

# Overview of Carrier Strategies

*Truck and rail transportation provides a cost-effective means to transport much of America's freight. There are simple actions that can be taken to make ground freight more efficient and cleaner for the environment. The following technologies and practices can help truck carriers save fuel and money, reduce air pollution, and cut carbon dioxide emissions that contribute to climate change.*

## Idle Reduction

*An idling truck burns nearly one gallon of diesel fuel per hour. Reducing unnecessary idling could save nearly \$3,000 in fuel costs, cut air pollutants, and cut 19 metric tons of carbon dioxide annually.*

- On-board idle reduction systems include auxiliary power units that provide electricity to the cab, direct-fired heaters and coolant systems that provide temperature control, and programmable automatic engine shut-off systems.
- Truck plazas equipped with truck stop electrification systems allow trucks to draw electrical power and in some cases heating, cooling, telecommunication, and Internet hookups from a ground source.

## Improved Aerodynamics

*Improving the aerodynamics of a typical line-haul truck by 15 percent could cut annual fuel use more than 2,000 gallons, save over \$3,500 in fuel costs, and eliminate 20 metric tons of carbon dioxide.*

- Tractor aerodynamics can be improved by adding integrated roof fairings, cab extenders, side fairings, and air dams. New truck buyers can purchase aerodynamic models with streamlined profiles.
- Trailer aerodynamics can be improved by minimizing tractor-trailer gap, adding side skirts and rear air dams, and arranging cargo and tarpaulins as low, taut and smooth as possible.
- Single-unit trucks can be improved with air deflector bubbles or by purchasing new streamlined models.

## Improved Freight Logistics

*Improved logistics can reduce the miles that a truck drives empty. Eliminating 15 percent of a line-haul truck's empty miles could save \$3,000 in fuel and reduce 24 metric tons of carbon dioxide annually.*

- Improved logistics include load matching, more efficient routes and delivery schedules, and improved shipping and receiving practices.
- A carrier may employ low-cost options like triangular routing, coordinating loads with other fleets, and checking electronic load boards, or it may purchase freight broker services and logistics software.

## Automatic Tire Inflation Systems

*Retrofitting a line-haul truck with an automatic tire inflation system could save 100 gallons of fuel annually and reduce tire wear and maintenance, while eliminating one metric ton of carbon dioxide.*

- Truck fleets that find it too difficult or expensive to monitor tire pressure on a regular basis should consider installing automatic tire inflation (ATI) systems on drive and trailer tires.
- An ATI system used on a typical line-haul truck can generally pay for itself in just over two years, while decreasing the risk of expensive tire failure caused by under inflation.

## Single Wide-base Tires

*Specifying single wide-base tires on a new combination truck could save \$1,000 immediately and reap annual fuel savings of two percent or more while cutting carbon dioxide by more than four metric tons.*

- Single wide-base tires save fuel by reducing vehicle weight, rolling resistance and aerodynamic drag. These tires can also improve tank trailer stability by allowing the tank to be mounted lower.
- There are several single wide-base tire models from which to choose and these tires can be retreaded.

## Driver Training

*Even highly experienced drivers can boost their skills with training aimed at raising fuel economy by five percent or more, which would save \$1,200 in annual fuel costs and cut eight metric tons of carbon dioxide.*

- Effective driver training programs can improve fuel economy by five percent or higher. Some fleets report fuel economy gains of up to 20 percent.
- Among other techniques, drivers learn progressive shifting, engine speed optimization, idle reduction, smoother braking and acceleration, anticipatory driving, speed control, and optimal gearing.