



## Moving Cooler: Securing America's Energy Future

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America currently uses nearly 20 million barrels of oil per day—enough to fill more than six of the world's largest supertankers. More than two-thirds of this oil is used to fuel our cars and trucks, which drive enough miles each day to circle the globe more than 331,000 times. Meeting this demand for oil makes America less secure. We rely on imports for more than 60 percent of our overall oil consumption, leaving us dangerously dependent on other nations. Meanwhile, our oil-fueled transportation system accounts for nearly a third of our total global warming pollution.

Technology advancements such as hybrid vehicles and better batteries can decrease our oil use and transportation emissions, but groundbreaking new research sponsored by NRDC and leading transportation experts shows that we must deploy additional strategies to overcome this challenge.



[www.nrdc.org/globalwarming/energy/contents.asp](http://www.nrdc.org/globalwarming/energy/contents.asp)

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*Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions* shows that strategies to improve travel efficiency, such as better community design paired with public transit and smarter traffic management, can have a dramatic effect on reducing U.S. oil consumption. These travel efficiency strategies can reduce imports as much as 21 percent between 2010 and 2030. They would also improve our neighborhoods, reduce greenhouse gasses (GHGs), and spare consumers billions of dollars at the gas pump.

### Going Beyond the Car: Finding Oil Savings in Travel Efficiency Solutions

We can cut the oil we use in transportation with three strategies: 1) efficient vehicles, 2) cleaner fuels, and 3) lower driving rates and efficient traffic management. So far, the majority of our efforts to reduce oil use have focused on vehicles and fuels, while the other strategies—travel efficiency—have received less attention. But unless we increase travel efficiency, projected increases in driving rates and traffic would undermine oil and GHG benefits of recently passed auto fuel-efficiency standards and other expected improvements.

The *Moving Cooler* study shows how to fill this gap by evaluating oil savings and GHG reductions that could be achieved through nearly 50 different travel efficiency measures, such as:

- Smarter neighborhood design with easy access to clean transportation, jobs, and housing;
- Public transit, bicycle, and pedestrian options to provide alternatives to automobiles;
- Pricing strategies such as tolling and pay-as-you-drive insurance; and
- Car-sharing and education programs to encourage efficient driving.

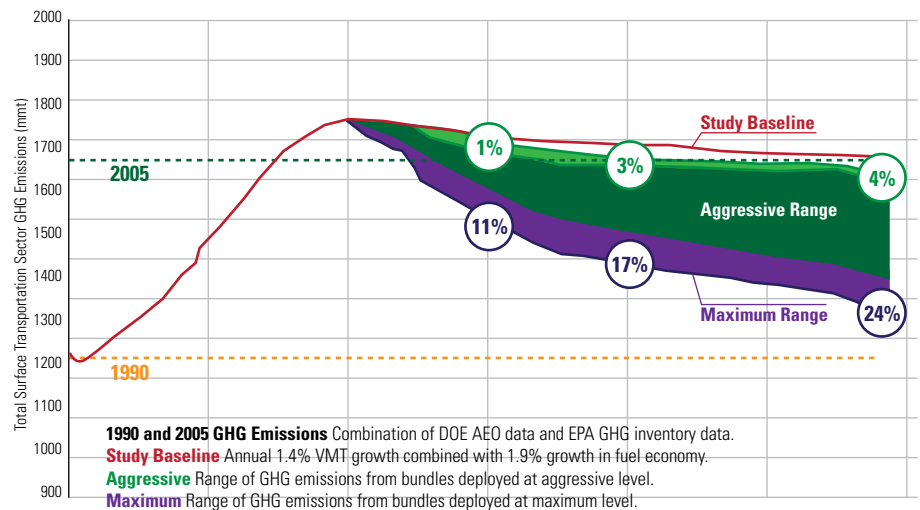
*Moving Cooler* found many of these strategies to be effective at reducing oil use and greenhouse gas emissions. *Moving Cooler* also studied “bundles” of strategies that enhance one another when used together, and found even greater oil savings and GHG reductions.

