbound freight. To meet its requirement of transporting deliveries to stores within very short time frames, The Container Store partnered with Burlington Northern Santa Fe Railway and J.B. Hunt Transport Services. J.B. Hunt assigned priority status to all cargo destined for the store, and notified the drayage drivers, to ensure the strict time requirements are met.
Additional Information

**Leadership Steps for Logistics & Transport in Retail.** To enable retailers to benchmark their sustainable logistics and transportation practices, RILA and the CRC’s [Retail Sustainability Management Leadership Model](#) includes a dimension on sustainability goals:

### Transportation / Logistics

#### Initiating
- Aware of impact of transportation decisions on the environment
- Baseline emission measurements
- Sustainable transportation initiatives are in early planning stages

#### Progressing
- Employs improved blend of rail, road, and air transportation modes
- Includes capacity management as a criteria in managing distribution
- Uses or tests some alternative fuels in transportation vehicles
- Participates in EPA SmartWay

#### Excelling
- Packaging and transportation system designs concurrently occur to optimize flow of goods and minimize space and energy usage
- Develops innovative shipping mechanisms to maximize load capacity
- Uses reusable containerization for nearly all products
- Recognized EPA SmartWay Carrier & Shipper with a high ranking score

#### Leading
- Demonstrates reduction of environmental impact by optimizing transportation and warehouse network
- Replaces vehicle fleet with ‘green vehicles’
- Considers emissions when selecting transportation vendors

#### Transforming
- Forms transportation alliances to maximize load capacity and minimize waste
- Recognized excellence in reducing environmental impact from transportation strategies

Some relevant resources, case studies, and collaborative opportunities are listed below.

<table>
<thead>
<tr>
<th>Resources</th>
<th>Case Studies</th>
<th>Get Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educational tools</strong></td>
<td><strong>Case Studies</strong></td>
<td><strong>Get Involved</strong></td>
</tr>
<tr>
<td>- Global Logistics Emission Council carbon accounting method for global supply chain</td>
<td>- Smart Moves, Examples of Cutting Transport Costs and Emissions, EDF</td>
<td>- Coalition for Responsible Transportation</td>
</tr>
<tr>
<td>- Guide to Transportation Collaboration, Food and Beverage Retailers, UK</td>
<td>- HP and Home Depot Sustainability in Transportation</td>
<td>- Clean Cargo Working Group on ocean transport</td>
</tr>
</tbody>
</table>

Visit [www.rila.org/sustainability](http://www.rila.org/sustainability) for more tools and resources.