Energy Independence, Climate Change, and Transportation

Choices about how we obtain and use energy are crucial determinants of our economic well-being, environmental quality, sustainability, and national and international security. We need to break our dependence on foreign oil and become energy independent. A successful energy strategy must address these issues by: ensuring reliable supplies of fuel and electricity for basic needs and economic growth, limiting the costs of energy to consumers, limiting economic vulnerabilities from relying on energy imports, limiting environmental impacts from energy development, reducing contributions to global climate change, and minimizing dangers of conflict over oil and gas resources. To assist in enhancing domestic security and addressing the issue of global climate change, transportation policies are needed to reduce energy consumption and dependence on foreign oil.

Our transportation system runs on oil. It consumes over 12 million barrels a day. In 1972, we imported 35 percent of the oil consumed. In 2007, we imported 60 percent. Of the known oil reserves in world, 69 percent are under the control of OPEC nations. This dependence has proven to be very costly. The cost of U.S. oil imports in 2005 was $231 billion, accounting for 30 percent of the net U.S. trade deficit in that year. World energy demand is projected to jump nearly 45 percent over the next 20 years, as countries like China and India require more fuel for their booming economies.

Transportation represents approximately 29 percent of greenhouse gas emissions in the United States. Autos and light duty vehicles contribute 16.5 percent of domestic greenhouse gas emissions. Transportation must lead in finding solutions. AASHTO and the state departments of transportation are committed to doing our part to achieve the goal of reducing U.S. greenhouse gas emissions.

As federal, state, and local governments, industry and the environmental community work to identify strategies to meet energy and climate goals, it is important to determine what emissions reductions these strategies can realistically be expected to achieve. In the transportation sector, opportunities to support energy and climate goals include vehicle technology, alternative fuels, transportation system operation, driver behavior (eco-driving), and reducing travel demand.

Technology Advances

Federal legislation should accelerate energy technology innovation to increase energy efficiency and decrease the carbon intensity of the energy supply by establishing a large scale research and development (R&D) initiative, providing tax incentives to conduct R&D, and promoting and financing early deployment of the most promising options to emerge from the R&D initiative. Federal legislation should also include tax incentives to individuals and entities that reduce energy consumption and/or carbon emissions; for example, purchasing electric vehicles.

The greatest potential for meeting energy and climate goals for the transportation sector will come from increasing fuel economy and advancing low carbon fuels. Technological advances have been responsible for dramatic reductions in air pollution and will be the predominant answer to reducing transportation greenhouse gases. Also, increasing fuel efficiency in our cars and trucks is one of the most important steps that we can take to break our cycle of dependence on foreign oil. Federal legislation should include a major national R&D initiative to transition the entire transportation vehicle fleet to zero-carbon fuels. Until this goal is achieved, fuel economy standards should continue to be strengthened. Federal legislation should also provide funding for clean vehicle and fuel programs, such as vehicle recharging infrastructure. Such technological breakthroughs would help not only the United States, but countries around the world achieve energy and climate and energy goals.

Improved Operations

Improved operation of our highway system through a new $3 billion annual operations and management program would
help to improve mobility while reducing greenhouse gas emissions and our reliance on foreign oil. Emissions are highest, on a per-mile basis, when vehicles are sitting in traffic congestion, or at stop-and-go speeds. Congress should also provide increased support for "intelligent vehicle" initiatives, which would complement efforts to communicate real-time traffic information directly to individual vehicles, and improve the flow of traffic.

Reducing Travel Growth

Reducing the growth in auto travel would also contribute to reduced emissions and oil consumption. Through policies and investments we can encourage more ridesharing, telecommuting, trips by transit, by bike, or on foot, rather than by car. For example, AASHTO wants to see the level of transit ridership doubled by 2030. AASHTO encourages more long-haul freight to be moved by rail, rather than by truck, and an increased market-share of regional travel to be carried by intercity passenger rail rather than by car. AASHTO also supports funding for the coordination of transportation and land use policies between state transportation agencies and local governments.

Transportation Research Needs

Research is vital to assist states in understanding both the contributions that can be made to reducing greenhouse gases and oil consumption from the transportation sector and how to adapt transportation infrastructure to the impacts of increasing temperatures. Federal legislation should develop a Transportation Energy and Climate Change Research Program with a funding level of $40–$45 million per year.

Transportation Regulation, Funding, and Planning

If greenhouse gas emissions are to be regulated at the federal level, they should be regulated through federal legislation, not the Clean Air Act. The Clean Air Act does not provide a suitable framework for addressing greenhouse gases.

Solutions to the transportation funding crisis should be developed parallel to and in coordination with climate change legislation so that the needs of both can be met and to ensure that action on climate change legislation does not inadvertently preempt revenue options vital to transportation. If carbon taxes or a cap-and-trade system is enacted to reduce overall emissions, and such system exacts fees from transportation motor fuels, a proportionate share of the revenues should be invested back into transportation-related solutions. In addition, transportation authorization legislation, not climate change legislation, should update the transportation planning process to include a framework for addressing climate change.

Securing energy independence and reducing greenhouse gas emissions are important challenges, and must be addressed with urgency to ensure a safer, more prosperous, and sustainable future.