American Public Transportation Association

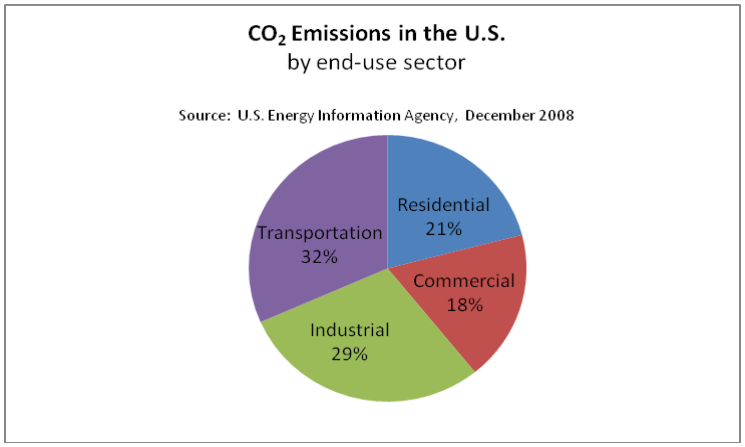
Policy paper and recommendations for
climate legislation in the U.S. Senate

August 31, 2009

Overview

The transportation sector produces approximately one-third of carbon-dioxide emissions in the United States, and transportation is responsible for approximately 70 percent of U.S. oil consumption.[1] Public transportation, high-speed intercity passenger rail and other transportation modes that benefit the environment are an essential element of a national strategy to decrease emissions and reduce petroleum consumption. Current transit use already saves 4.2 billion gallons of fuel and 37 million metric tons of carbon emissions per year, while supporting 1.7 million jobs.[2] Americans are also riding transit in record numbers: 10.7 billion trips in 2008, the highest level of ridership in 52 years. Despite this success, only 53 percent of Americans have access to any form of public transportation service. There is a clear need to expand transit services and develop new high-speed and intercity passenger rail corridors that expand transportation choices while reducing greenhouse gas emissions from the transportation sector. To achieve these goals, public transportation must be recognized as a central strategy in climate legislation.

Figure 1.



[1] Energy Information Administration, "Emissions of Greenhouse Gases in the United States 2007," December 2008.

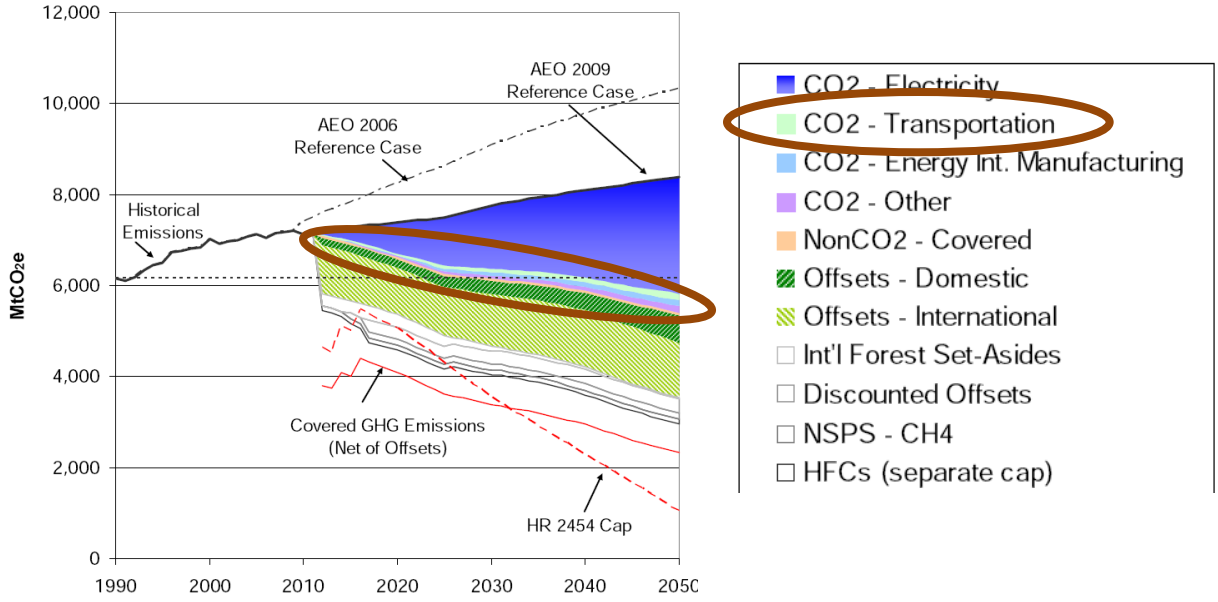
[2] ICF International, "The Broader Connection between Public Transportation, Energy Conservation and Greenhouse Gas Reductions," February 2008.

