



FREEDOM FROM OIL

**POLICY SOLUTIONS FROM THE
LIVABLE COMMUNITIES TASK FORCE**

JUNE 2, 2011

For more information about the Livable Communities Task Force, contact the office of Rep. Earl Blumenauer at 202.225.4811

Freedom from Oil: How Transportation Choices Can Provide Gas Price Relief

A project of the Livable Communities Task Force

Rep. Earl Blumenauer, Chairman

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Executive Summary:

High gasoline prices have once again demonstrated how dependent American households are on oil. Coping with road networks and development patterns that for the past century have been built to make driving the preferred and often only means of transportation, Americans are suddenly held hostage to a diminishing and increasingly expensive resource to live their daily lives. Yet with less than 2 percent of oil reserves, there is little that the U.S. can do to increase the supply of oil and almost nothing to reduce its costs over the long term. Without real transportation choices, Americans spend increasing amounts of money on gasoline as they commute, go shopping, pick up their children from school and fulfill other daily responsibilities.

Americans deserve better. Providing a range of transportation choices can help break auto dependence, giving us freedom from the increasing costs and uncertainty associated with oil. Low fuel prices throughout most of the 20th century encouraged communities to grow on larger lots in more distant locations. These land-use changes spurred steady growth in the fuel consumed and miles driven by Americans each year. Even with low gas prices, the average household in an auto-dependent suburb paid a larger percentage of its budget for transportation costs than did a household in a walkable, transit-rich neighborhood. As gas prices have risen, transportation costs have become unsustainable, making many residential locations unaffordable and even contributing to mortgage defaults. For average households, transportation is the second largest budget item after housing. For many poor families, costs are even higher.

As severely congested roadways consume our financial resources, our time, and our quality of life, Americans are demanding more and better choices in where to live and how to get around. Half of all Americans think improving transit is the best way to mitigate congestion.¹ Transit-rich, mixed-use developments bring together homes and job centers along with businesses and services, giving residents the option to walk, bike, or take public transportation if they prefer not to drive. Sadly, almost half of Americans currently don't have good access to these alternatives.

Fortunately, policymakers, businesses and individuals have a number of opportunities to create transportation alternatives that reduce our need for expensive oil. Some of these opportunities – such as increasing support for a range of transportation benefits or supporting transit operations - can have an immediate impact. Actions as simple as combining short car trips or replacing them with walking or biking can result in significant oil savings for the nation. Other policies will have medium and longer-term impacts, laying the groundwork for future generations to reduce their dependence on oil. Policies that eliminate regulations prohibiting compact, mixed-use development can enable communities to develop neighborhoods with more services and better transportation options. Although creating new development patterns and investing in safe and direct pedestrian and bicycling networks will take some time, these elements will continue to benefit households and reduce community vulnerability to oil price shocks for years to come.

Americans should not and need not be held hostage to the financial instability of rising gas prices and uncertain oil supplies. This report offers suggestions for immediate and long-term opportunities to introduce choices beyond importing more oil – suggestions that can improve our transportation system, increase the livability of our communities, and help Americans gain freedom from oil.

¹ “The 2011 Community Preference Survey: What Americans are looking for when deciding where to live” Conducted for the National Association of Realtors. March 2011.

Summary of Federal Policy Recommendations:

- Continue to increase fuel efficiency of passenger vehicles, which could save drivers the equivalent of \$1.00-1.70 per gallon of gas.
- Increase investment in alternative fuels like electric vehicles, which could save drivers \$1000 in fuel costs each year.
- Set clear national priorities for our transportation system, including a strategy and performance measures for reducing oil consumption.
- Require Metropolitan Planning Organizations to evaluate the effects of new transportation projects on regional petroleum consumption.
- Promote Pay-As-You-Drive insurance, allowing consumers to pay less if they drive less.
- Encourage lenders to use transit accessibility and location efficiency as a factor in mortgage rates, taking into account the reduced spending on gas and making it easier to purchase a home that allows transportation savings.
- Provide consumers with information about the transportation costs associated with the location of a house through a tool like the Transportation and Housing Affordability Index
- Use the tax code to encourage businesses to offer comprehensive commuter benefit programs that level the playing field for alternative, non gas-dependent transportation.
- Increase federal funding for transit, including allowing capital funds to be spent on operations, helping transit agencies deal with increased fuel prices without compromising service or access.
- Increase funding for “Safe Routes to School” programs so that parents and children have the option to get to school safely without driving.
- Support “Complete Streets” policies that design streets for all users, making it safer for people of all ages to travel by bike, foot, or public transportation.
- Authorize the Office of Sustainable Communities at the Department of Housing and Urban Development (HUD) and provide funding to the Partnership for Sustainable Communities so that the agencies can continue to provide technical assistance, planning, and capital support to communities.

Introduction

Throughout the twentieth century, cars have been considered a symbol of freedom in the U.S.—they have made drivers the kings of the open road. We’ve built our physical communities around the automobile, becoming increasingly dependent on cars to connect us to family, friends, jobs, and businesses. As rising gas prices disrupt household budgets, it has become devastatingly clear that in many communities, it is gasoline alone that enables mobility. Otherwise affordable homes built far from jobs and other services have suddenly become unaffordable, threatening our ability to take children to school and afterschool activities, to get to the grocery store, even commute to work. Consumers lack alternatives to spending more than we can afford on fuel and the maintenance of our cars and ever more lanes of congested highways.

To many Americans today, cars no longer represent freedom as much as dependence. Many of us have no choice but to drive long miles between homes, jobs, recreation, and shopping, burning fuel that is relentlessly increasing in price. Without reliable public transportation or safe bike lanes, and with many communities lacking sidewalks, we have very little freedom to choose anything but the car for all of our transportation needs.

While policy-makers and pundits continue to argue about the reasons for high gas prices and pursue unrealistic and ineffective policies to reduce those prices, facts on the ground are often ignored. American dependence on oil is not necessarily a result of preference as much as policy and investment in the infrastructure to create car-dependent communities. The options for immediately lowering the price of gas are limited. Fortunately, there are steps that Federal, state, and local governments can take to reduce dependence on high priced gas.

Providing a full range of transportation choices – such as transit, walking and bicycling – can help Americans withstand price shocks in the oil market. A full range of transportation choices not only reduces demand for gasoline, but improves community and environmental health by reducing pollution that degrades air and water quality, with associated savings in healthcare costs. Biking and walking also encourage physical exercise and a healthy lifestyle, lowering our healthcare costs and improving quality of life. Communities designed for walking and bicycling also leave room for parks and natural areas and tend to have lower roadway maintenance costs per capita.

Volatile oil prices in the short term coupled with high costs and supply shortages projected for the long term suggest that our transportation system needs real alternatives to oil. Although public attention typically dwindles as oil price shocks ease, the need for more transportation choices will remain strong. In the long term, we can be sure that prices will continue to climb. The best solutions will include policies that give Americans real transportation choices. Although some may claim that American transportation and development patterns result solely from personal preference, the fact is that state, local, and federal policies have guided our transportation choices and shaped our communities for generations. Today, we must ensure that transportation policies are based on current conditions, with an eye to the future. As we realize just how finite our oil supplies may be, increasing alternatives to gasoline based transportation will enable us to reduce oil consumption when prices rise without reducing our economic output or quality of life.

Part One: Context

America's transportation system was designed to facilitate economic growth and provide access to employment, commercial centers, recreation, and friends and family. As these objectives have changed shape to meet the demands of the 21st century, our transportation system must also evolve.

In 1944, the need to protect urban populations from nuclear attack, as well as the incredible growth in auto travel, led to the passage of the Federal-Aid Highway Act and the creation of the National Highway System. This nationwide investment not only responded to those needs; it also enabled our nation's population to travel and even move great distances, changing the demographics and geography of our communities and radically shifting the priorities for transportation funding.