### Travel Efficiency: Cutting Carbon Emissions and Oil Use

*Moving Cooler* found that strong travel efficiency policies could achieve substantial oil savings and GHG reductions. By combining most of the travel efficiency strategies and deploying them to the maximum level, we could cut transportation emissions up to 24 percent by 2050. Adding economy-wide pricing strategies, such as road-use tolling or increased gas taxes, yields even higher emission reductions—up to 52 percent in the maximum scenario.

Potential oil savings range as high as 1.81 million barrels a day by 2050—more than we now import from Saudi Arabia each day. When paired with more efficient cars and cleaner fuels, these savings would significantly boost our security and protect the climate at the same time.

### Greenhouse Gas Emission Reduction Range (Aggressive and Maximum Deployment): 2010 to 2050



## Saving Oil Means Saving Money

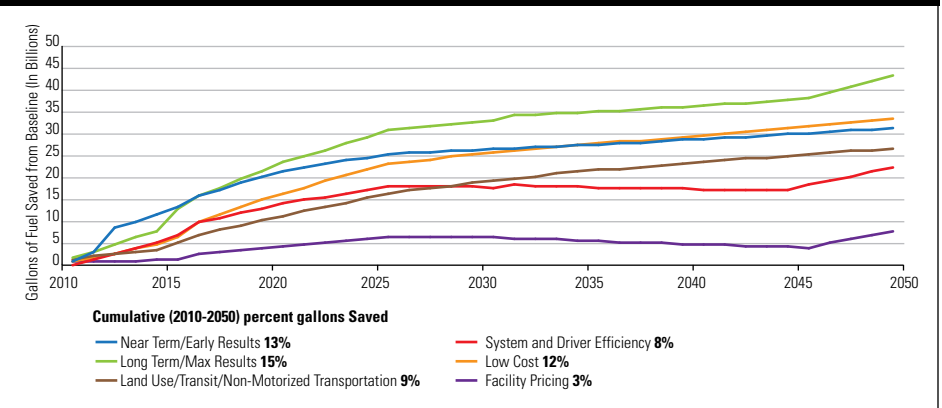
Helping drivers makes fewer and shorter car trips also means less trips to the gas station and repair shop. While public investment is needed to implement many strategies, *Moving Cooler* found an average of \$72 billion a year in consumer savings (at aggressive deployment of policy bundles)—nearly twice the amount the federal government invests in transportation infrastructure each year. And this doesn't account for the green jobs, local economic development, or housing affordability that transportation efficiency investments promote.

## More Bang for the Buck: Creating Synergies by Combining Strategies

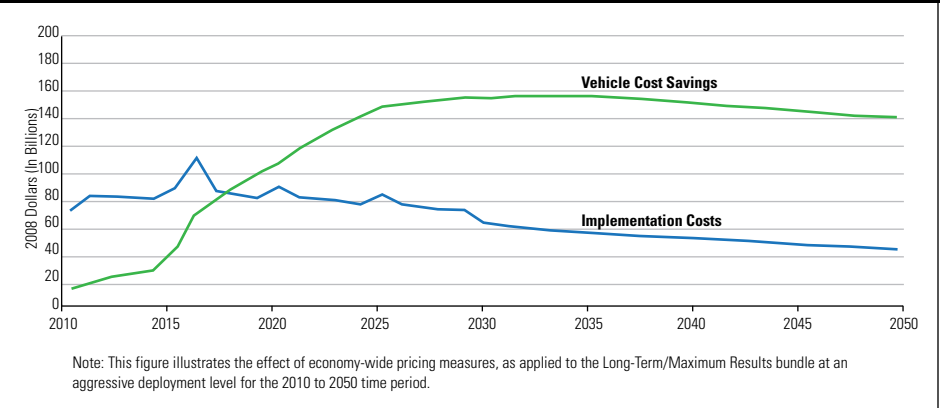
While the strategies analyzed by *Moving Cooler* can be effective when implemented on their own, the benefits skyrocket when travel efficiency strategies are used in combination, enhancing each strategy's effectiveness. For example, public transportation strategies alone would reduce emissions 532 to 1,014 million metric tons (MMT) by 2050. However, integrated with better neighborhood design and land-use, commuter initiatives, highway management, and other supportive strategies, we could reduce GHG pollution by 3,800 to 6,300 MMT, cutting emissions 9 to 15 percent per year by 2050.

