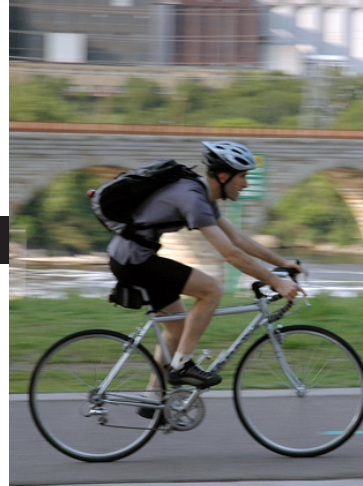




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Vulnerability or Strength: How Minnesota Can Move Beyond Oil

A Report by the Sierra Club North Star Chapter



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Minnesota is at a crossroads: We can continue to send billions of dollars out of our local economy each year importing the dirtiest and most destructive oil on earth from tar sands in Canada. Or Minnesota can create thousands of new, clean energy jobs that strengthen our economy right here in our home state.

Oil is the energy source that currently keeps our economy moving. However, Minnesota does not have its own oil reserves or means to produce crude oil. We import every single drop of oil we consume.

Our dependence on foreign oil puts Minnesota's economy in danger, sends jobs out of the state, and forces Minnesotans to pay the price of an unwise energy system. By relying on fossil fuels from Canada, we are literally helping burn through the ancient boreal forests of Alberta. Minnesota's dependence on oil sends billions of dollars out of our state every year, money that could be used to create jobs for Minnesotans. It leaves us vulnerable to ever-increasing prices on international markets. It puts the health of all Minnesotans, particularly children, at risk.

Breaking our addiction to oil needs to be a top priority. We cannot afford to continue paying billions of dollars to import a dirty energy source. We face a choice between continued vulnerability and a more prosperous future.



Minnesota Department of Transportation MNTraffic_MNDOT.jpg (www.mndot.gov)



Dirty Oil Sands Blog tar sands machinery.jpg (<http://dirtyoilsands.org/visuals>)



Dirty Oil Sands tar sands.jpg (<http://dirtyoilsands.org/visuals>)

The Costs of Our Oil Addiction

Importing foreign oil results in billions of dollars lost from the state economy. In the past decade, Minnesotans have spent an average of \$10 billion annually on oil. In 2008, with the price of oil breaking \$145 per barrel, we paid more than \$15 billion - 4.2% of Minnesota's gross domestic product - for oil to fuel Minnesota's transportation system, heat our homes, and power our industries.¹²

Our reliance on imported energy is a major drain on our state's economy. All of Minnesota's oil is imported, most of which - over 80% - is imported from the boreal forests of Canada.³

Our dependence on foreign oil shackles us to the whims of the global market, and leaves Minnesotans vulnerable to fluctuations in international prices. In 2008, at the beginning of the current recession, oil

prices rose dramatically and Minnesota drivers spent over five percent of their income - more than \$2,200 per driver per year - to buy gas for their cars.⁴ The high price of oil placed a heavy burden on residents already struggling to make ends meet, and took money out of the state at a moment when it was greatly needed to bolster Minnesota's economy and create jobs.

As easily accessible oil reserves around the world decline, we can expect steadily rising demand for the dirtiest oil. Further, rising oil prices and an unpredictable supply will continue to squeeze Minnesotan families' budgets in many ways. The rising cost of oil will be passed on to all Minnesotans at the pump, at the grocery store, and at the shopping mall.

1. "Oil price hits yet another record," BBC News, July 3, 2008 (available at <http://news.bbc.co.uk/2/hi/business/7486764.stm>)

2. State Energy Data System, U.S. Energy Information Administration (available at http://www.eia.gov/state/seds/hf.jsp?incfile=sep_prices/tx/pr_tx_MN.html&mstate=Minnesota).

3. "Energy 101: Oil," Fresh Energy (available at <http://www.fresh-energy.org/index.php/component/content/article/51/738>).

4

4. "Fighting Oil Addiction," Natural Resources Defense Council, May 2011 (available at http://www.nrdc.org/energy/states/files/Oil_Vulnerability_May_2011.pdf).

Energy Security Means Minnesota Job Security

We could use the money we spend on inflating the profits of big oil multi-national companies to create jobs here in Minnesota. Instead, we are paying for jobs out of state to fulfill our dire energy needs. Moving beyond oil will create energy jobs for hardworking Minnesota families. Good, green jobs are waiting in renewable energy, doubling our transit system, and building more compact, sustainable communities.

