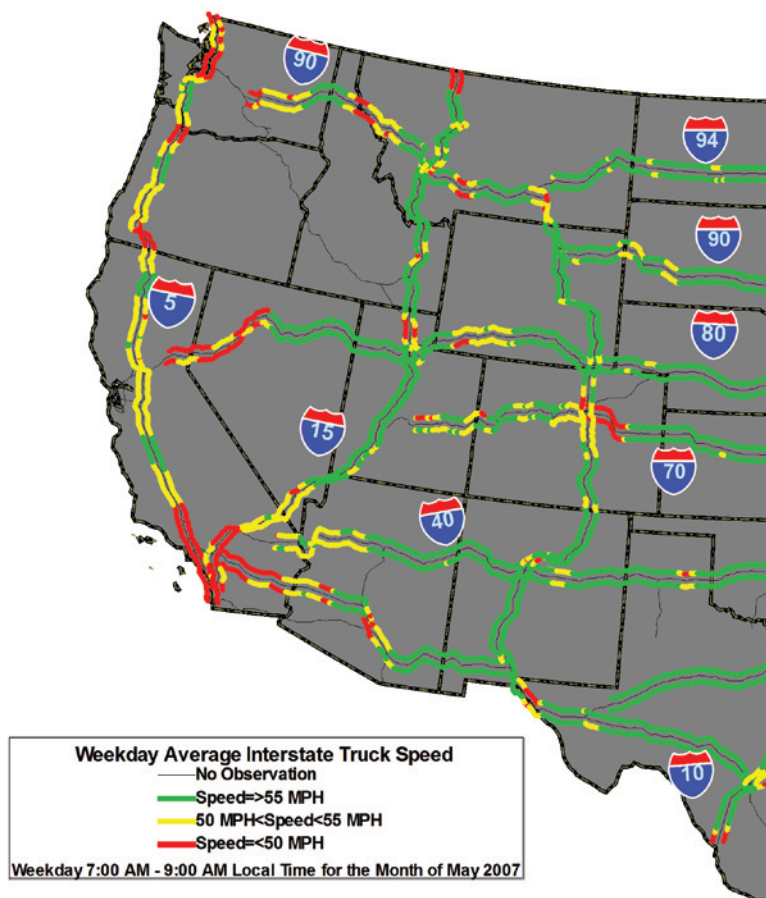


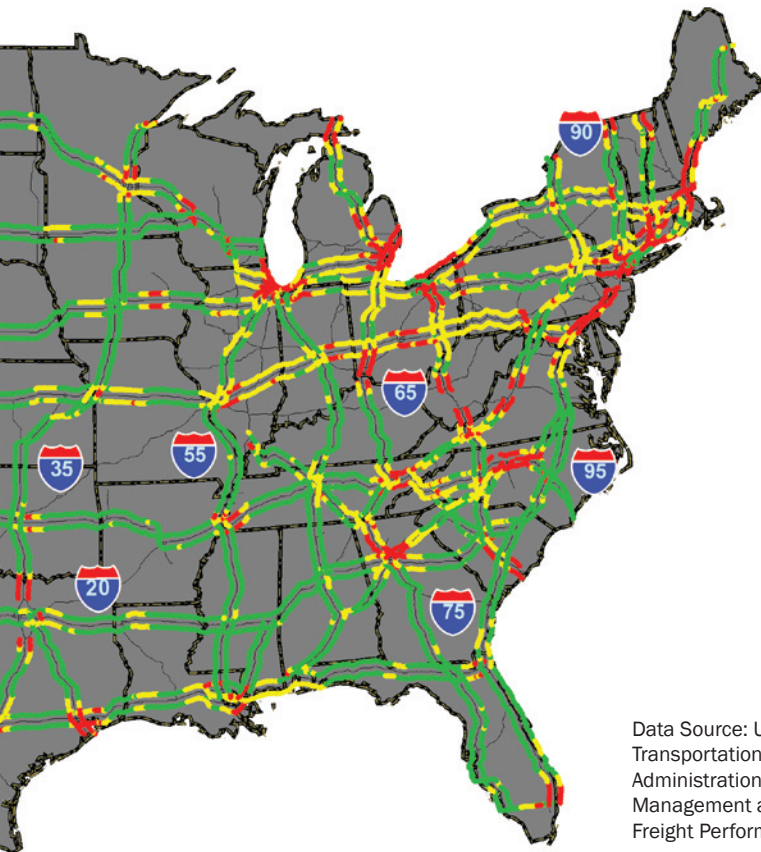
# 7 CONDITION, PERFORMANCE, & SAFETY

Our reliance on highways to commute to work, to shop, vacation, and other activities, as well as their use for commerce, is creating significant demand on the system. Performance, reliability, safety, and asset preservation are key concerns for transportation agencies. Operating speeds, congestion, and pavement and bridge condition are some of the ways to measure the performance, condition, and safety of the Nation's highways.

