

# Keynote Address

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Francis B. Francois, *American Association of State Highway and Transportation Officials*

**B**orrowing a phrase from the Founding Fathers, Francis Francois maintained that there are certain "self-evident truths" related to highways and the motor carrier industry. He used this framework to introduce his topic, the physical aspect of highways.

First, highways in the United States are a prime concern of the individual states and of AASHTO because (a) they are the backbone of the transportation system and industry, and (b) states have primary responsibility for them. States own, maintain, and operate the nation's highways; decide where new highways should be built; and pay 50 percent of the combined costs of capital construction, maintenance, and operations. Local governments contribute about 30 percent of the total highway costs, and the federal government pays about 20 percent. For capital construction costs alone, the federal government share is 40 to 45 percent.

Second, highways can exist without the motor carrier industry, but the motor carrier industry cannot exist without highways. The growth of the motor carrier industry has paralleled the growth of highways, particularly since the development of the Interstate highway system. Likewise, the efficiency of the motor carrier industry depends on efficiency of the highway system. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) proposes an extensive National Highway System (NHS) with uniform standards nationwide; this system will be critical to the U.S. economy in light of developments in the European Community. The highway community and motor carrier industry must work together to bring about the NHS.

Third, the use of highways simultaneously by passenger cars and heavy trucks creates conditions that place limitations on the motor carrier industry. Public perceptions about trucks often drive policy, even when those perceptions are false. The railroads have an edge over motor carriers in this area because mostly they no longer carry large numbers of passengers; therefore, they have been able to develop the rail system for optimum freight-carrying capabilities.

Fourth, when viewed from both a national and international perspective, trucks are dominant over other freight transportation modes because of their flexibility. For example, in Europe trucks can move more freely across national borders on fairly uniform highway systems, whereas each country has a separate rail system. In the United States, where the railroad system is uniform, the trend is toward intermodal transportation; however, this trend will not decrease the importance of trucks in reaching areas that other modes of transportation cannot reach.

Fifth, important reasons will compel all parties who have a stake in the motor carrier industry—truck designers and manufacturers, highway engineers, and truckers—to work together in developing the NHS called for by ISTEA. The states are putting together a map of the proposed NHS network; however, its establishment by Congress is not guaranteed, and those involved must work together to facilitate the process.

Finally, highway engineering has moved well beyond the bounds of civil engineering. Today's highway engineer must understand the total impact of a proposed highway on such diverse areas as the surrounding environment (wetlands, etc.), air quality, noise, and traffic management. From the existing system they must also be able to provide highways that offer the highest efficiency. Because the advent of intelligent vehicle-highway system (IVHS) technology will help accomplish this goal, highway engineers must be able to work in this technological environment as well.

Highway engineers are concerned about better pavement and higher-quality roads, pavement-truck interactions, and road geometry. According to Francois, more attention should be focused on system concepts (e.g., the placement of rest areas, access to roadways, etc). The transportation community also needs to focus on the implementation of IVHS and related technologies that will make the highways and motor carrier industry more efficient.

In closing, Francois offered four observations on the future of highways and the motor carrier industry. First, the success of NAFTA will largely depend on highways and motor carriers because together they form the backbone of freight movement. Second, making highways progressively safer and more efficient will have a direct bearing on the prosperity of the people. Third, research is needed in several areas so that better trucks and highways can be built. Last, adequate funding must be found to accomplish all of these goals.