Unsafe and Unhealthy

The oil spill disasters in the Gulf of Mexico and the Yellowstone River remind us of the enormous costs, both economic and environmental, that we all pay when oil companies mess up. But even when everything goes right, oil still causes tremendous damage to our health and our natural landscapes.

About 80% of Minnesota's oil comes from the Canadian tar sands.⁵ Tar sands oil is the dirtiest form of oil on the planet. It is found in a part of Alberta much like northern Minnesota's Boundary Waters. Unlike traditional sources of oil, the tar sands—a thick mixture of clay, sand, water, and bitumen—cannot be pumped from the ground in their natural state. In order to get to the oil, mining companies clear the forests and wetlands, carve out vast open-pit mines, and deposit wastewater into toxic tailing ponds.

The extraction of tar sands oil generates three times more carbon emissions than traditional oil production.⁶

5. "Energy 101: Oil," Fresh Energy (available at <http://www.fresh-energy.org/index.php/component/content/article/51/738>).

6. "Development of Baseline Data and Analysis of Life Cycle Greenhouse Gas Emissions of Petroleum-Based Fuels," National Energy Technology Laboratory, November 26, 2008 (available at <http://www.netl.doe.gov/energy-analyses/pubs/NETL%20LCA%20Petroleum-Based%20Fuels%20Nov%202008.pdf>)

In addition, the extraction of tar sands permanently destroys vast tracts of forest. The energy-intensive extraction process requires significant amounts of water (2 - 4.5 barrels per barrel of oil produced), which ends up in toxic tailings lagoons that have never been successfully reclaimed. Importing oil from tar sands is a betrayal of Minnesota's longstanding conservation tradition.

Beyond the destruction associated with our primary source of oil in Minnesota, emissions from oil-burning cars and trucks threaten the health of Minnesotans who live near highways and busy roads. Nitrogen oxides, ozone, and particulate matter from automobile tailpipes are linked to respiratory disease, heart problems, and cancer. Minnesotans from Rochester to Brainerd suffered nearly a month's worth of dirty air days in 2009 alone.⁷ The health costs associated with burning gas make the cost of oil even higher.

No one is at greater risk than children. Studies show that children who live near major roads contract leukemia and other cancers at a rate six to eight times higher than their peers.⁸ Children who live near highways are also more likely to develop asthma and other respiratory conditions.⁹ The health of Minnesota's children and our heritage as a conservation leader is at stake.

7. "Minnesota Air Quality Index 2009 Summary," Minnesota Pollution Control Agency (available at <http://aqi.pca.state.mn.us/>)

8. "Highway Health Hazards: How highways and roads cause health problems in our communities — and what you can do about it," Sierra Club, 2004 (available at http://www.sierraclub.org/sprawl/report04_highwayhealth/)

9. "All Choked Up: Heavy Traffic, Dirty Air and the Risk to New Yorkers," Environmental Defense, March 2007.



Dirty Oil Sands tar sands 2.tif (<http://dirtyoilsands.org/visuals>)

Cleaner Transportation for a Stronger Minnesota

Most of the oil Minnesota consumes—over 70%—is used to power our transportation system. Transportation is a critical driver of our economy. For the most part, we are completely reliant on driving to meet our daily needs.¹⁰ Automobiles alone account for nearly half of our oil consumption.¹¹

In 2008, when gas prices jumped, Minnesotans reduced the total number of miles they drove for the first time in history.¹² Meanwhile, the number of Minnesotans who travel by bus or train is rising steadily. In 2008, residents of the Twin Cities metro area took more than 90 million trips on mass transit, up from 73 million in 2003.¹³

While Minnesota households try to drive less when the price of oil goes up, most of us are still dependent on cars to get us where we need to go. To end our addiction to oil, we must invest in a more efficient and more sensible transportation system and promote livable communities that better connect our homes to job opportunities, shopping, schools, parks and entertainment.

To end our addiction to oil we need to have more efficient and less polluting vehicles of all types and increase our focus and investment on creating transportation choices, from transit to safe walking and biking.