Figure 7-1. Interstate Truck Operating Speeds

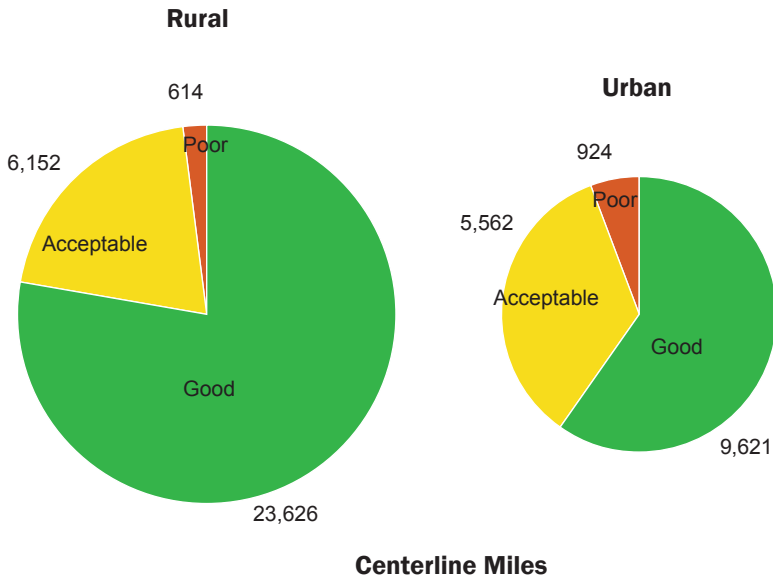


ONE OF MANY highway performance measures is travel speed. The Federal Highway Administration, Office of Freight Management and Operations, is working with the motor carrier and communications industries through American Trucking Research Institute to measure the speed and reliability of major truck routes based on the movements of more than 300,000 trucks. This map displays a snapshot of truck operating speeds that were observed at peak travel time (7:00–9:00 a.m. local time) during weekdays in May 2007.



Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Performance Measures

**Figure 7-2. Pavement Surface Smoothness: Rural and Urban Interstate, 2006**



THE INTERNATIONAL ROUGHNESS Index (IRI) is one of the most widely used measures of the quality of ride smoothness. Pavements with an IRI rating of less than 170 are considered to have an acceptable ride quality, while those with an IRI of less than 95 can be considered to have a good or very good ride quality.

Data Source for Figure 7-2 and Figure 7-3: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System

**Figure 7-3. Pavement Surface Smoothness by State: Rural and Urban Interstate, 2006**

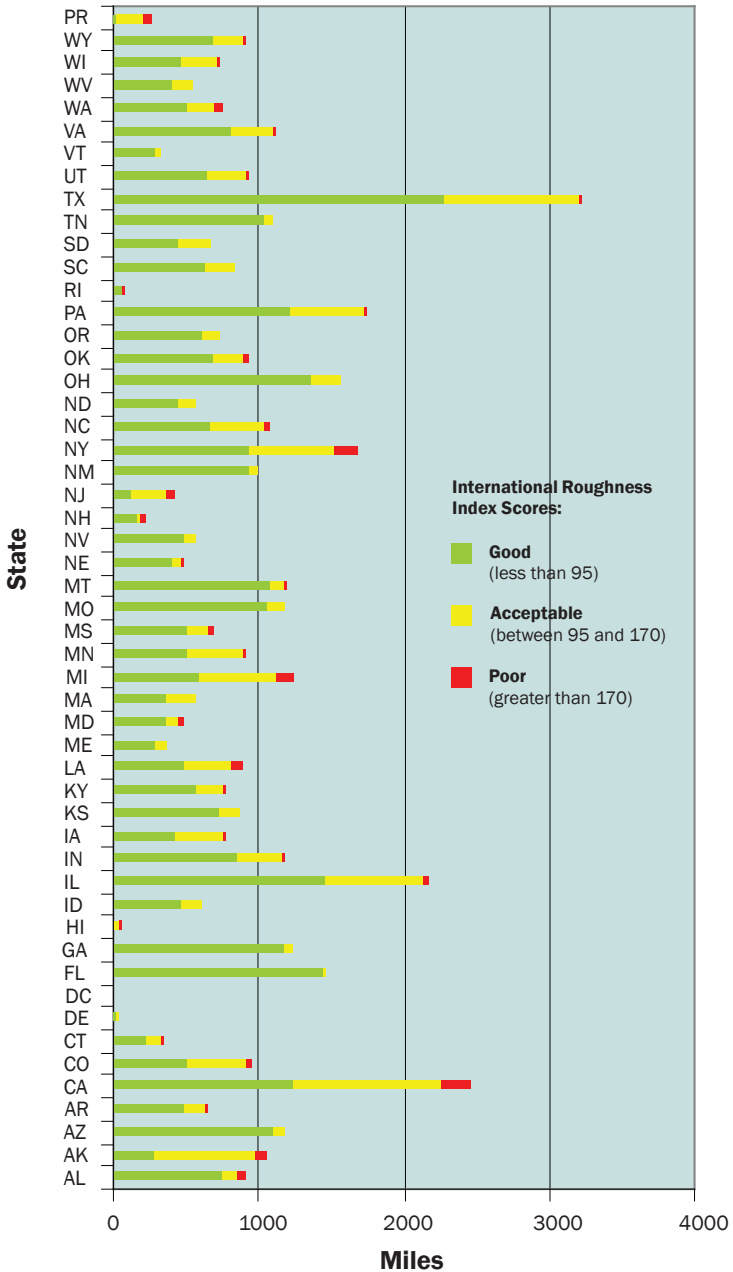
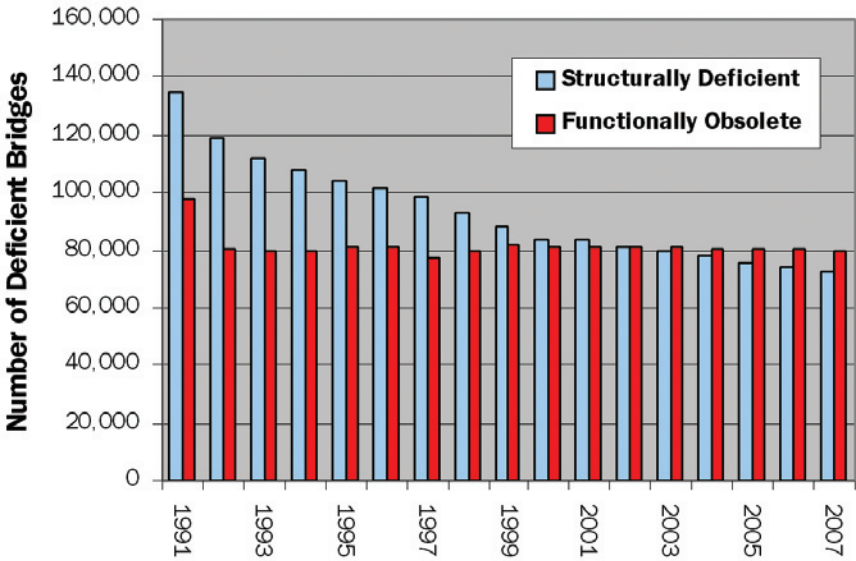