In 1945, transit accounted for 35 percent of urban passenger miles traveled in the U.S. – yet the federal government allowed public transit systems to languish until it began to define a long-term national commitment to urban transit systems in the 1960s. By the early 1990s, transit use had declined to 3 percent.² Even then, policies offered considerably less support to transit relative to automobile-based travel infrastructure. Meanwhile the shape of American towns and cities changed dramatically, as Americans began driving more and living farther from jobs and each other. Between 1950 and 2000 the U.S. population grew by 87 percent, while the total urbanized land area of the country grew by more than 200 percent.³ Highways enabled residents to move farther from town centers and own larger amounts of land for their residences; this also led many American communities to be built in a way that requires large amounts of oil to fulfill basic economic and recreational functions.

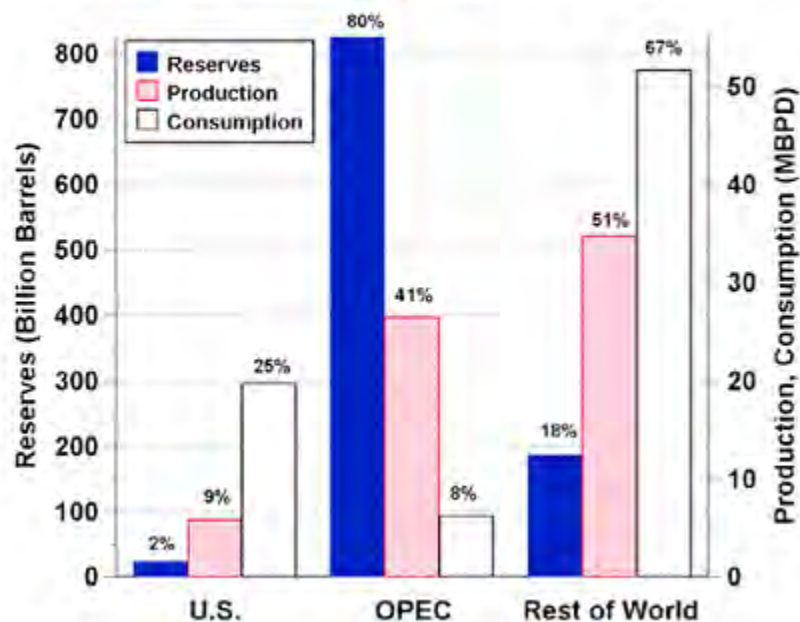
In this way, federal action has both responded to new social, economic, and technological conditions, while also creating the policy and financing decisions that shape the array of future

choices. Given the nature of this relationship and the long lead time required for transportation infrastructure, it is time now for policymakers to consider the needs of future generations, which will face more petroleum resource constraints and higher prices.

Our country holds 5 percent of the total world population and two percent of the

World Oil Reserves, Production and Consumption, 2008

Source: DOE Transportation Energy Data Book, Edition 29.



² Pietro S. Nivola "Are Europe's Cities Better?", Brookings Institution, 1999

http://www.brookings.edu/articles/1999/fall_europe_nivola.aspx

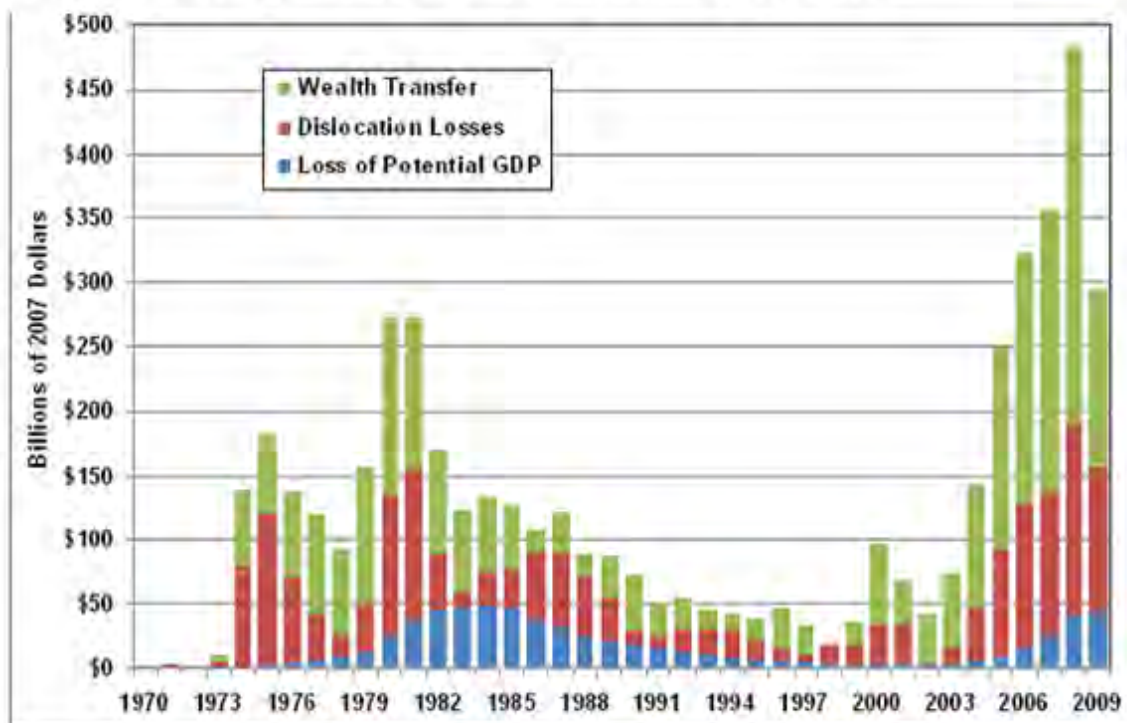
³ U.S. Census Bureau (2000) Selected Historical Decennial Census Population and Housing Counts

world's proven oil reserves but consumes 25 percent of the total energy used in the world.⁴ Seventy percent of oil in America is used for transportation-- more energy per capita than any other industrialized nation. Less than half of the petroleum consumed in the U.S. each day comes from domestic production. In 2010 the U.S. spent \$252 billion importing petroleum products, which represents half of our annual trade deficit of \$497.9 billion.⁵ Every increase in oil consumption and price increases our trade deficit.

With less than two percent of proven oil reserves in our country, there is little that the U.S. can do to affect oil prices by increasing its oil supply. Therefore, the best method for relief from prices is through mitigating demand, and the best means to mitigate demand is by providing fuel efficient transportation alternatives. Without these alternatives, households in auto-dependent neighborhoods will pay more for driving and therefore have less money to spend on other goods, which may lead to a lackluster recovery from the economic recession.

Given that our current living and travel patterns developed in an era of inexpensive oil, economic growth today typically requires increasing levels of fuel consumption. Americans already consume over ten percent of the world's oil in for transportation alone; rising gas prices over the past decade are just beginning to impact overall consumption. In early 2002 the price of gasoline was less than \$1.10; in just the first five

Costs of Oil Dependence to the U.S. Economy 1970-2009



Source: David L. Greene and Janet L. Hopson "The costs of oil dependence 2009" Oak Ridge National Laboratory Memorandum, 2010

⁴ "Reducing U.S. Oil Dependence" Natural Resources Defense Council. 10/3/2001

<http://www.nrdc.org/air/energy/fensec.asp>

⁵ U.S. Census Bureau, Monthly Trade Highlights, Annual 2010 Trade Highlights. <http://www.census.gov/foreign-trade/statistics/highlights/annual.html>

months of 2011, the average price of gasoline increased a full dollar to hover at \$4.00 per gallon—a mark that has been considered a tipping point in affecting consumer behavior. Of the nearly \$3 increase, inflation only accounted for 25 cents. Yet the detrimental effects of our oil dependence continue: increasing strain on family and business budgets, rising prices of food and other products, diminished national security, and a ballooning trade deficit.