Unfortunately, federal policies have encouraged and subsidized an automobile-dependent transportation system. Under existing policy, the federal government pays 80% of the cost of a new highway or bridge through the Federal-Aid Highway Program, compared to only 50% of the cost of a new mass transit project under the New Starts Program. These policies must change if we hope to have the dollars we need to build a truly oil-free transportation system across the country, and here at home in Minnesota.

10. "Energy Facts: 'We have a serious problem. America is addicted to oil.'" Natural Resources Defense Council, January 2007 (available at www.nrdc.org/legislation/files/leg_07011701A.pdf).

11. "Transportation Energy Data Book," Edition 29, U.S. Department of Energy, June 30, 2010 (available at <http://cta.ornl.gov/data/index.shtml>)

12. Roadway Data, Minnesota Department of Transportation (available at <http://www.dot.state.mn.us/roadway/data/html/roadwaydata.html>).

13. "Twin Cities Transit System 2009 Performance Evaluation," Metropolitan Council, March 2010 (available at <http://www.metrocouncil.org/planning/transportation/Evaluation2009/Evaluation2009.htm>).



Federal Highway Administration highway.jpg <http://ops.fhwa.dot.gov>



Minnesota Department of Transportation MNTraffic2_MNDOT.jpg (www.mndot.gov)



Minneapolis Suburban Development (<http://www.google.com>)

National Action on Vehicle Standards

When it comes to vehicle standards there is some good news. On November 16, 2011 the U.S. Department of Transportation (DOT) and Environmental Protection Agency (EPA) proposed strengthening fuel efficiency and global warming pollution standards for new cars, SUVs, pickups and minivans to an average of 54.5 mpg in 2025. These standards will build on the improvements the Obama administration has already made in setting standards for 2012-2016 vehicles. After decades of inaction on federal fuel efficiency standards, we are now on a path to doubling the fuel efficiency of new vehicles sold.

Together, these historic standards will:¹⁴

- Save Minnesotans more than \$3,500 at the pump over the life of an average vehicle, even after paying for new technology.
- Reduce national oil consumption by 1.5 million barrels per day in 2030 – the same amount we imported from Saudi Arabia and Iraq combined in 2010.
- Keep 280 million metric tons of carbon pollution out of the air in 2030, equivalent to shutting down 72 coal-fired power plants for a year.
- Have the potential to create up to 14,500 jobs in Minnesota.

But as we applaud these proposed standards from the Obama administration:

1. Loopholes and Industry Giveaways Matter--

The strength of the final standards will determine whether we get all of the benefits promised. Loopholes, credits and flexibilities can undermine the stringency of vehicle standards. It is critical that these standards maintain their integrity in order to deliver consumer savings and cut our addiction to oil.

14. More Jobs Per Gallon, p. 22, Ceres, (available at www.ceres.org/resources/reports/more-jobs-per-gallon/)

2. 54.5 mpg Isn't Actually What Consumers Will See On Dealer Lots in 2025-- Both the EPA and National Highway Traffic Safety Administration (NHTSA) use an arcane set of 1970s test procedures to set standards and measure compliance. These tests assume drivers will average 48 mph on the highway, drive in perfect 75 degree weather (not too common in Minnesota), and never turn on their A/C. Therefore, the cars that consumers buy at the dealership in 2025 will actually average between 37-40 mpg, which is still nearly double today's window sticker average of 22.5 mpg.

The Obama administration will finalize the standards

The infographic is a 2x3 grid of red panels with white and yellow text, all set against a dark red background. Each panel features a '54.5 MPG' badge in the top left corner. The top-left panel has a dark blue background and says '54.5 MILES PER GALLON THAT'S 163 GRAMS PER MILE OF CARBON POLLUTION IT'S A STRONG STANDARD FOR AMERICA'. The top-middle panel says 'MEANS \$3,500 IN SAVINGS OVER THE LIFE OF EACH NEW CAR*' and includes an illustration of a stack of money. The top-right panel says 'CREATES NEW JOBS ALL ACROSS AMERICA' and '484,000 JOBS IN 2030' with an illustration of two workers. The bottom-left panel says 'SAVES US BILLIONS AT THE PUMP (\$44.3 BILLION IN 2030 ALONE)' and 'MEANING MORE MONEY IN OUR LOCAL ECONOMIES AND LESS MONEY FOR BIG OIL' with an illustration of a gas pump. The bottom-middle panel says 'KEEPS 280 MILLION METRIC TONS OF CARBON DIOXIDE OUT OF OUR ATMOSPHERE IN 2030 (THAT'S LIKE SHUTTING DOWN 72 COAL-FIRED POWER PLANTS FOR A FULL YEAR!!!)' and '-72!' with an illustration of a power plant. The bottom-right panel says 'CUTS U.S. OIL CONSUMPTION IN 2030 BY 1.5 MILLION BARRELS PER DAY (THAT'S EQUAL TO WHAT WE IMPORTED FROM SAUDI ARABIA AND IRAQ COMBINED IN 2010!!!)' and includes an illustration of three oil barrels. At the bottom, a dark blue banner reads 'STRONG VEHICLE STANDARDS MEAN REAL BENEFITS FOR AMERICA'. Logos for Sierra Club and GO60 mpg are at the bottom right, along with the website 'WWW.GO60MPG.ORG'.

