

Integrating International Congestion Management Resources into FHWA Programs



U.S. Department of Transportation
Federal Highway Administration

Office of International Programs

The Office of International Programs works to access, promote, and disseminate global best practices and technical innovations to ensure a safe and efficient United States highway transportation system.

ORIGINS

Improving mobility and managing congestion has been a top focus area for the Federal Highway Administration (FHWA) Office of Operations and the Office of International Programs (HPIP) for several decades. HPIP's scans of Sweden, Germany, the Netherlands, England, and other countries have yielded information on several effective congestion management strategies and technologies that have influenced practices in the United States. Many of these strategies fall within the concept of Active Traffic Management (ATM), which is a bundle of strategies that measure and manage congestion and travel speeds in real-time. ATM strategies include informing motorists of current conditions, adjusting speed limits to match conditions, and dynamically adjusting toll prices. A 2006 scan, "Active Traffic Management: The Next Step in Congestion Management," studied ATM in Greece, Germany, Denmark, the Netherlands, and England. Other areas of congestion management include Automated Queue Detection, Lane Control Signals, and Variable Speed Control.

CURRENT TRENDS

There had been a steady increase in vehicle miles of travel (VMT) on an annual basis up until the temporary pause in 2020 due to various ramifications of the pandemic. Vehicle usage has begun to rise again in 2022 toward pre-pandemic levels, and it is projected that the ascent will continue. Much of the focus in the United States has been on research and deployment of Active Transportation and Demand Management (ATDM) proactive strategies that utilize intelligent transportation system (ITS) technology to mitigate the increase in congestion, along with providing more reliable travel times within larger urban areas. Another complementary strategy developed over this same timeframe has been the Integrated Corridor Management (ICM) program, which focuses on improved mobility and congestion management through better coordination of the freeway and arterial networks by developing regional operational concepts that improve coordination among State and

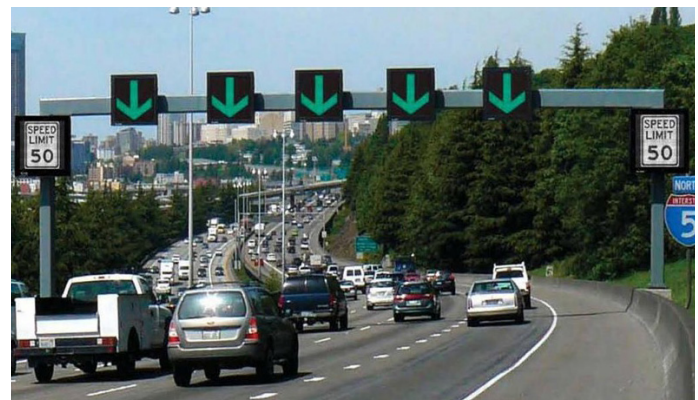
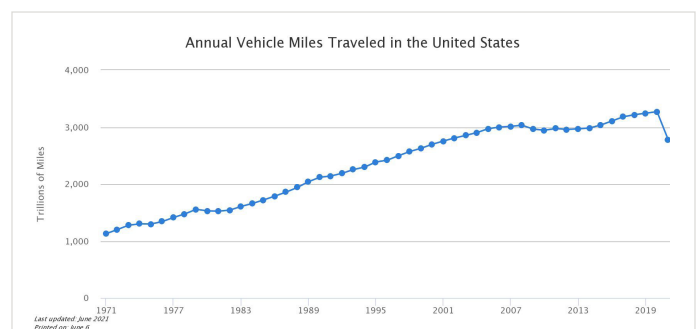


FIGURE 1. LANE CONTROL SIGNALS. SOURCE: FHWA



Source: Federal Highway Administration monthly Traffic Volume Trends reports. This chart shows trends in total vehicle miles traveled (VMT) in the United States (expressed as a moving 12-month count) from 1971 through 2021. The long rise in VMT has seen three periods of flattened growth or decline, triggered by the oil price spikes of 1974, 1979, and 2008. The VMT flattening that started in 2008 continued long after oil prices recovered, largely because of an economic recession. Starting in 2012, VMT began rising again largely because the U.S. economy recovered while petroleum prices remained relatively low. The rate of increase slowed between 2017 and 2020. Due to the COVID-19 pandemic, VMT in 2021, which reflects February 2020 through January 2021, was the lowest since 2001.

FIGURE 2. ANNUAL VEHICLE MILES TRAVELED IN THE UNITED STATES. SOURCE: FHWA

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local transportation providers. Similar scenarios have also been occurring in industrialized nations across the globe. While the United States remains a leading nation in this type of transportation response, there is also a lot to be gained by consultation with other countries that have been researching and developing innovative solutions.

WORKING TOGETHER FOR INTERNATIONAL SUCCESS

The FHWA Office of Operations has worked closely over several decades, especially through the Global Benchmarking Program and its predecessor, the International Scan program, to collaborate with numerous global organizations to strengthen United States congestion mitigation programs, as well as reciprocate lessons learned with international counterparts. These collaborations have resulted in increased partnerships and cutting-edge ideas being shared around the globe. By collaborating with other countries, the state-of-practice in the United States is enriched and strengthened.

CURRENT EXAMPLES OF CONGESTION MANAGEMENT STRATEGIES AROUND THE WORLD

[FHWA Active Transportation and Demand Management Program](#)

[FHWA Integrated Corridor Management Program](#)

[FHWA Congestion Pricing Program](#)

[Roadways England – All Lanes Running Motorways](#)

[Smart Motorways – Australia](#)

[Congestion Pricing – Cordon Pricing](#)

TRANSPORTATION ORGANIZATION MEETINGS AND CONFERENCES FOCUSED ON CONGESTION MANAGEMENT

[ITS America World Congress](#)

[Transportation Research Board \(TRB\) Annual Meeting](#)

[TRB Freeway Operations Committee](#)

[FHWA Office of Operations Research and Development](#)

[American Association of State Highway and Transportation Officials \(AASHTO\)](#)

[AASHTO Committee on Transportation Systems Operations](#)

[AASHTO/TRB Domestic Scan Program](#)

