

SJR 385: Joint Subcommittee to Study Fuel-Efficient Vehicles and Transportation Funding.

December 13, 2007 - Meeting Summary

Senate Joint Resolution 385 (Wagner) establishes a joint subcommittee to study fuel-efficient vehicles and transportation funding. The joint subcommittee held its second and final meeting on Thursday, December 13, 2007, in Richmond.

Presentations

Jonathan Gifford, Professor & Director, Master's in Transportation Policy, Operations & Logistics- School of Public Policy, George Mason University

Professor Gifford, Professor of Public Policy, delivered a presentation entitled "Fuel Efficient Vehicles and Transportation Funding." After outlining his presentation, Professor Gifford discussed the federal gas tax revenue forecast. In particular, he noted that the gas tax is the main source of Highway Trust Fund revenue and has been slowing since 2003, a trend that is expected to continue. The factors slowing revenue growth include the type of taxation (i.e., per gallon tax versus an ad valorem tax), increased fuel efficiency due to technological progress and policy initiatives, and rising gas prices, which cause a behavioral response.

In addition, Professor Gifford discussed the impact hybrid vehicles have and could have on the economy. He first postulated that hybrid vehicles could double fuel efficiency by 2030, and 70% of cars and small trucks could be hybrids by 2030. Also, the professor noted that the initial market was dominated by heavy users (e.g., taxi). Furthermore, the increasing number of hybrid vehicles should sharply reduce global oil demand.

Professor Gifford briefly discussed the merits of the energy bill passed by the United States Senate and the energy bill passed by the United States House of Representatives. He also evaluated Virginia's system for funding transportation. In particular, he noted that the current fuel tax system (1) is stable because fuel tax revenue has traditionally been a stable source of highway financing as far back as the 1920s, (2) has a low cost on a per mile basis when compared to international standards; (3) has a relatively low cost to collect; (4) has a nexus between the use of roads and how the roads are paid; and (5) affords support of low volume roads. By contrast, the professor said the fuel tax system is not facility specific, does not take other externalities (e.g., tailpipe emissions, noise) into consideration, and may make fuel tax revenue levels subject to erosion from increasing fuel economy and alternative fuels.

Finally, the professor suggested alternatives to the current fuel tax system. Within the existing system, he noted that the General Assembly could index the fuel tax, eliminate fuel tax exemptions, reduce transfer payment to transit, and/or increase gas sales tax. He then proposed that the General Assembly could advance electronic tolling (e.g., extending HOT lanes, creating more public toll lanes, utilizing road metering). Other taxes and fees suggested include local option taxes, congestion prices, and an ad valorem gas tax. Moreover, the professor discussed, in detail, the use of public-private partnerships. In particular, he noted that of 33 states that have public-private partnership projects in road transportation or plan to implement such projects,

Virginia is the third in terms of number of projects and second in terms of value of projects. Also, of 30 states that have public-private partnership projects in road transportation already implemented or plans to implement such projects, Virginia is the second both in terms of number of projects and value of projects.

* The above information is taken directly from Professor Jonathan Gifford's PowerPoint presentation to the joint subcommittee entitled "Fuel Efficient Vehicles and Transportation Funding."

Anne Gambardella, Esq., Director of Legislative and Legal Affairs, Virginia Automobile Dealers Association

Ms. Gambardella delivered a presentation on CAFE standards.

Corporate Average Fuel Economy (CAFE) is the sales weighted average fuel economy, expressed in miles per gallon (mpg), of a manufacturer's fleet of passenger cars or light trucks with a gross vehicle weight rating (GVWR) of 8,500 lbs. or less, manufactured for sale in the United States, for any given model year. Fuel economy is defined as the average mileage traveled by an automobile per gallon of gasoline (or equivalent amount of other fuel) consumed as measured in accordance with the testing and evaluation protocol set forth by the Environmental Protection Agency (EPA).

To begin, Ms. Gambardella discussed the history of CAFE standards. First, Congress established a goal of doubling the 1974 passenger car fuel economy average by 1985 (to 27.5 mpg) and set fuel economy standards for some of the intervening years to meet such goal. Thereafter, in model year 1990, the passenger car standard was amended to 27.5 mpg, which it has remained at this level. Congress did not specify a target for the improvement of light truck fuel economy. Instead, it provided that light truck standards be set at the maximum feasible level for model year 1979 and each model year thereafter. Unlike for the passenger car fleet, there is no default standard established for light trucks. NHTSA must set the standard for each model future model year. Light truck fuel economy standards have been established by NHTSA for MY 1979 through MY 2007. Otherwise stated, fuel economy enjoyed a rapid increase from 1975 to mid 1980s and then a slow increase extending into late 1980s, which was followed by a gradual decline until mid-1990s; a period of relatively constant fuel economy has existed since the mid-1990s.