Sierra Club (<http://action.sierraclub.org/>)vehicle standards image.png

next summer. In the meantime, we need to push for strong final standards with no loopholes. Minnesotans deserve better cars that go farther on a tank of gas and spew less pollution into the air. We need to finalize standards that will save consumers money, create jobs, and move Minnesota beyond oil.¹⁵

15. Sierra Club Fix it First (available at <http://www.sierraclub.org/transportation/fixitfirst/>)

State and Local Transportation Policy

Active Transportation

Here in Minnesota, we need more options for getting to where we need to go. For example, 40% of all trips are within two miles of home. If Minnesotans had safer and friendlier streets to ride their bicycles instead of taking all of these short trips by car, we would consume less oil and save more money. Biking is one of the many ways that we can cut air pollution, save money by filling up less at the gas pump, stay healthier and help Minnesota move beyond oil. But, in order to truly cut our oil addiction, we need to encourage transportation choices like more bike-friendly communities. We need to flex transportation funding by investing in safe and accessible “Complete Streets” for everyone – people walking, riding their bikes, using transit, and driving – and to ensure we are investing in increasing transit options.

Fix it First

Minnesota’s transportation infrastructure is crumbling. Nearly half of our roadway system across the state – over 4,219 miles – is in need of repair. Fourteen percent of our bridges also need to be fixed. Investing scarce transportation dollars to build highway expansion projects exasperate the problem of oil dependence. For example, the proposed \$690 million St. Croix River Crossing project will promote sprawling development into rural, western Wisconsin, increasing the amount of oil consumed from longer commutes and a more spread out infrastructure. Dozens of other critical bridge projects that would serve tens of thousands more Minnesotans could be funded by not building this expensive project as it is currently proposed.

Clean, Convenient Transit

Minnesota needs to balance and prioritize transportation investments by supporting public transit opportunities alongside highway repair and fix-it-first project prioritization. Increasing public transit options in the Twin Cities region will reduce car travel in the area by nearly two billion miles by 2020.¹⁶ At current prices, that means over \$20 million per year staying in Minnesota’s economy rather than paying for foreign oil. More options for commuting by bus and rail means Minnesotans can avoid the impacts of sudden spikes in oil and gasoline spikes.



Minnesota Department of Transportation MNBike_MNDOT.jpg (www.mndot.gov)



MinnesotaDepartmentofTransportation:Minneapolis_LRT_traffic_MNDOT.jpg(www.mndot.gov)



Minnesota Department of Transportation MNBus_MNDOT.jpg (www.mndot.gov)

16. Analysis by Transit for Livable Communities and Fresh Energy (available at <http://tippingpoint.typepad.com/tlcpres/2008/02/minnesota-love.html>)