The "American Clean Energy and Security Act" (ACES) and the transportation sector

The U.S. House of Representatives approved the "American Clean Energy Security Act" (ACES) on June 26, and the Senate Environment and Public Works Committee is beginning the development of similar legislation. The House-passed ACES would establish a cap-and-trade system to reduce the emission of greenhouse gases in the United States. Large-scale emitters of greenhouse gases would be required to submit allowances annually to the Environmental Protection Agency (EPA) in an amount equivalent to their level of emissions. The number of available allowances will decline over the life of the bill, 2012-2050, thus ensuring a reduction in total emissions.

While oil refineries and importers of refined fuels will be required to submit emission allowances under the ACES cap-and-trade program, EPA analysis of the House-passed bill finds that the legislation will do little to curb emissions from the transportation sector or reduce the consumption of imported petroleum**. In fact, the EPA estimates that only 5 percent of greenhouse reductions would come from transportation, and petroleum consumption would remain essentially unchanged by the bill.**[3] Too many Americans still lack access to public transportation and other energy efficient, emission-reducing transportation options that reduce our dependence on foreign oil, and ACES does not significantly address these issues.

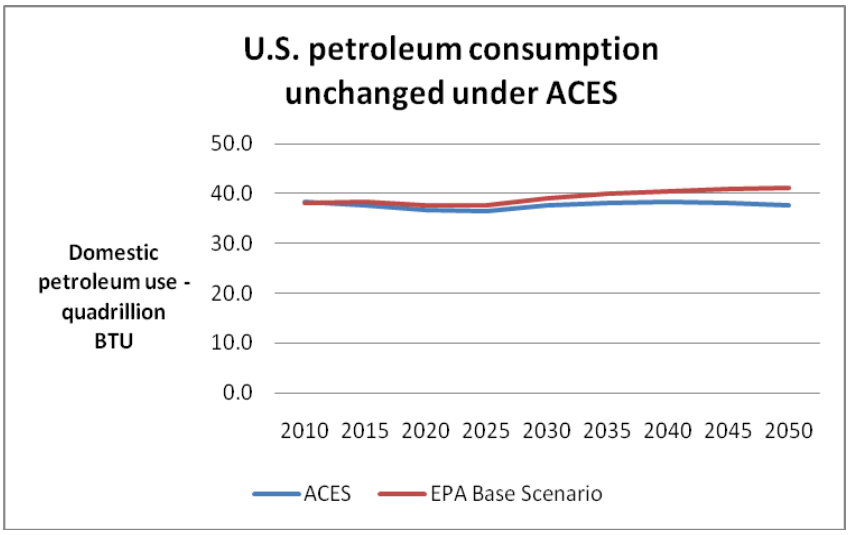
Figure 2. Sources of Greenhouse Gas Abatement under ACES



Source: EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress, http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis.pdf, 6/23/09, pg. 11.

[3] EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress, http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis_Appendix.pdf, 6/23/09, pg. 60

Figure 3.