Consumer savings from implementing this bundle add up to more than \$3 trillion in the aggressive scenario, due to lower vehicle operating costs. Consumers could reinvest these savings into education, local commerce, and other productive uses, moving the country toward a robust, sustainable clean energy economy.

Range of Oil Savings by Bundle at Maximum Deployment: 2010 to 2050



Implementation Costs and Vehicle Cost Savings for the Long-Term/Maximum Results Bundle at Aggressive Deployment: 2010 to 2050



### London: Synergies in Action

A real-world example of policy bundling can be found in London. The city's congestion pricing program<sup>1</sup> requires drivers pay a small fee in a portion of the central business district, to account for traffic and air quality impacts. Meanwhile, the city significantly expanded its storied double-decker bus service with revenue from the program, which yields about £120 million (\$270-\$290 million) annually. Auto traffic has remained stable since 1999 despite continued citywide economic and population growth. In the same time frame, bus travel has jumped 40 percent, subway use has increased 7 percent, and bicycling has nearly doubled, cutting oil use and GHG emissions.

<sup>1</sup> For more information go to <http://www.tfl.gov.uk/roadusers/congestioncharging/default.aspx>

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### The Bottom Line: Travel Efficiency is Key to Energy, Economic, and Climate Security

Travel efficiency strategies offer substantial benefits, including expanded travel options, less congestion, greater accessibility to jobs and housing, quality of life improvements, improved safety, and better public health. The benefits of travel efficiency complement other fuel-saving technologies: For example, limitations of battery-powered vehicles would be more manageable with shortened average trip lengths.

Policies must also be designed to address equity impacts that could be a byproduct of travel efficiency, for example by providing relief through direct rebates to low-income transportation users, ensuring access to affordable public transportation, and encouraging a range of housing types in efficient locations.

#### Case study: A Smart Growth Success Story in Atlanta

Atlantic Station, profiled in NRDC's book *Solving Sprawl*, is a neighborhood in Atlanta, Georgia that highlights the potential identified by *Moving Cooler*. Unlike Atlanta's sprawling suburbs on the city's periphery, Atlantic Station combines the benefits of sustainable living and affordable transportation options. The story of Atlantic Station features the cleanup and conversion of an old industrial site into a new and vibrant neighborhood. The thousands of people who live and work here benefit from the close proximity to various shops and customers, and easy access to the rest of Atlanta via the subway and other transit options. Prior to development, the Environmental Protection Agency had estimated that Atlantic Station's design and amenities would allow residents to drive about a third less. In fact, people living and working in Atlantic Station today are able to satisfy their transportation needs with 68 percent less driving than the average American, and 75 percent less than people in greater Atlanta.

This potential for lower fuel consumption, consumer savings, economic development, and pollution reduction requires visionary new policy, in climate and energy legislation as well as the upcoming transportation authorization bill. These federal programs must include performance standards for state and regional transportation plans and programs funded with federal dollars and focus public investment in fuel-efficient, low-carbon transportation infrastructure. The CLEAN-TEA legislation (H.R. 1329 / S. 575) provides a model for achieving this. (Read more about the bill at [www.nrdc.org/energy/files/FINAL\\_CleanTeaLeg\\_07.pdf](http://www.nrdc.org/energy/files/FINAL_CleanTeaLeg_07.pdf)).

As Congress debates the transportation bill, it should include provisions that:

1. Establish national transportation performance objectives that include GHG emission reduction, oil savings, and congestion relief, and ensure funding to achieve these objectives;
2. Ensure highway and non-highway infrastructure investments are evaluated and funded on a level playing field;
3. Require state and regional transportation blueprints to incorporate oil savings and GHG reduction goals, with performance incentives and accountability mechanisms (see [www.nrdc.org/globalwarming/sb375/](http://www.nrdc.org/globalwarming/sb375/))

To read more about the study and to purchase the full *Moving Cooler* book, produced by Cambridge Systematics and the Urban Land Institute along with NRDC, visit [www.movingcooler.info](http://www.movingcooler.info).

NRDC is a member of the Transportation for America coalition and helped to develop *Route to Reform* (<http://t4america.org/blueprint>), a detailed plan for a new transportation program that would help put America on track to a secure, sustainable, and prosperous future.