The quadrupling of gas prices in less than ten years has directly affected household budgets, radically increasing the percent of household income required for transportation expenses and spotlighting the costs incurred by living far from jobs and services. As gas prices increased in 2007-08, home values in distant suburban auto-dependent neighborhoods declined significantly more than comparable homes in close-in communities.⁶ Because transportation is the second largest expense for households on average, households located in neighborhoods without transportation choices spend significantly more on transportation.⁷ Transportation costs are also higher in congested areas; on average, U.S. drivers waste 26 gallons of fuel every year sitting in congested traffic,⁸ cumulatively consuming one fifth of the total oil imported annually from the Persian Gulf. It is clear that as gas prices continue to rise, communities with a range of transportation choices offer the best defense against the devastating economic impacts of oil dependence.

Transportation Costs of Auto Dependence



Source: Center for TOD Housing + Transportation Affordability Index, 2004 Bureau of Labor Statistics

Location Efficiency: Households in transit-rich, walkable, "mobility-option" neighborhoods have far more discretionary income — due to lower transportation costs — than the average American family or those who live in the outer, "auto-dependent" suburbs. Source: Arthur C. Nelson.

⁶ Joe Cortright "Driven to the Brink: How the Gas Price Spike Popped the Housing Bubble and Devalued the Suburbs" CEOs for Cities. 5/2008. <http://www.ceosforcities.org/files/Driven%20to%20the%20Brink%20FINAL.pdf>

⁷ Scott Bernstein, Carrie Makarewicz, Kevin McCarty. "Driven to Spend: Pumping Dollars Out of Our Households and Communities", Center for Neighborhood Technology and Surface Transportation Policy Project. June 2005. http://www.transact.org/library/reports_pdfs/driven_to_spend/driven_to_spend_report.pdf

⁸ Bruce Katz. "Strengthening Our Infrastructure for a Sustainable Future", Brookings Institution Feb. 22, 2009. Speech given to National Governors Association Winter Meeting. http://www.brookings.edu/speeches/2009/0222_infrastructure_katz.aspx

Even before the most recent price spike, 50 percent of Americans told pollsters that improving public transportation is the best answer to traffic congestion and nearly 40 percent placed a high priority on access to transit, walking, and biking as alternatives to driving.⁹ However, only 54 percent of Americans currently have access to these alternatives.¹⁰ In many cases, federal, state, and local policies have made it difficult for the market to provide what is clearly demanded.

The Federal government has an important role to play in reducing the burden of high gas prices on our transportation system and its costs to American pocketbooks, the environment, and our national trade balance. Although economic and environmental conditions have changed dramatically since the creation of the National Highway System in the 1950s, the transportation system has seen relatively little change. Oil dependence damages our economy and trade deficit, and leaves commuters vulnerable to price shocks without any alternative means of travel. Federal, state, and local policy changes must lead the way if we are to provide viable alternatives to gasoline-dependent transportation.

⁹ “The 2011 Community Preference Survey: What Americans are looking for when deciding where to live” Conducted for the National Association of Realtors. March 2011.

¹⁰ “Potential Impact of Gasoline Price Increases on U.S. Public Transportation Ridership, 2011-2012” American Public Transportation Association. 3/14/2011.

Part Two: Policy Changes

Section One: Federal Policy Changes

Excessive oil dependence and lack of transportation choices increases the trade deficit, burdens consumers, and harms the environment. The unpredictable volatility of gasoline prices reinforces these negative impacts. It also presents challenges to long-term planning for consumers and businesses, especially because the costs and benefits of energy efficiency upgrades depend on the price of fuel. Federal policy should enable consumers to take advantage of multiple transportation options rather than force them to choose a particular mode of transportation.

The Obama administration has already made significant progress in creating transportation choices and reducing demand for oil. In addition to increasing fuel efficiency for cars as discussed below, the Administration has formed the Partnership for Sustainable Communities between the Department of Transportation, the Department of Housing and Urban Development, and the Environmental Protection Agency. These three agencies have combined resources and expertise to align their missions and programs, cut bureaucratic red tape, and help communities large and small coordinate their own transportation, housing, and land use policies.

Fuel and Energy Efficiency: One of the most significant means to reduce energy demand and the burden on drivers is through improving the fuel efficiency of our cars. As oil prices started their climb at the end of 2007, Congress increased Corporate Average Fuel Economy (CAFE) standards for

passenger vehicles for the first time in over 30 years. In 2010, the Obama Administration further improved CAFE standards, so that by 2016, American-made passenger vehicles will have an average fuel economy of 39 miles to the gallon—a 41% increase in efficiency over current standards.¹¹ The Administration predicts these new efficiency standards will save the average driver roughly \$3000 over the life of a new vehicle, and save roughly 1.8 billion barrels of oil over the lifetime vehicles sold in the U.S. between now and 2016. Fuel efficiency standards will also be increased for heavy duty trucks sold between 2014 and 2018; those standards are predicted to

In 2010, the Partnership for Sustainable Communities awarded \$600 million for transportation capital improvement projects and \$40 million for sustainable planning projects. Funds were awarded on the basis of the projects' innovation and anticipated positive impact on sustainability and livability.

For example, a development plan in the Chicago suburbs will foster transit-oriented development along an established rail infrastructure. The plan will also reduce regulatory barriers to development and will help established mixed-use development to forge a closer integration of households, jobs and amenities. This development plan is anticipated to save the members of these suburban communities over \$6.8 million per year in transportation costs.

Fuel Price (\$/gal)	Net Consumer Savings	Payback (years)	\$ per gallon savings
\$3.50	\$7,500	4.0	\$1.10
\$4.00	\$8,900	3.5	\$1.30
\$5.00	\$11,600	3.0	\$1.70
\$6.00	\$14,200	2.5	\$2.00

Note: Based on a 143 grams per mile CO₂-e standard achieving about 60 mpg on government tests compared to the current fleet average.

(Source: Union of Concerned Scientists)

¹¹ "EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks" Transportation and Climate Regulations and Standards, U.S. Environmental Protection Agency. <http://www.epa.gov/otaq/climate/regulations/420f10014.htm>

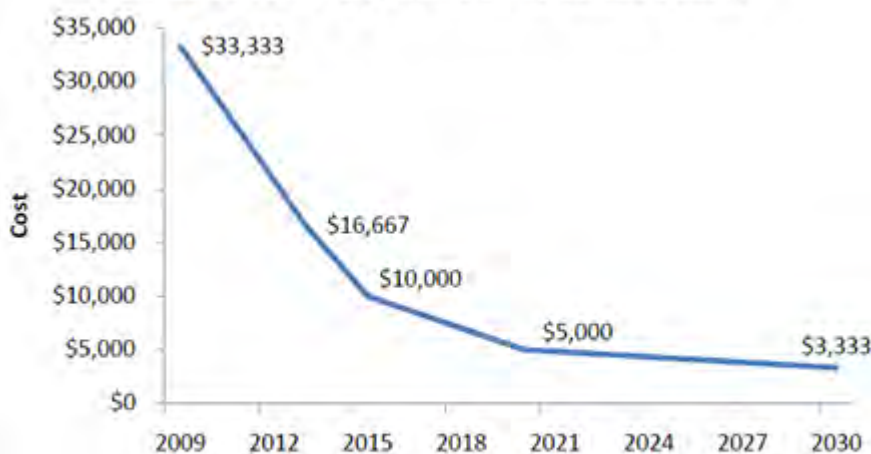
save 500 million barrels of oil during the lifetime of those vehicles.¹² The Obama administration is continuing this work, planning to propose fuel efficiency standards in September of 2011 for light duty vehicles sold between 2017 and 2025. If the Administration were to increase CAFE standards to 60 miles per gallon by 2025, the average American family could save \$513 on summer gasoline alone, compared to today's vehicles. Nationwide, these summer gasoline savings could be as much as \$67 billion with a 60-miles-per-gallon standard, saving 405 million barrels of oil.¹³ Improving automobile efficiency creates new transportation choices for drivers because it allows Americans to drive farther for the same amount of money and spend the savings on other priorities.