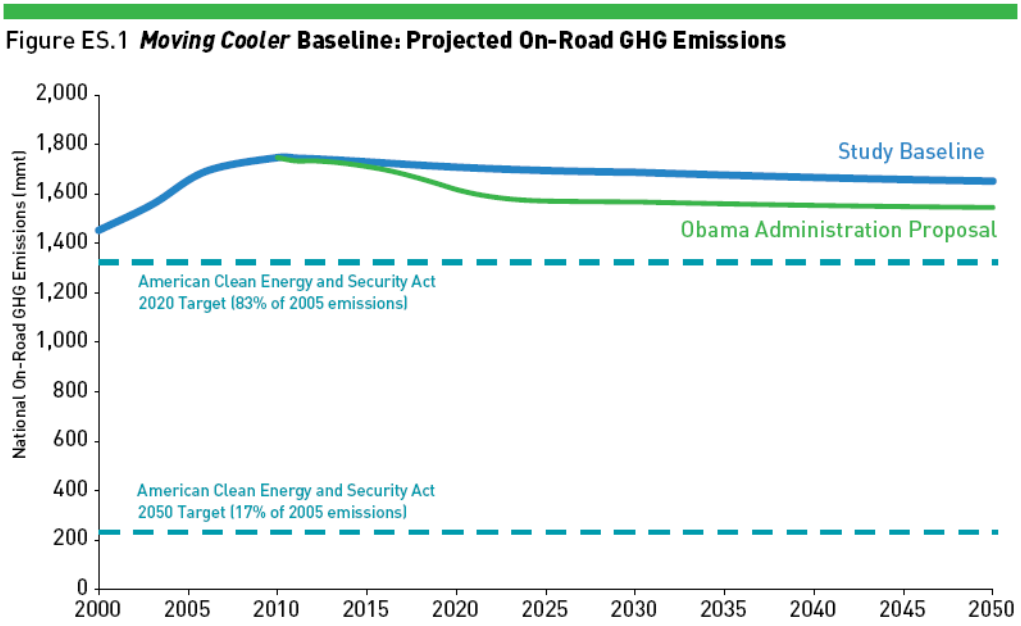
Source: Data Annex, ADAGE Scenario 2, EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress, 6/23/09, http://www.epa.gov/climatechange/economics/economicanalyses.html.

To achieve national emission reduction goals and reduce petroleum consumption, the transportation sector and vehicle travel should not be overlooked. Current research indicates that innovations in vehicle and fuel technology will substantially reduce emissions from surface transportation, but these gains will largely be offset by increases in travel along with growth in the U.S. population. **Without action to address projected growth in private motorized vehicle travel, greenhouse gas emissions from on-road sources will remain roughly at 2005 levels through 2050.**[4] This level emissions would be 21 percent short of the ACES reduction target for 2020 (assuming that reduction targets are distributed proportionately across sectors), and it assumes significant improvements in vehicle efficiency will occur, including President Obama's national fuel efficiency standard proposal of 35.5 mpg in 2016.

Under a scenario where no emission reductions are gained from vehicle travel, the burden of a cap-and-trade program will fall much more heavily on other sectors of our economy. Public transportation investment, transit-supportive land-use policies and other strategies that promote transportation choices are proven ways to reduce emissions from the transportation sector, and they must be addressed in climate legislation.

[4] Cambridge Systematics, Inc., "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions." Washington, D.C.: Urban Land Institute, 2009., http://www.movingcooler.info/Library/Documents/Moving%20Cooler%20Executive%20Summary.pdf , pg. 4.

Figure 4.



Note: This figure displays National On-Road GHG emissions as estimated in the *Moving Cooler* baseline, compared with GHG emission estimates based on President Obama's May 19, 2009, national fuel efficiency standard proposal of 35.5 mpg in 2016. Both emission forecasts assume an annual VMT growth rate of 1.4 percent. The American Clean Energy and Security Act of 2009 (HR 2454) identifies GHG reduction targets in 2012, 2020, 2030, and 2050. The 2020 and 2050 targets, with an example application to the on-road mobile transportation sector, are shown here.

