

Driver training programs can help trucking companies save fuel and reduce greenhouse gas emissions by increasing drivers' skills, knowledge, and performance. A driver-training program that improves fuel economy by 5 percent could save over \$1,200 in fuel costs and eliminate eight metric tons of greenhouse gas emissions per truck each year.

What is the challenge?

Even highly experienced truck drivers can boost their skills and enhance driving performance through driver training programs. Training that targets fuel efficiency can help drivers recognize and change driving habits that waste fuel. For example, driving 65 mph instead of 55 mph can use up to 20% more fuel. Idling an engine burns almost one gallon of fuel per hour. Driving with the engine rpm too high can waste several gallons of fuel each hour. Other common habits that reduce fuel economy are frequent or improper shifting, too-rapid acceleration, too-frequent stops and starts from failing to anticipate traffic flow, and taking circuitous routes.

A few simple changes in driving techniques can produce sizable fuel savings of 5 percent or more. A Canadian study estimates that many fleets could achieve a 10 percent fuel economy improvement through driver training and monitoring. For a typical combination truck, a 10 percent saving is the equivalent of nearly \$2,500. A study for the European Commission estimates that an annual one-day driver-training course will improve truck fuel efficiency by five percent. Two trucking fleets in Canada documented the impact of driver training and found fuel efficiency improvements of 18 percent and 20 percent.

What is the solution?

Well-trained drivers can reduce fuel consumption by applying a number of simple techniques. These include: use cruise control where appropriate; coast whenever possible; block-shift (go from, for example, 2nd gear to 5th gear); brake and accelerate smoothly and gradually; progressive shift (upshift at the lowest rpm possible); limit unnecessary truck idling; start out in a gear that doesn't require using the throttle when releasing the clutch; limit unnecessary shifting; drive at the lowest engine speed possible; reduce parasitic energy losses by limiting the use of accessories.

Employers, vocational schools, and for-profit training organizations can teach drivers these fuel-saving

techniques. Many trucking companies also monitor driver performance and may provide incentives to drivers who reduce fuel consumption. Electronic engine monitors can be used to review drivers' operating patterns and benchmark individual performance over time.

The results are in . . .

Fleets that improve fuel economy by at least 5 percent through driver training and monitoring programs can save more than \$1,200 per truck each year in fuel costs and eliminate 8 metric tons of carbon dioxide emissions per truck each year. For a typical long-haul truck, the initial cost of training and the purchase of related equipment such as an electronic engine monitor and recorder could be recouped within two years from fuel cost savings. Trucking companies may realize even greater fuel and maintenance savings by using technologies that limit truck idling and highway speed.

Driver training may generate larger efficiency gains for vehicles in urban service, where shifting practices have more influence on fuel economy. Good driving practices are also part of courteous and safe truck operation that reflects well on the professionalism of the driver and his or her trucking company.

Next steps

Trucking firms should consider implementing driver-training programs to reduce fuel costs. To provide additional motivation, training can be combined with an incentive program to reward drivers for enhanced performance. Successful incentive programs pay bonuses regularly and frequently, set realistic goals, and are simple to administer. Fleets may contact their national or local trucking organizations for more details on improving driver performance and establishing a driver incentive program, and may contact their truck dealer or equipment vendor for information on engine monitors and other fuel-saving devices.