Offsetting high gas prices: New fuel efficiency standards of 60 miles per gallon could save drivers \$7,500 over the life of the vehicle if gas prices were \$3.50 or \$12,000 if gas prices were \$5. That would be the equivalent of reducing \$3.50 gas by \$1 or \$5 gas by \$1.70.

Increasing the availability of alternative fuels can also help bring down costs for consumers. If widely deployed, electric and alternative fuel vehicles can reduce transportation oil demand, creating significant savings, particularly when fuel prices are high. At \$3.50 per gallon and 9 cents per KWh, an electric vehicle that drives 12,000 miles per year can save a driver \$1,000 in fuel costs, compared to a gasoline-powered vehicle that averages 22 miles per gallon.¹⁴ However, since neither recharging stations nor sufficient alternative fuels are fully developed, these alternative vehicles have been slow to appear on the market. Federal policies supporting wider deployment of recharging stations would enable more Americans to

switch to electric vehicles (EVs). Additionally, although EVs offer significant fuel savings over time, their upfront costs can be prohibitive. Tax incentives have offered some assistance to stimulate the market for EVs, helping EV manufacturers to scale up production and bring down prices. President Obama's recent pledge to purchase all alternative fuel fleet vehicles for federal fleets by 2015 will also help stimulate this market. This will support the President's goal of reducing petroleum imports by one third.

Forecasted Cost of a Typical Electric-Vehicle Battery



Note: Assumes 3 miles per kilowatt hour and 100-mile range.
Source: U.S. DOE Vehicle Technologies Program.

¹² Transportation and Climate Regulations and Standards, U.S. Environmental Protection Agency. <http://www.epa.gov/otaq/climate/regulations.htm#1-2>

¹³ John Cross, Elizabeth Riddington. "Summer Gas Prices: Beating the Heat with Clean Cars," Environment America Research and Policy Center, May 2011.

¹⁴ "Benefits of Hybrid, Plug-in Hybrid, and All-Electric Vehicles," US Department of Energy, Alternative Fuels and Advanced Vehicles Data Center. http://www.afdc.energy.gov/afdc/vehicles/electric_benefits.html; "Savings Calculator", Amp Electric Vehicles. <http://www.ampelectricvehicles.com/calculator.aspx>

The Federal government is a major purchaser of energy, which enables it to be a leader in the marketplace as well, encouraging the market for efficient vehicles and advanced biofuels. Advanced biofuels come from a variety of non-petroleum sources, including algae, camelina, and jatropha. As the largest energy consumer in the Federal government, the Department of Defense has been particularly active in exploring non-petroleum alternatives for transportation and energy requirements. Encouraging these efforts through renewable fuel standards and through extending the length of their energy acquisition contracts would provide greater certainty to the field of advanced biofuel producers and would help to bring those prices in line with other fuels.

Planning and Performance Goals: A number of European countries have successfully used national performance strategies, goals, and guidance to provide and promote a greater range of transportation options. For example, the Netherlands, Denmark, and Germany have all undertaken national efforts to increase the use of bicycles, devoting more resources to safety improvements and bicycle facilities. Already more than 35% of Copenhagen residents cycle to work; the city's goal is 50% by 2015. In Copenhagen, 55% of cyclists cite the fact that biking is fast and easy as their main reason for biking.¹⁵

The federal government should clearly tie the reduction of oil consumption to our national security and evaluate transportation policy and funding proposals with this national interest in mind. This national priority should include a specific goal for reducing oil consumption used for transportation and should establish measurable benchmarks to evaluate progress towards meeting that goal.

Metropolitan Planning Organizations (MPOs) ultimately select which transportation projects in their regions will be built, through a federally regulated planning and funding process. These federal regulations should also help MPOs evaluate how their selections affect oil consumption in their regions. Establishing energy efficiency as a requisite consideration for project planning and selection would create greater economic resiliency to volatile oil supplies and price increases.

Incentives for Demand Reductions: Pay-As-You-Drive (PAYD, also called Distance-Based) insurance proposals incorporate mileage as a factor in premium calculations. Since accident costs increase with the number of miles driven, PAYD insurance rewards motorists for reducing the miles they drive. By creating a financial incentive to drive less, PAYD not only reduces the number of crashes, it also conserves gasoline and reduces congestion.

Legislative highlight: *In 2009, Rep. Rush Holt (D-NJ) introduced the "National Transportation Objectives Act." This bill would clearly define objectives and performance targets for the U.S. Department of Transportation to move our national surface transportation system forward and address our nation's economic, energy, and environmental challenges. These national transportation objectives of promoting energy efficiency and security, protecting the environment, improving economic competitiveness, increasing safety, upgrading system connectivity, and providing urban and rural opportunities would link to 10 precise performance targets. Among these targets would be to reduce vehicle miles traveled by 16 percent; cut transportation-generated CO2 by 40 percent; triple walking, biking, and mass transit ridership, and increase freight rail by 20 percent in 20 years.*

¹⁵ "Copenhagen City of Cyclists: Bicycle Account 2010" City of Copenhagen, Technical and Environmental Administration. May 2011

Legislative highlight: In 2010, Rep. Earl Blumenauer and other members of the LCTF introduced H.R. 5824, the Transportation and Housing Affordability Transparency Act. This bill would require the Secretary of HUD to develop a Transportation and Housing Affordability index to measure and disclose the transportation costs associated with the location of a home.

It would also require, where feasible, the incorporation of transportation costs associated with the location of housing into affordability measures and standards. This could include neighborhood characteristics such as walkability, availability of transit, and convenient access to amenities. Using this information, consumers will be able to better price the trade-offs between housing and transportation costs and to measure potential savings associated with living close to work, school, shopping, and transit.

This legislation will make the costs of housing more transparent for policymakers and consumers, helping more low-income families to live in areas with access to transit and other services. The transportation cost savings may also translate into increased opportunities for wealth creation, allowing families to spend their money on activities and expenses other than transportation.

Households in walkable communities with an array of transportation options not only spend less on transportation, they are also able to switch to lower cost alternatives when driving becomes too expensive. In some communities, people even choose not to own a car at all, saving over \$9,000 a year, according to the Automobile Association of America (AAA).¹⁶ However, mortgage lenders do not typically give credit on home loans for households that have lower transportation costs. Using transit accessibility as a factor in calculating mortgage rates would enable more people to purchase homes in pedestrian-friendly communities with good transit access that can better withstand gas price increases.

Although research has clearly demonstrated the higher savings associated with households located in transit accessible neighborhoods, it remains difficult for homebuyers to quantify and compare the full transportation costs associated with different locations. A Transportation and Affordability Index that measures the true affordability of housing based on its location would enable homebuyers to compare home prices and better understand the trade-offs between housing and transportation costs. Tools of this sort can help Americans save on the costs of transportation and understand the true costs of different types of housing. They can also help municipal governments recognize the importance of providing affordable transportation and housing choices for their residents, giving them the tools they need to do so.

Increasing Transportation Choices: Many towns and cities across the country offer no real alternatives to driving, meaning residents have little ability to modify their behavior in response to oil price increases while maintaining their jobs and other responsibilities and without sacrificing convenience. Rather than support transportation alternatives, in many ways our Federal policies reinforce gasoline-based transportation through the formula for transportation financing, and built-in incentives for driving or parking rather than transit, biking, carpooling, or combining multiple modes. These policies could provide tax code incentives for businesses that offer more comprehensive commuter benefit programs (see “What Can Businesses Do”), or changes in the transportation funding formulas that reward reductions in driving. The Federal government should support local and state efforts to create transportation choices rather than impose a one-size-fits all model that exacerbates oil dependence.

