

Improve Freight Logistics

A Glance at Clean Freight Strategies

ENERGY & FUEL SAVINGS



Gallons Saved:

750
gallons

CO₂ Savings:

7.6
metric tons

Reduction in
Fuel Consumption:

4.5%

Fuel Cost Savings:

\$2,180

A trucking fleet that optimizes its freight logistics can save fuel, time, and improve productivity. This reduces fuel costs and generates additional revenue, while cutting greenhouse gas emissions.

WHAT IS THE CHALLENGE?

Inefficiencies in freight operations can cause trucks to travel empty (without cargo), use longer or more congested routes, and idle unnecessarily. These inefficiencies increase fuel consumption and fuel costs, and cause trucking companies to miss opportunities to generate revenue.






When motor carriers cannot arrange for a return shipment, the empty truck move (called a deadhead) doesn't generate revenue, but accumulates costs in labor, equipment wear, and fuel. In some fleets, **20 percent** or more of annual truck miles may be non-revenue deadhead miles. For a typical long-haul truck, this could add up to about **20,000 miles** each year, consuming over **750 gallons** of diesel fuel and producing **7 metric tons** of carbon dioxide, the most prevalent greenhouse gas. Inefficient truck routing and loading and unloading practices also contribute to excessive fuel use and greenhouse gas emissions.

WHAT IS THE SOLUTION?

Improved freight logistics can minimize inefficient freight operations, saving fuel and increasing revenue for trucking companies. Improved logistics includes load matching, more efficient routes and delivery schedules, and improved shipping and receiving practices.

Options for Load Matching

Motor carriers can use a variety of load matching strategies to reduce deadhead mileage.

-  **Routes** can be arranged so trucks haul successive loads in a triangular pattern.
-  **Trucking companies** in different areas may coordinate on loads and back hauls.
-  **Trucking companies** can use freight brokers or logistics companies that match empty carriers with shippers.
-  **Drivers** may check the electronic monitors (called load boards) available at some truck plazas for information on loads that shippers have available to carry.
-  **Trucking companies** can use an electronic data interchange system to communicate logistics information among dispatchers, drivers, and customers.

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The Internet, with its potential for widespread, real-time information exchange, also offers load matching opportunities via a number of trucking-oriented web sites.

Options for Routing and Scheduling Software

Computerized routing and scheduling software that is based on optimization models can often provide more efficient routing solutions than dispatchers can achieve on their own. This software allows routes to be constructed taking into account driver hours-of-service rules, pick up and delivery schedules, vehicle size constraints, vehicle-product compatibility, equipment availability, vehicle-loading dock compatibility, route restrictions, and deadhead mileage.

Options for Flexible Loading and Receiving Schedules

Increased flexibility at loading docks can contribute to fuel efficiency and cost reduction. Innovations like 24/7 shipping-and-receiving allow trucks to travel at off-peak times and avoid traffic congestion. With more flexibility to deliver and pick up loads, trucking companies can decrease idling, minimize the time spent loading and unloading, and make better use of their hours and equipment to haul freight and generate revenue.

SAVINGS AND BENEFITS

Load matching, improved routing and scheduling, and flexible loading and unloading practices help trucking fleets improve productivity and increase revenue-miles while decreasing fuel consumption and greenhouse gas emissions. Reducing truck trips can decrease fuel use by about **4.5 percent**, resulting in **7.6 metric tons** of CO₂ saved.

7.6
metric tons
of CO₂ saved



NEXT STEPS

- 1** Trucking firms can take advantage of the available options for improved logistics and encourage shippers to adopt more flexible shipping and receiving practices.
- 2** Individual truck drivers can seek out numerous trucking oriented websites that provide information on load matching services and opportunities.
- 3** Freight brokers and software vendors can provide information on logistics services and software. Information is also available from professional organizations, such as the Council of Logistics Management (www.clml.org).

Please visit the SmartWay website at www.epa.gov/smartway to access more tech bulletins.