Ms. Gambardella next discussed the enforcement and implementation of CAFE standards. Federal policy regarding CAFE standards is exercised by the Secretary of Transportation, the EPA, and Congress. The Secretary of Transportation has delegated authority to establish CAFE standards to the Administrator of the National Highway Traffic Safety Administration (NHTSA). NHTSA is responsible for establishing and amending the CAFE standards; promulgating regulations concerning CAFE procedures, definitions and reports; considering petitions for exemption from standards for low volume manufacturers and establishing unique standards for them; enforcing fuel economy standards and regulations; responding to petitions concerning domestic production by foreign manufacturers and all other aspects of CAFE, including the classification of vehicle lines as either cars or trucks; collecting,

recording and cataloging Pre- and Mid-model year reports; adjudicating carry back credit plans; and providing program incentives such as credits for alternative fueled vehicle lines. In addition, EPA is responsible for calculating the average fuel economy for each manufacturer. Furthermore, Congress specified that CAFE standards must be set at the “maximum feasible level.” Congress provided that the Department’s determinations of maximum feasible level be made in consideration of four factors: (1) Technological feasibility; (2) Economic practicability; (3) Effect of other standards on fuel economy; and (4) Need of the nation to conserve energy.

In addition to testifying about the history and implementation of CAFE standards, Ms. Gambardella discussed credits, penalties, and preferences associated with CAFE standards. One, the penalty for failing to meet CAFE standards recently increased. Since 1983, manufacturers have paid more than \$500 million in civil penalties. Most European manufacturers regularly pay CAFE civil penalties ranging from less than \$1 million to more than \$20 million annually. Asian and domestic manufacturers have never paid a civil penalty. Two, manufacturers can earn CAFE “credits” to offset deficiencies in their CAFE performances. Specifically, when the average fuel economy of either the passenger car or light truck fleet for a particular model year exceeds the established standard, the manufacturer earns credits. Finally, federal law provides for special treatment of vehicle fuel economy calculations for dedicated alternative fuel vehicles and dual-fuel vehicles.

As requested by the chairman, Ms. Gambardella also discussed the federal energy bill then pending in Congress and California’s role in impacting CAFE standards. First, Ms. Gambardella noted that the pending federal legislation would increase CAFE to 35 mpg by 2020; however, some flexibility is included for automakers to respond to market conditions. She then commented that Section 209 of the Clean Air Act specifically creates the right for California to set better-than-federal emission standards for most moving sources of pollution. Also, § 177 of the Clean Air Act permits other states to adopt California motor vehicle standards as long as “such standards are identical to the California standards for which a waiver has been granted for such model year.” California rules (Clean Cars Program) phase-in increasingly strict CO₂ emissions limits from 2009 to 2016; moreover, California requested a waiver of preemption for mobile source CO₂ emissions. The standards adopted in California would result in a 43.7 mpg requirement (combining passenger cars and the smallest light duty sport-utilities). To date, 12 states—California, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington—have adopted the Clean Cars Program. Six more states—Arizona, Colorado, Illinois, New Hampshire, New Mexico and North Carolina—are actively considering adopting the Clean Cars Program.

Ms. Gambardella then shared information on current state and federal incentives for fuel economy, noting that such incentives are largely limited to hybrids. In Virginia, drivers of hybrids may use HOV lanes without satisfying normal HOV lane requirements, and hybrids are exempt from emissions inspections (50 mpg). She also noted that other states offer tax incentives for hybrid purchases. At the federal level, taxpayers who purchased or leased any of 44 different models of hybrid vehicles in 2006 may be entitled to a tax credit on their 2006 returns worth as much as \$3,150 for the most fuel-efficient models. The precise amount of the credit depends on the make and model of the vehicle and when the vehicle was purchased. Taxpayers may claim the credit on their 2006 tax returns only if they placed a qualified hybrid vehicle in service in 2006. The Alternative Motor Vehicle Credit for hybrid vehicles — powered by both an internal combustion engine and a rechargeable battery — was enacted as part of the Energy Policy Act of 2005.

Taxpayers may claim the full amount of the allowable credit only up to the end of the first calendar quarter after the quarter in which the manufacturer records its sale of the 60,000th hybrid vehicle. The only manufacturer for whom the credit has been limited in the 2006 tax year is Toyota Motor Sales, USA, which includes Lexus. Ms. Gambardella further noted that other options for promoting fuel economy include incentives to remove older, more heavily polluting cars from the roads.