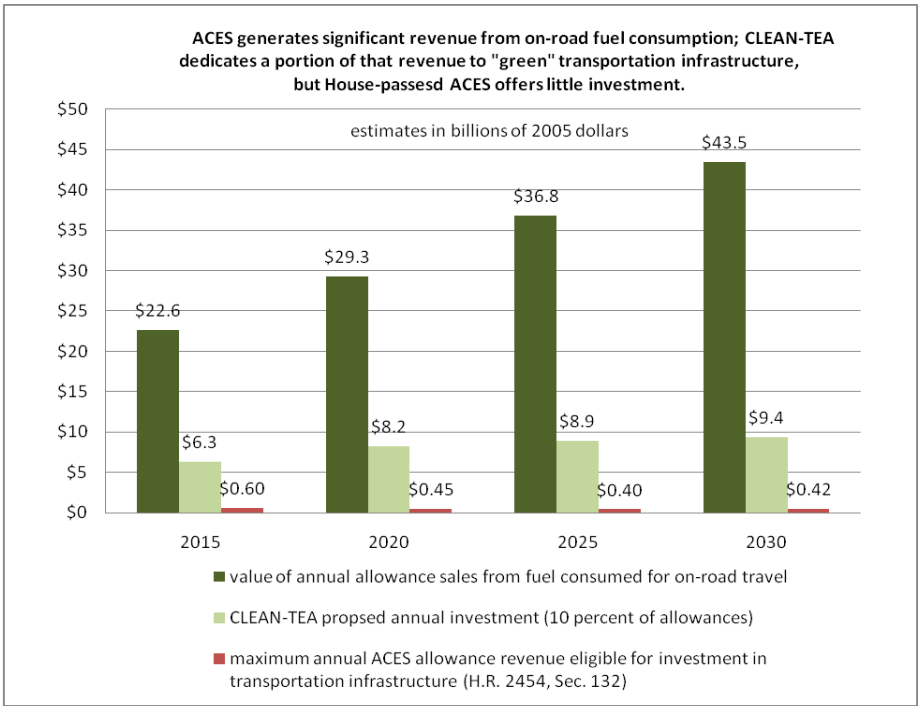
Source: Cambridge Systematics, "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions."

ACES and transportation funding

ACES will generate a significant amount of revenue from the sale and trading of emissions allowances related to transportation fuel consumption. **According to EPA projections, the sale of emission allowances from fuel consumed for road and highway use will generate more than $22 billion annually by 2015, but the House-passed bill would, at best, provide less than $1 billion annually for new investment in transit systems, pedestrian and bicycle facilities and other activities that reduce transportation-related emissions.** In fact, because transportation investment would be considered only an eligible activity, it is likely that in many states and regions, no funding would be targeted to transportation improvements.

The House legislation specifies that less than 1 percent of allowances from the overall bill would be eligible to fund the non-federal share of transit projects, car pool and van pool projects and Congestion Mitigation and Air Quality (CMAQ) program projects (Sec. 132, State Energy and Environment Development program). In contrast, other sectors of the economy and other emission reductions strategies receive significant allowance value. For example, the electricity sector will receive up to 35 percent of ACES annual allowances.

Figure 4



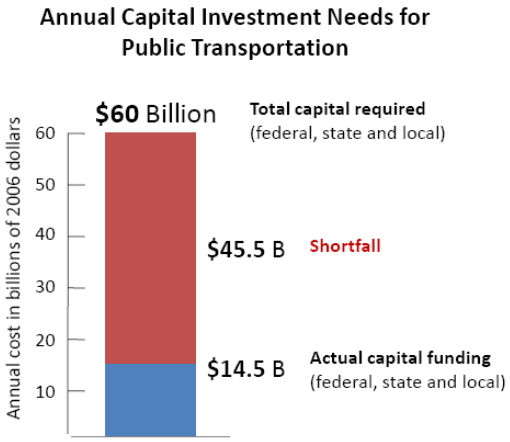
Source: APTA analysis of EPA Data Annex, ADAGE Scenario 2

