# *Rail:* The environmentally friendly transportation choice

Rail is the safest, cleanest and most energy-efficient manner in which to move freight.

Railroads move a ton of freight four times as far as trucks do per gallon of fuel. Each rail carload is equivalent to three and one-half truckloads. By putting more freight on railroads, the environment will be cleaner, and natural resources will be used in their most efficient way.

For example, a transportation study concludes that shifting 25 percent of freight from truck to rail by 2025 would reduce fuel consumption by 15.6 billion gallons annually and reduce air pollutants by nearly 792,100 tons each year.

Using the nation's resources efficiently and with the lowest possible impact on land, air and water quality is fundamental to Norfolk Southern's operations.

NS has longstanding conservation practices, including collecting and recycling crossties, tires, paper, metal, aluminum and railcar parts; rewelding used rail; and rejuvenating and reusing lubricating oil and cleaning solvents.

The company has enhanced its efforts to improve the environment in a number of significant ways:

- Purchasing high-efficiency locomotives that use less fuel and meet new Environmental Protection Agency standards for emissions.
- Deploying a locomotive computer system to improve fuel efficiency and safe handling of trains in long-haul operations. The system, developed by New York Air Brake and known as LEADER®, or Locomotive Engineer Assist Display and Event Recorder, provides locomotive engineers with real-time information about a train's operating conditions. An on-board computer calculates and displays the optimum train operating speed, depending on topography and track curvature, the train's length and weight and other operating conditions. LEADER ultimately will be an integral part of the Optimized Train Control system.
- Using state-of-the-art rail-based lubrication systems made from biodegradable soy-based lubricants developed by NS and the University of Northern Iowa.
- Developing locomotive shutdown and automatic locomotive stop systems.
- Working with federal, state and local officials to develop public-private partnerships that will reduce highway congestion, reduce emissions and conserve fuel. It is estimated that along the I-81 corridor alone, 1,000 trucks per day removed between Harrisburg, Pa., and Chattanooga, Tenn., would save 18 million gallons of fuel and eliminate 4,900 tons of nitrous oxide, 634 tons of carbon monoxide and 231 tons of volatile organic compounds.


New high-efficiency Norfolk Southern locomotives consume less fuel and comply with strict federal environmental standards.