Figure 7-4. Bridge Conditions, 1991–2007

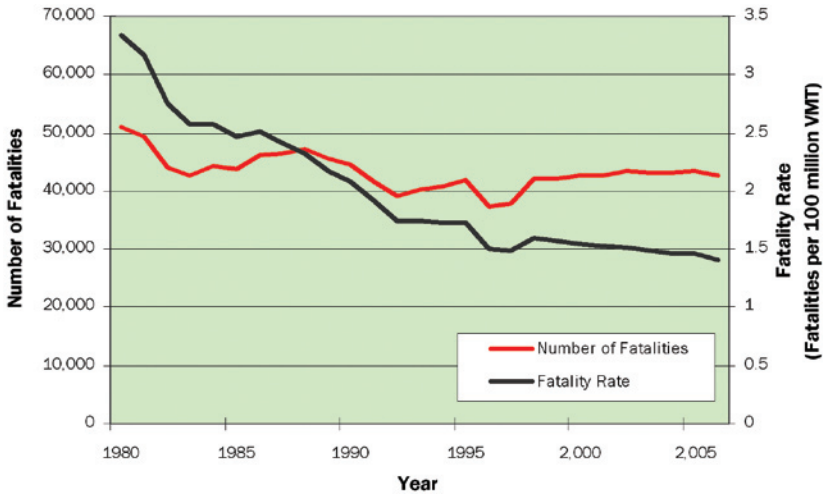


THE NATIONAL BRIDGE Inventory data documents the conditions of bridges on all public roads, regardless of their ownership. Bridges are evaluated and rated as “not deficient,” “functionally obsolete,” or “structurally deficient.” A bridge rated “functionally obsolete” is not unsafe for all vehicles. Rather, it typically has an older design that lacks modern safety features such as adequate shoulder space, an appropriate railing system, or other features. A bridge rated “structurally deficient” is not necessarily unsafe either. Strict observance of signs limiting traffic or speed on the bridge will generally provide adequate safeguards for those who use the bridge.

As shown in Figure 7-4, the number of structurally deficient bridges has been declining since 1992. The number of functionally obsolete bridges has stayed relatively constant since 1992. As of December 2007, of the 599,766 bridges in the United States, 72,524 bridges were structurally deficient and 79,792 were functionally obsolete.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Bridge Technology, National Bridge Inventory

**Figure 7-5. Trend in Highway Fatality Rates, 1980–2006**



THE FATALITY RATE (fatalities per 100 million VMT) on the Nation’s highways continues to decline. In 2006, the fatality rate reached 1.41, which is a historical low. Although the fatality rate is declining, there were still 42,642 fatalities in 2006.

The highway and transit authorization bill for 2005–2009, SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), has authorized a new core safety program known as the Highway Safety Improvement Program. FHWA has been working with all other Federal, State, and local authorities and private organizations to develop new strategies and approaches to improve highway travel safety.

Data Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System