¹⁶ How Much Are You Really Paying to Drive? Rep. Automobile Association of America, 2010. Web. 1 June 2011. <<http://www.aaaexchange.com/Assets/Files/201048935480.Driving%20Costs%202010.pdf>>.

Another short-term option for improving our ability to withstand high gasoline prices is through assistance to transit agencies, many of which also see costs increase during times of high oil prices.

Although some transit agencies are exploring options to use electricity or alternative fuels, most still rely on diesel fuel, meaning that they are also vulnerable to rising gas prices. During price increases, transit agencies see large increases in ridership yet they also face higher fuel costs and may be unable to quickly raise fares to cover those costs. As a result, the gas price increase of 2008 forced many transit agencies to reduce frequency or hours and raise prices just as more commuters needed their service. Increasing Federal funding for operational costs of transit, in addition to the capital costs for infrastructure, would help to avoid transit capacity constraints. Alternatively, subsidies for fare costs or fuel purchases would enable transit agencies to maintain or improve service. In the longer-term, the Federal government should assist states and localities in their efforts to expand infrastructure funding for transit, bicycle, and pedestrian infrastructure, with the goal of ensuring access to viable public transportation for all households.

Legislative highlight: In the 111th Congress, Rep. Russ Carnahan (D-MO) introduced H.R. 2746, the *Allowing Local Control for Transit Funds Act*. This legislation would allow local transit agencies to use a percentage of their formula funds for operations, thus allowing them increased flexibility when demand is high. This legislation will help transit agencies respond to increased demand due to fluctuating gas prices, and provide resiliency and reliability at a time when their services are in greater demand.

TIFIA: One option for funding new transportation infrastructure is the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which offers Federal assistance to finance regionally or nationally significant surface transportation projects through direct loans, loan guarantees, and standby lines of credit. The size and complexity of many large-scale projects often leads to project delays; TIFIA loans can help these projects to advance more quickly and resolve uncertainty in the timing of revenues. Since the program was authorized in 1998, 23 projects have been offered TIFIA credit assistance including the Washington Metro Capital Improvement Program, which enabled Metro to replace and rehabilitate equipment on its rail and bus systems.

Safe Routes to Schools: The Safe Routes to Schools program provides grants to local school districts for infrastructure improvements, education materials and training materials, to ensure that students have a safe route to walk or bike to school. In the United States, almost three quarters of children arrive at school by car. Given that many children live close to their schools, freeing parents from the burden of driving their children five days a week is an effective way to help families reduce their gasoline usage. It can also reduce congestion during peak travel times. In addition, the program helps students incorporate physical activity into their daily lives, and helps them feel comfortable with alternative transportation modes at a young age.

Section Two: State and Local Policies

While the Federal government is uniquely positioned to provide support to communities to reduce their dependence on oil, there is much that can also be accomplished on the state and local level to offer choices to alter local gasoline consumption patterns. States, localities and businesses are leading the way, and federal policy should assist in their efforts to provide consumers with more transportation choices. These efforts can create significant market pressure for higher fuel efficiency ratings and more transportation choices.

States and municipalities are already leading the way in a number of areas to create transportation choices and reduce gasoline demand.

Transit and Smart Growth: States can implement or change existing policies to support smart growth communities in which walking and biking are viable alternatives to driving. With land use decisions and zoning policy determined locally, local leaders have a great opportunity to shape communities

to enhance or deter smart growth. Zoning that separates residential neighborhoods from commercial areas will deter walking and biking as a means of transportation. Compact development policies encourage a mix of land uses, including residential, commercial, and industrial sectors that bring populations, employment centers, and services to convenient walkable distances. Many studies have demonstrated a link between the physical environment and the use of active transportation; the Atlantic Station mixed-use in-fill development in central Atlanta demonstrated that the location would generate 36 percent less driving relative to outlying suburban areas.¹⁷

Complete Streets: Designing streets for all users is another way that communities can ensure people have access to safe alternative transportation. The “complete streets” movement calls on transportation planners and engineers to build road networks that are welcoming not just to cars, but to pedestrians, bikers, public transportation riders – all of whom save money on gas.

Legislative highlight: *In May of 2011, Rep. Doris Matsui (D-CA) and Rep. Steven LaTourette (R-OH) introduced H.R. 1780, the Safe and Complete Streets Act of 2011. The legislation ensures that future transportation investments made by State Departments of Transportation and Metropolitan Planning Organizations (MPOs) create appropriate and safe transportation facilities for all those using the nation’s roads—motorists, transit vehicles and riders, bicyclists, and pedestrians of all ages and abilities. In doing so, the Complete Streets Act will help eliminate transportation access barriers for children, disabled users, the elderly, those who do not drive, and others*

Legislative highlight: *In 2010, Rep. Ed Perlmutter (D-CO) and members of the Livable Communities Task Force introduced H.R. 4690, the Livable Communities Act. This bill establishes a grant program administered by HUD to assist local governments in planning for and creating better, more affordable places to live and work. It also creates an Office of Sustainable Housing and Communities at HUD.*

¹⁷ Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. “Growing Cooler: The evidence on urban development and climate change,” The Urban Land Institute.

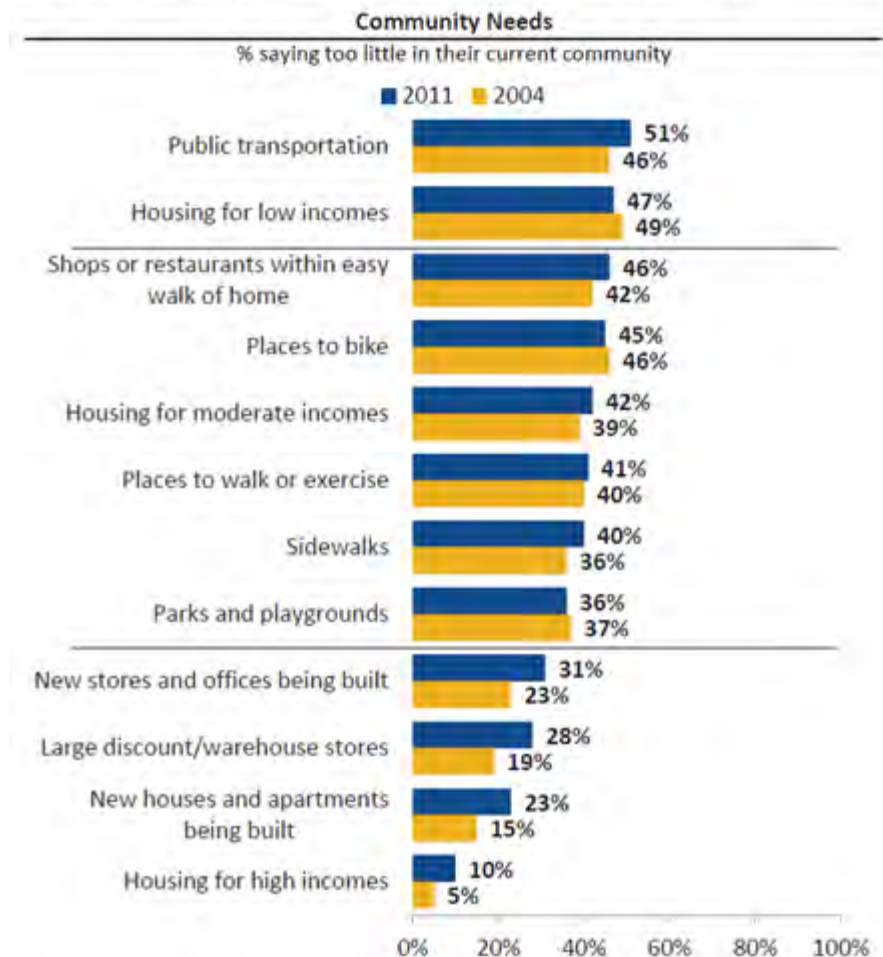
Overall, evidence suggests that compact development offers choices to residents that reduce their need to drive by 20 to 40 percent. Giving households the opportunity to cut their transportation costs by more than a third can provide true relief, especially in times of high gas prices. Demand for small lots and attached housing has grown, particularly as gas prices have increased. Demand for this type of home is predicted to significantly outstrip supply by 2025, whereas the supply of large residential lots is predicted to be in excess of demand.¹⁸

Parking: Local parking policies can have a major impact on the transportation behavior of city residents, particularly where other transportation alternatives are available. Plentiful free parking can reduce incentives to use transit while parking fees make transit and biking more attractive.