A significant portion of emission allowance value should be directed to public transportation and other greenhouse gas reduction strategies which will provide mobility options for all Americans. Continuing the present levels of federal, state and local investment in public transportation will not achieve the increases in ridership necessary to unlock the full emissions reduction potential of transit. The federal government traditionally provides slightly less than 50 percent of transit capital investment. To simply double transit ridership in the coming years, the federal government needs to invest upwards of $30 billion a year in public transportation, significantly more than the $10.2 billion a year that it currently provides.[5]

Public transportation investment is also needed in climate legislation to offset increases in energy-related operations costs for public transportation providers under a cap-and-trade program. Fuel and electricity are a significant component of transit agencies' operating budgets, which are funded overwhelmingly (more than 90 percent) from riders and state and local taxpayers. Transit systems are generally exempt from federal motor fuels taxes to ensure that they can provide as much service as possible, and this principle should be extended to a cap-and trade program. Without transit funding from a cap-and-trade system, public transportation systems could be forced to reduce service levels, which decreases the emissions reduction benefits of transit. Service reductions also harm households who rely on public transportation for getting to work, shopping and other daily needs.

[5] Cambridge Systematics, "State and National Public Transportation Needs Analysis," 2008.

Figure 5.



Source: Cambridge Systematics, 2008

APTA recommendations for climate legislation in the U.S. Senate

Recommendation #1: Climate change legislation must provide substantial new investment in public transportation and high-speed and intercity passenger rail that supplements existing federal transportation funding.

At a time when America must create more jobs, reduce its dependence on foreign oil, and become more carbon efficient, public transportation can make significant contributions. A strategy of expanding public transportation in combination with more efficient land use patterns and improvements to the operations of our road system can reduce on-road greenhouse gases significantly. At current ridership levels, public transportation alone will prevent the emission of more than 1.4 gigatonnes (1,400 million metric tonnes) of carbon dioxide over the life of the American Clean Energy Security Act, but that level of savings is only a fraction of what expanded ridership and complimentary strategies can accomplish.[6] Achieving these reductions will require significant investment, but there are many benefits to transportation investments beyond emission savings. In the case of transit investment, if ridership was tripled by 2020 using new infrastructure funding sources, this would:

- Save the United States 15.2 billion gallons of fuel per year—nearly equal the amount imported from the Persian Gulf today, greatly reducing America's dependence on foreign oil.[7]

[6] current annual savings from public transportation (ICF, The Broader connection between Transit, Energy Conservation and Greenhouse Gas Reductions) extrapolated over the 2012-2050 time period.

[7] "Changing the Way America Moves: Creating a More Robust Economy, a Smaller Carbon Footprint, And Energy Independence," a Discussion Paper by the American Public Transportation Association, Spring 2009, http://www.apta.com/research/info/online/documents/america_moves_09.pdf.

- Support 7.4 million jobs. Every $1 billion invested in federally aided public transportation capital projects supports approximately 30,000 jobs.[8]
- Save all American households $2,830 per year on average in transportation costs, significantly reducing the nation's transportation budget.
- Reduce vehicle miles traveled (VMT) by 11 percent, saving the U.S. $37.6 billion per year by reducing congestion and far more if one takes into account the reduction in road fatalities and injuries which would occur. [9]

Recommendation #2: Include the "Clean, Low-Emission, Affordable, New Transportation Efficiency Act" (CLEAN-TEA, S. 575) within the Senate climate bill.

