

A strong economy relies on an efficient freight transportation system. Trucks and railroads provide a cost-effective means to carry the vast majority of freight in the United States. However, freight transportation can be more efficient, and also cleaner for the environment. Below are some facts and figures about the SmartWaySM Transport Partnership and the trucking and railroad industry. This information provides important details about the economic and environmental effects of freight transportation.

SmartWay Transport Partnership

- The SmartWay Transport Partnership joins EPA and the freight industry in a collaborative effort that aims to reduce energy consumption and greenhouse gas emissions from the freight transportation sector.
- The official opening of SmartWay Transport Partnership to all companies was February 9, 2004.
- By 2012, the SmartWay Transport Partnership will cut carbon dioxide (CO₂) emissions by 33 to 66 million metric tons per year, and nitrogen oxide (NO_x) emissions by up to 200,000 tons per year. It will save about \$9 billion in fuel costs and as much as 150 million barrels of oil per year—enough oil to heat 17 million houses for 1 year. This is the same as removing up to 12 million cars off the road annually.

Industry Profile

Ground freight accounts for approximately 20 percent of total transportation fuel use. Over the next two decades energy use by freight trucking is forecast to grow more quickly than any other transportation sector except air transport.

Trucks

- There are nearly 7 million freight trucks on the road (excluding commercial light duty trucks) in the United States.
- Trucks carry 85 percent of the total value and 66 percent of the total weight of United States cargo.
- In 2000, the trucking industry generated more than \$600 billion in revenue, or 87 percent of the total United States freight revenue.
- Trucking and related industries employ approximately 10 million people. There are over three million professional truck drivers.

Railroad

- Railroads carry about four percent of the total value and 16 percent of the total weight of United States cargo.
- Freight railroads (Class I, Regional, and Local) employ about 177,000 people, and generate over \$37 billion in total revenue (not including passenger rail).

Impact on Our Environment

Freight trucks and locomotives consume 35 billion gallons of diesel fuel annually. Burning this fuel produces over 350 million metric tons of carbon dioxide annually. By 2012, based on current trends, ground freight transportation will consume over 45 billion gallons of diesel fuel and produce over 450 million metric tons of carbon dioxide. These levels represent an increase of over 25% compared to today's levels.

In a typical year, ground freight (trucks and railroads combined) accounts for about 40% of nitrogen oxides (NO_x), 31% of particulate matter (PM), and 20% of carbon dioxide (CO₂) emissions from all transportation sources.

The emissions for trucks and railroad locomotives are as follows:

Trucks - Annually, heavy-duty highway diesel vehicles currently emit:

- About 32 percent of transportation NO_x
- About 27 percent of transportation PM
- About 18 percent of transportation CO₂

Railroads - Annually, freight railroad locomotives currently emit:

- About 8 percent of transportation NO_x
- About 4 percent of transportation PM
- About 2 percent of transportation CO₂

Impact on Our Health

NO_x, and PM contribute to health and respiratory problems, and air toxics from diesel exhaust are widely believed to have significant public health impacts. EPA's heavy duty diesel engine emission regulations going into effect with the 2007 model year will produce cleaner engines that reduce 90% of PM emissions and 95% of NO_x emissions per vehicle. These regulations when fully implemented in 2030 are projected to prevent 8,300 cases per year of premature mortality in adults and 5,500 cases per year of chronic bronchitis in adults.

Particulate Matter

- Many scientific studies have linked breathing PM to a series of significant health problems, including:
 - aggravated asthma
 - increases in respiratory symptoms like coughing and difficult or painful breathing
 - chronic bronchitis and other chronic respiratory diseases
 - decreased lung function
 - hospital admissions for respiratory and cardiac causes
 - myocardial infarction (heart attacks)
 - premature death

NO_x

- Breathing in nitrogen dioxide (NO₂) from fumes generated by heavy traffic makes a person's airways more susceptible to an allergy-induced asthma attack. NO_x together with VOCs creates ozone, which is one of the principal ingredients of ground-level ozone (smog). Heavy trucks and locomotives account for 40% of transportation-related emissions of NO_x.
- Scientific studies of ozone exposure have found that:
 - Based on EPA's most recent data, 115 million Americans live in counties that exceed the 8-hour ozone National Ambient Air Quality Standards (NAAQS).
 - As ozone levels rise, so do emergency room visits and hospital admissions for respiratory problems, including asthma.
 - People who spend time outdoors are especially vulnerable to ozone-related health problems. Children at summer camp and healthy adults exercising or working outside report experiencing shortness of breath, coughing, and difficulty and pain upon breathing.