In cities with limited street parking, a large discrepancy between on-street and garage parking costs encourages drivers to circle in search of low-cost street parking, wasting gasoline and adding to congestion. Often garages reflect the true cost of parking spaces, which are undervalued on the street. Increasing street parking costs to be comparable to garage rates can reduce circling fuel waste. Local governments also often set minimum parking requirements which greatly increase the costs of building and result in large parking lots separating stores from the street.

Parking can also be one of the biggest costs for developers. Parking minimums often force developers to provide free or subsidized parking for residential or commercial buildings, even in locations that are highly served by transit or where most people walk to their destinations. The average development cost for a ground level parking space is \$2,000 per space, but the cost can be as high as \$20,000 per space when the parking space is above ground or subterranean. Ninety-nine percent of all automobile trips end in free parking spaces, despite the costs to build and maintain those spaces, while the parking space costs are

More Public Transportation is Highest Priority



Source: The 2011 Community Preference Survey. National Association of Realtors. March 2011

¹⁸ A.C. Nelson, "Leadership in a New Era." Journal of the American Planning Association Vol. 72, Issue 4, 2006. Shown in Growing Cooler.

passed along to the taxpayer or consumer.¹⁹ If local jurisdictions were to reduce their parking minimums and allow developers to provide the amount of parking they deemed appropriate, overall costs would decrease. Government should not force the private sector to provide excessive amounts of parking spaces, which drive up commercial rent and make it harder for consumers to walk or bike to work.

States and municipalities also can reduce reliance on oil by promoting transit as a transportation alternative. When gas prices increase, the ridership on public transportation systems also increases, as commuters' preferences shift toward the lower cost option. However, only 54 percent of American households are located within accessible range of transit service.²⁰ A recent analysis of transit providers in the 100 largest metropolitan areas by the Brookings Institution suggests that transit connects even fewer of those households to employment.²¹

State Departments of Transportation and Planning have an important role to play in making transit more accessible to all American households both by building new lines and stations to enable existing communities to access transit and by planning new housing developments in transit accessible locations. Transit oriented neighborhoods use significantly less gasoline, particularly when gas prices spike. Between 1980 and 2006, fourteen cities have created light rail transit systems and have saved more than 200 million gallons of gasoline through public transit usage.²² Denser transit oriented neighborhoods are also fertile ground for deploying other programs to enhance access to alternative transportation, such as bicycle share programs that enable easy bicycle commuting.

Demand for extended and reliable transit service has been demonstrated in numerous surveys, and states and local tax authorities have shown that the public is often willing to bear a dedicated tax for a new transit project.

Local case study: *The Dallas Area Regional Transit (DART) system began construction in 1990 and has steadily expanded its light rail system in the past twenty years. Since then, DART has added 72 miles of light rail service and serves approximately 57,700 people every weekday. Property values along the rail line are 25% higher than property values in areas not served by the light rail system, and over \$800 million of private investment has been spurred by the transit project.*

In 2010, the Dallas Business Journal named the new Green Line the "Best Real Estate Deal of the Year," focusing on the economic development impact of the project, and the draw that the transit line has on young professionals and families who are considering moving to the area. The Dallas light rail line is a prime example of the impact that a well planned light rail system can have, both on the families and individuals living in the area, and the businesses and developers who choose to invest.

¹⁹ Cowen, Tyler. "Free Parking comes at a Price" NYTimes 8/14/2010

²⁰ "Potential Impact of Gasoline Price Increases on U.S. Public Transportation Ridership, 2011-2012" American Public Transportation Association. 3/14/2011.

²¹ "Adie Tomer, Elizabeth Kneebone, Robert Puentes, and Alan Berube. "Missed Opportunity: Transit and Jobs in Metropolitan America" Brookings Metropolitan Policy Program. May, 2011

²² Phineas Baxandall, Tony Dutzik, and Joshua Holden "A Better Way to Go: Meeting America's 21st Century Transportation Challenges with Modern Public Transit" US Public Interest Research Group Education Fund. 3/2008

Recovery Act funds for EV

programs: *The American Recovery and Reinvestment Act of 2009 included \$2.4 billion to aid in the development of plug-in electric cars and the infrastructure required to keep them charged. The funding includes \$1.5 billion for U.S.-based manufacturers to produce batteries and components, \$500 million to help produce other electric vehicle components such as electric motors, and \$400 million to demonstrate and evaluate plug-in hybrids and other electric infrastructure concepts such as charging stations, electric rail and training for technicians to build and repair EVs.*

As a result of Recovery Act investments, in just the next few years, battery costs are expected to drop by half. The United States will be able to produce enough batteries and components to support 500,000 plug-in and hybrid vehicles and will have the capacity to produce 40 percent of the world's advanced batteries by 2015. This funding will help meet the President's goal of putting 1 million advanced technology vehicles on the road by 2015. As of May 13th, more than 1,800 electric vehicle charging stations have been installed using this funding. (Source: White House).

Transit infrastructure and smart growth development can also increase home values, particularly during times of high transportation costs. For instance, between 2006 and 2008, homes within a half mile of stations on Denver's Southeast light rail line rose in value an average of 17.6% whereas other Denver homes declined by an average 7.5%.²³

Tax increment financing: States and local governments can also pursue policies to reduce the high initial costs of new housing and transportation infrastructure projects. Tax increment financing (TIF) is a tool that a state or local government can implement to encourage investment in under-invested neighborhoods. TIF finances the costs of new investments with the increased property taxes that will result from the development of the project, using bonds or other short-term financing mechanisms to cover the costs between construction and the paying of higher property taxes. Brownfields or infill development locations are prime candidates for compact redevelopment induced through tax increment financing.

Energy Efficiency: States and municipalities can have a large impact on the transportation fuel demand, both through energy efficiency standards and as major purchasers of fleet vehicles. Twenty five states currently have fleet efficiency requirements.²⁴ These requirements reduce marginal energy costs borne by states and municipalities, as does the purchase of hybrid electric vehicles and plug-in hybrid electrics. Many states also have incentives and tax credits in place to reduce the costs of purchasing electric vehicles (EVs). Programs that stimulate voluntary retiring of older fuel inefficient vehicles, such as Cash for Clunkers, can significantly modernize a state's vehicle fleet, improving the average fuel economy. In addition, just as the investments in road networks promoted the widespread adoption of automobiles, EV recharging infrastructure would reduce costs for potential EV drivers.

Regulatory policy is also being used by states and municipalities to reduce gasoline inefficiency and waste. In response to fuel wasted from idling, seventeen states have implemented limits on idling.²⁵

²³ Chuck Kooshian and Steve Winkelman. "Growing Wealthier: Smart Growth, Climate Change and Prosperity". Center for Clean Air Policy. 1/2011

²⁴ Deron Lovaas "Fighting Oil Addiction: Ranking States' Gasoline Price Vulnerability and Solutions for Change" Natural Resources Defense Council Issue Paper, 11/2010.