Under CLEAN-TEA, 10 percent of emission allowances would be used to create a more efficient transportation system and lower greenhouse gas emissions. **Current research shows that a 10 percent investment of allowance revenue when combined with state and local resources can prevent the emission of 7.1 gigatonnes of greenhouse gases, a 14 percent reduction of on-road emissions.**[10] CLEAN-TEA would fund strategies like:

- funding new or expanded transit or passenger rail;
- updating zoning to support transportation plans; and
- making neighborhoods safer for bikes and pedestrians.

In order to be eligible for the funding authorized by CLEAN-TEA, cities and state departments of transportation would have to review their transportation plans and determine how they could reduce greenhouse gas emissions. The bill then provides federal funding for projects in those transportation plans to be distributed to states and localities based on the expected reductions in greenhouse gas emissions in each plan. CLEAN-TEA is presently sponsored by Senators Carper (D-DE) and Specter (D-PA) and co-sponsored by Senators Cardin (D-MD), Gillibrand (D-NY), Lautenberg (D-NJ) and Merkley (D-OR).

Within the CLEAN-TEA framework, APTA recommends that new formulas or discretionary programs that fund emission reduction strategies recognize the central role of

[8] Economic Development Research Group, Inc., "Job Impacts of Spending on Public Transportation: An Update," March 2009.

[9] APTA, "Changing the Way America Moves"

[10] Cambridge Systematics, Inc., "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions." Near-Term/Early Results bundle, assumes allowance revenue in line with EPA ADAGE Scenario 2 allowance price projections and matching state and local investment, which presently exceeds the federal share of total transit investment.

public transportation in expanding transportation options and shaping land use. Large transit projects such as New Starts and Small Starts fixed-guideway investments are key to influencing future land use patterns, and the expansion and maintenance of high-quality transit services in existing transit corridors are essential to achieving the greatest amount of emission reductions from existing infrastructure. CLEAN-TEA programs should provide significant and predictable investment in transit.

Recommendation #3: Establish dedicated formula funding for public transportation that promotes energy efficiency in transit operations, expands levels of service, and prevents service reductions related to a cap-and-trade program.

Climate change legislation should encourage new investment in energy efficient technology and increase the annual CO_2 savings from current public transportation services. Transit agencies, often using local funding, have already begun to invest in new energy-efficient vehicles and facilities, but many agencies are unable to afford the upfront costs of efficiency investments, even investments with relatively short payback periods. Expanded federal support for energy efficiency investments would speed the deployment of advanced technologies, increase emission savings and reduce the cost of transit operations, thereby freeing up resources to support expanded service.

Examples of potential energy efficiency investments:

- The purchase of new bus and rail rolling stock makes transit fleets more energy efficient. For example, the fuel economy of hybrid buses in operation today is between 10 to 40 percent better than conventional diesel buses. Also, "Buy America" requirements that are established in federal law for procurements involving federal assistance assure that most of a transit vehicle's components must be of domestic origin and that final assembly of vehicles must take place exclusively in the United States.
- Energy efficiency investments in existing rail infrastructure can yield similar operational improvements. Transit systems have begun deploying regenerative energy braking storage systems that can reduce the energy consumption of a heavy rail/subway line by 40 percent or more.

New formula funding should also allow agencies to address service levels, fare strategies and the cost of carbon under a cap-and-trade program. Expanding levels of service on routes where demand is underserved and preventing fare increases or service reductions are proven, cost-effective emission reduction measures. If flexibility is provided to use funds for operating costs related to increases in the price of carbon, potential burdens to transit service from a cap-and-trade program can be removed. At present, U.S. transit providers spend more than $3 billion annually on fuel and electricity for passenger operations.

About APTA

APTA is a nonprofit association of more than 1,500 public and private member organizations including transit systems and commuter rail operators; planning, design, construction and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. APTA members serve the public interest by providing safe, efficient and economical transit services and products. Over ninety percent of persons using public transportation in the United States are served by APTA members.

For additional information on climate change issues and public transportation, please contact Homer Carlisle of APTA's Government Affairs Department at (202) 496-4810 or email hcarlisle@apta.com.