Finally, Ms. Gambardella discussed several new vehicle options on the horizon. She first spoke about fuel cells, noting that no petroleum whatsoever is used to power the Equinox Fuel Cell. With hydrogen as the fuel, the Equinox Fuel Cell emits only water vapor through vents in the rear fascia. That means zero tailpipe emissions. This helps remove the automobile from the environmental debate and reduce our dependence on petroleum. Ms. Gambardella further discussed the next generation of electric hybrids, stating that if one is lucky enough to live less than 20 miles away from work, he could drive solely on electricity every day. That means zero gasoline and zero emissions. The owner of the hybrid vehicle would recharge Concept Chevy Volt every night with a common 110-volt household outlet and could then drive it up to 40 miles daily on a single electric charge. She then shared information on the Ford Edge with HySeries Drivetm, the world's first drivable fuel cell hybrid electric plug-in that combines an onboard hydrogen fuel cell generator with lithium-ion batteries to deliver more than 41 mpg with zero emissions. The plug-in hybrid is powered by a 336-volt lithium-ion battery pack at all times. The vehicle drives the first 25 miles each day on stored electricity alone, after which the fuel cell begins operating to keep the battery pack charged. This provides another 200 miles of range for a total of 225 miles with zero emissions, and an onboard charger (110/220 VAC) can refresh the battery pack when a standard home outlet is available, making the concept a true plug-in hybrid.

* The above information is taken directly from Ms. Gambardella's notes sent directly to the Division of Legislative Services.

Mr. Chad Freckmann, Director – Blue Ridge Clean Fuels

Mr. Freckmann testified before the joint subcommittee as to how he believes Virginia can promote hybrid and fuel efficient vehicles. According to Mr. Freckmann, the Commonwealth can promote hybrid and fuel efficient vehicles through varied means. For instance, the Department of Motor Vehicles can provide fuel efficiency reminders with all communications. In addition, the Department of Education can adopt driver's education curriculum that incorporates alternative transportation technologies. Namely, the curriculum will address driving for fuel efficiency, the use of alternative fuels, and the use of alternative technologies. Moreover, the Commonwealth can provide incentives to all 302 Virginia high schools to purchase fuel efficient, hybrid, and alternative fuel vehicles for behind-the-wheel programs.

Mr. Freckmann further testified that the use and development of alternative energy and fuel sources are important for the Commonwealth's economic development and environment. In particular, he stated that biofuels can provide some substitution for petroleum fuels. The Department of Energy reported that Virginia consumed one billion gallons of on-road diesel fuel in 2005. Using biodiesel in public transportation can mitigate emissions and promote cleaner air, according to Mr. Freckmann. To also lessen the diesel consumption, Mr. Freckmann recommended that Virginia could support research into new oil seed crops and uses for crush bi-

product. Additionally, the Department of Energy reported that Virginia consumed 3.8 billion gallons of gasoline in 2006. To lessen such consumption, Mr. Freckmann suggested that Virginia support research at state universities into new ethanol technologies and non-food crop production for fuel feedstock.

Furthermore, Mr. Freckmann discussed the economic benefits of using biodiesel fuel. He noted that only 13 cents of every dollar spent on diesel remains local due to taxes, refining costs, costs of purchasing crude oil, and costs associated with distribution and marketing. By contrast, for every dollar spent on biodiesel fuels, potentially 90 cents stays local because the fuel crop is locally grown and processing and distribution is local.

Lastly, Mr. Freckmann stated that reliance on motor fuels tax is problematic for transportation funding. Despite the Department of Energy's assessment of continued growth in worldwide oil supply, data suggests leveling off of oil production whilst worldwide demand continues to rise. Specifically, he noted several dates that leading experts predicted "peak oil," which is the point or timeframe at which the maximum global petroleum production rate is reached, after which the rate of production enters its terminal decline. The experts cited predicted peak oil occurring between December 2005 to 2030 or later. Also, higher fuel price suggest long term per capita reduction in consumption. He noted that the Wall Street Journal (WSJ) recently reported that oil officials see limit looming on oil production. Moreover, the New York Times recently reported that oil-rich nations are using more energy and cutting exports. Finally, Mr. Freckmann suggested a 17-year timeframe to adjust transportation funding mechanism due to the fact that passenger and light duty vehicles account for 66% of the national fleet and have an average lifespan of 17 years.

* The above information is taken directly from Mr. Freckmann's PowerPoint presentation and letter to the joint subcommittee.

Meeting materials, for this meeting, are available on the joint subcommittee's website at: <http://dls.state.va.us/FEV.htm>.