²⁵ Deron Lovaas "Fighting Oil Addiction: Ranking States' Gasoline Price Vulnerability and Solutions for Change" Natural Resources Defense Council Issue Paper, 11/2010.

Even so, every day, millions of cars and trucks in the US needlessly idle, despite the waste of gas and the damage to air quality it causes. Idling consumes between 1/5 and 7/10 of a gallon per hour. An Environmental Defense Fund study found that in New York City alone, curbside idling costs New York drivers over \$28 million in wasted fuel every year, even when gasoline prices were just \$2.00.²⁶ Although many believe that the fuel consumed in turning on a car exceeds the fuel wasted in idling, in fact the fuel used for ignition is equal to just 10 seconds of idling. Therefore, cars should be turned off for any amount of idling to last longer than 10 seconds.

ITS and Tolling: Gridlock and highway congestion are a major source of wasted fuel getting worse every year, but they represent an opportunity to reduce fuel use through innovative policies to manage transportation demand and improve efficiency. According to the Texas Transportation Institute, in 2009 Americans across all metropolitan statistical areas spent an average of 34 hours in traffic—the equivalent of nearly a full work week—stopped in traffic delays.²⁷ (This is down from the peak in 2007 of 38 hours per week, due to declines in economy and employment levels.)

Congestion is not just a waste of time, but there is an economic cost associated with lost work hours and wasted fuel. In 2009, 4.8 billion hours and 3.9 billion gallons of gasoline were wasted due to congestion, with an aggregate cost of \$115 billion to the economy.²⁸ Part of this additional cost to the economy is in public health costs, as cars stuck in traffic also lead to more than 2,200 deaths each year from vehicle emissions.²⁹

Market-based congestion-pricing programs charge tolls to highway users, increasing the tolls during periods of peak congestion and lowering the tolls in off-peak periods. In effect, the toll paid by each driver is equal to the cost that his or her driving imposes on other drivers in the form of congestion, which is greater during periods of high congestion and delay. As many trips taken during those peak hours are not necessarily time sensitive and could as easily be accomplished earlier or later in the day, congestion-pricing gives a financial incentive to drive during less congested periods. Congestion prices implemented in California have been estimated to generate net social benefits of \$12 million per year.³⁰ Nationwide, implementation of

An exponential problem:

Congestion doesn't increase in a linear fashion as the number of cars on the road increases. Extra cars act as a multiplier for congestion, but similarly a small decrease in the number of vehicles on the road can lead to a large decrease in roadway congestion. In 2008, the 3 percent reduction in cars on the road due to rising gas prices led to a 30% drop in the peak hour roadway congestion across the nation.¹ At 3.9 billion gallons and \$114.8 billion wasted per year in congestion, even small reductions would add up to significant savings.

¹ Source: INRIX National Traffic Scorecard

²⁶ “Idling Gets You Nowhere” Edward Burgess, Melissa Peffers, Isabelle Silverman Environmental Defense Fund 2/2009.

²⁷ Edward Burgess, Melissa Peffers, and Isabelle Silverman. “Idling Gets You Nowhere”, Environmental Defense Fund 2/2009.

²⁸ David Schrank, Tim Lomax, and Shawn Turner “TTI 2010 Urban Mobility Report”. Texas Transportation Institute, 12/2010. http://tti.tamu.edu/documents/mobility_report_2010.pdf

²⁹ Jonathan I. Levy, Jonathan J. Buonocore, and Katherine von Stackelberg. “The Public Health Costs of Traffic Congestion: A Health Risk Assessment,” Harvard Center for Risk Analysis, May 2011.

³⁰ “Using Pricing to Reduce Traffic Congestion”, A Congressional Budget Office Report. March 2009. <http://www.cbo.gov/ftpdocs/97xx/doc9750/03-11-CongestionPricing.pdf>

congestion pricing could reduce the total costs of congestion by as much as half.³¹

Other new technologies can also dramatically improve fuel efficiency, reducing wasted fuel. For example, truck weight inspections that are performed at highway speeds allow trucks to continue at fuel efficient speeds without wasting time and fuel in stopping. Other applications of Intelligent Transportation Systems (ITS) to reduce wasted fuel include using signal timing to reduce congestion and give priority to transit buses.

Legislative highlight: *In January of 2011, Rep. Albio Sires (D-NJ) introduced HR 260, Commute LESS Act. The Commute - Leveraging Employer Support and Successes Act would provide commuters with real options to conserve fuel, reduce congestion, and increase overall investment in transportation.*

“Commute LESS” would give employers the tools and resources they need to provide their employees with alternative forms of transportation such as transit, carpooling or teleworking. Metropolitan Planning Organizations would be required to include strategies for outreach and input from employers into the development of long-range transportation plans

³¹ “Using Pricing to Reduce Traffic Congestion”, A Congressional Budget Office Report. March 2009.
<http://www.cbo.gov/ftpdocs/97xx/doc9750/03-11-CongestionPricing.pdf>

Section Three: What Businesses Can Do

The tax code offers incentives for employers to pay for some of their employees' transportation costs in the form of transportation fringe benefits. This benefits employers by providing them tools to help attract employees as well as to help make sure employees arrive at work on time and are productive. Currently, employers can pay some expenses associated with parking, transit, vanpools and bike commuting, but they can pay more for parking than driving alternatives. Equalizing the transportation benefits for all the modes as well as allowing employees to "cash out" their parking benefits would make it easier for employees to commute using less gas-intensive modes. Government policy should support employers who provide their employees with transportation choices.

Benefits of this sort offer relief quickly, and greatly reduce both the amount of fuel used per rider as well as the number of cars on congested roadways. Federal tax incentives could also encourage businesses to offer such benefits and defray the costs of vanpool vehicle purchases.

There are many factors that influence a business's choice of where to locate. Proximity to worker housing and convenient services can play an important role in how much it costs employees to get to and from work when gas prices are high. This offers a cost-savings and quality of life benefit to employees that may influence their choice of workplaces. Locating near transit also guarantees access to a broad labor pool.

Van pools are traditionally a service provided by companies to help their employees get to work safely and efficiently while using less gasoline. Typically, vanpools are vans of six to fourteen commuters who live in a similar geographic location and work in a different similar location. They can be offered by the company at which the commuters work, or as a public or private service in a given area. Vanpools help commuters save time spent in traffic, reduce their gasoline and parking costs, and see significant help benefits due to reduced stress and pressure. These positive benefits have an impact on workplace productivity and have encouraged many companies to offer their own vanpool fleets. The Seattle Children's hospital has invested heavily in alternative transportation as part of its existing Transportation Management Plan. In recent years, the hospital has reduced the percentage of its daytime employees who commute via single-occupant vehicle from 50% to 38% using incentives for carpools, transit, bicycling and walking.³² Seattle Children's vanpool program has

Legislative highlight: *In May of 2011, Rep. Earl Blumenauer and other members of the Livable Communities Task Force introduced H.R. 1825, the "Commuter Relief Act. This bill expands a series of tax credits to support employers and employees who use and promote transportation modes that use less gasoline. The legislation recognizes that people choose different ways of getting to work, and that it doesn't make sense for the Federal government to prioritize one mode over another, especially when high gas prices make that mode more expensive for commuters. Experts have found that employers play a significant role in getting commuters to try other options.*

A recent study conducted by Newsweek found that 1 in 5 employees changed how they commuted when their employer offered a commuter benefit program.¹ Specifically, the bill supports transit equity by equalizing parking and transit benefits, encouraging companies to offer vanpool services, making changes to the bicycle commuter benefit to allow bicyclists to combine that benefit with either a transit or parking benefit, and allowing self-employed individuals to collect transit benefits as part of their business expenses.

¹ "The Case to Maintain the Commuter Benefit Cap." Transit Center. 9/10

³² *Children's Hospital Launches Employee Commuter Program.* King 5. Seattle, Washington, 16 Sept. 2009. Television.

allowed them to make strong headway towards improving the environment, decreasing congestion, and saving their employees time and money.

Allowing employees to work at home and telecommute at least part time is another way for employers to help reduce the impact of high gas prices. With new technology and the expanded use of email as a primary communication tool, more jobs can be done through telecommuting. Currently, 2 percent of the U.S. employee workforce—not including the self-employed—considers their home to be their primary work place.³³ Some studies suggest that 20 to 30 million Americans work at home at least one day per week.³⁴

³³ U.S. Census Data: The American Community survey 2009.

³⁴ Telework Research Network, based on American Community Survey data 2009.

<http://www.teleworkresearchnetwork.com/telecommuting-statistics>

Section Four: What Individuals Can Do

Federal, state, and local policies can create efficient market signals and provide the vital infrastructure to enable residents to have transportation choices. Many of these policy changes will take time to implement and make a difference. Yet even in the absence of short-term policy impacts, there are many opportunities for individuals to alter their behavior and make immediate changes to their transportation habits in ways that add up to significant aggregate impacts on gasoline savings. As our population grows, these behavior changes will become even more important. In 2010, every man, woman, and child in the country consumed on average about 2.6 gallons of petroleum products per day.³⁵ With the American population projected to increase by nearly 150 million people in the next 40 years, our per capita gasoline consumption will quickly become unsustainable.

Transportation Choices: The most effective short term gasoline reduction strategy is to give individuals the opportunity to reduce their need for gasoline by using public transit, walking, or biking wherever possible. In those cities where transportation alternatives are available to residents, sudden increases in price are accompanied by large upswings in the number of riders on public transportation.³⁶ This is evidence that extending transit access insulates commuters from higher gas prices.

Even in those locations where transit is not a viable alternative, numerous car trips could be replaced with walking and bicycling. In America today, more than 20 percent of all vehicle trips are less than 2 miles long, and more than 50 percent of all vehicle trips are less than 5 miles long.³⁷ In metropolitan areas, these numbers are even larger—approximately 40 percent of all trips are less than 2 miles. In some cases these short trips can easily be replaced with bicycling, which would result in significant gasoline savings. For a car with a fuel economy of 20 miles per gallon, replacing a 5 mile round trip with bicycling saves one quarter of a gallon of gas.

Over the course of a year, replacing that one 5 mile trip per day with a bicycle ride would result in 91 gallons of oil saved. At \$4 per gallon, a new bike commuter could save \$365 dollars, not to mention the extensive health benefits that would result.

Increasing choices across towns, states or even the nation would have major aggregate impacts. If every one of the nation's more than 100 million households switched just one of their daily five mile driving trips for a bike trip, the country would save approximately \$36.5 billion per year on gas. In many European cities where gasoline is considerably more expensive, bicyclists make up a larger percentage of the overall transportation mix—as much as one third of all trips in the Netherlands and Denmark, despite the high

Local case study: *Bicycling in Portland OR has been increasing by at least 10 percent per year since bicycle lane infrastructure was installed in 1991. By 2008, Portland had installed over 200 miles of bike infrastructure for the cost of one mile of urban freeway, and Portland residents had saved \$12 million in fuel (in addition to \$10 million in health care costs) from the increase in bicycling. Given these returns, the bike lanes will have fully paid for themselves by 2013 and will generate \$1.2 billion net benefits by 2040.*

³⁵ US Department of Energy, Energy Information Administration: Petroleum and Other Liquids, Product Supplied.

³⁶ "Potential Impact of Gasoline Price Increases on U.S. Public Transportation Ridership, 2011-2012" American Public Transportation Association. 3/14/2011.

³⁷ U.S. Department of Transportation, National Household Transportation Survey 2009. Number of Vehicle Trips by Trip Length. <http://nhts.ornl.gov>

levels of car ownership in those countries.³⁸ In addition to replacing car trips with bicycling or walking, trips can be combined to reduce the overall number of vehicle miles travelled. Combining trips reduces not only the number of total miles driven, but also the number of engine “cold starts,” which use more fuel and create more pollution.

Individuals can also explore telecommuting options with their employers, discussed in more detail above. Similarly, carpooling takes vehicles off of the road during rush hour, saving gasoline for the riders and reducing congestion for other travelers.

Drivers also waste fuel by traveling at high speeds. According to the Federal Highway Administration, the fuel economy of light duty vehicles decreased by 9.9 percent when average speed increased from 55 mph to 65 mph and continued to decline at higher speeds.

Vehicle Maintenance: Replacing older fuel inefficient vehicles with newer cars with better gas mileage can have an immediate impact on personal gasoline consumption; as gasoline prices rise, the economics of replacing older cars becomes more favorable. However there are also ways to marginally improve the fuel economy through vehicle maintenance. For instance, replacing old tires with ones designed to have a lower rolling resistance reduces the friction of tires and effectively reduces the fuel required to make them roll. This change in tires alone can improve fuel economy by 3 to 4 percent.³⁹ At 12,500 miles per year, this improvement would be the equivalent of 22.8 gallons saved per year.

Other aspects of vehicles can reduce fuel efficiency when not properly maintained. For instance, deflated tires reduce fuel efficiency by 0.4 percent for every pound per square inch of pressure below the proper levels. Similarly, blocked air and oil filters can reduce fuel economy. According to the U.S. Department of Energy, oil filter replacements can improve fuel economy nationwide by 1 to 2 percent while proper air filter maintenance could improve fuel economy by as much as 10 percent.

Location Choice: In the long term, individuals can reduce their transportation costs by choosing residential locations with flexible transportation choices, including transit and services within walking distance. Families that live near workplaces, schools, churches, grocery stores, and other services, will be more apt to make their outings on foot or in combined short car trips. Households located within transit accessible neighborhoods take fewer vehicle trips overall—about 25% fewer according to the National Personal Transportation Survey, while other estimates suggest as much as 44% fewer auto trips.⁴⁰ This reduction in auto trips also implies reduced costs for households in urban areas—reductions by as much as half relative to suburban households in the Minneapolis-St. Paul area, for example.⁴¹ Similarly, households in the core of Washington DC spent 30% of household income on combined housing and transportation whereas those in the car-dependent suburbs spent over 40%.⁴²

Tools like the Transportation and Housing Affordability Index will help consumers understand the cost associated with the location of their housing.

³⁸ John Pucher and Ralph Buehler. “Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany”, Bloustein School of Planning and Public Policy, Rutgers University. 6/2007

³⁹ Kathryn Phillips. “Unhooking California” Center for Energy Efficiency and Renewable Technologies. 3/2004

⁴⁰ G.B. Arrington and Robert Cervero. “Effects of TOD on Housing, Parking, and Travel”, TRB, 2008.

⁴¹ Center for Transit-Oriented Development and Center for Neighborhood Technology, 2007

⁴² Chuck Kooshian and Steve Winkelman. “Growing Wealthier: Smart Growth, Climate Change and Prosperity”. Center for Clean Air Policy. 1/2011

Conclusion

These policy proposals and other ideas can address the fundamental problem behind rising gas prices: a steadily increasing demand and an inability to affect worldwide supply or oil price. Because our transportation system is almost entirely dependent on petroleum, policymakers can have the most – and most immediate – impact by focusing their efforts on providing and encouraging a range of transportation options. For too long, the Federal government has disproportionately subsidized highways at the expense of other modes, reducing consumer choices. The suggestions put forth in this report are opportunities for Congress, local governments and businesses to take action to help families struggling with increased oil prices both in the short term and the long term. Even without waiting for action by policy-makers, there are simple things that individuals can do immediately to improve their own fuel consumption and costs. Together, we can reduce costs, increase national security, and create stronger local and national economies.