Smart Growth and Transit Oriented Development

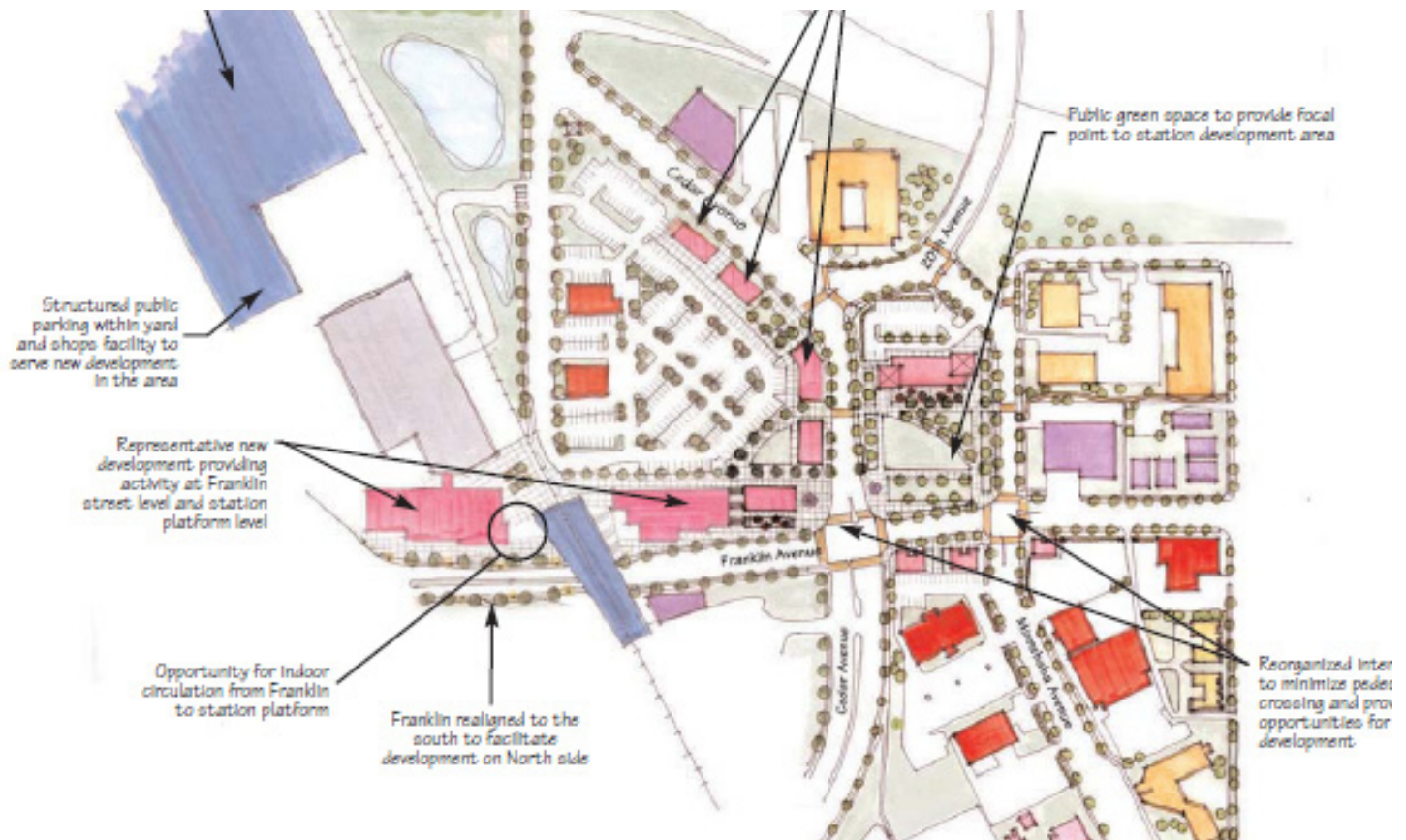
By changing priorities from new road projects to facilitating better planned communities with alternative modes of transportation, we can begin to reduce our oil consumption and gain added benefits. Besides needing less transportation, these well planned communities require less infrastructure, such as water and sewer lines. A more compact development, with a variety of housing options, along with a more vertical approach to shops and work-places, consumes less energy per capita, producing less greenhouse gas emissions.

Whether it revitalizes and restores areas in cities and core suburbs or in new transit oriented development

farther out, such development provides desirable places for business opportunities that create employment.

To achieve better growth patterns, state and regional planners and local governments must coordinate land-use and transportation planning and programming. State, regional and local planners must work together. Local governments might establish a longer planning horizon for land use to more closely match transportation planning.¹⁷

17. 21st Century Green Transportation, (available at http://vasierraclub.org/wp-content/uploads/2011/12/VA_Transportation_Vision.pdf)



Franklin-Cedar/Riverside Transit Oriented Development Master Plan TOD.psd (<http://www.ci.minneapolis.mn.us/lrtrezoning/franklin.asp>)

Moving Forward

The costs of our reliance on oil are evident: we rely on a single, volatile resource to power our economy and our security is tied to delicate regions such as the boreal forests of Canada. Minnesota's oil vulnerability requires national actions but also strong Minnesotan solutions. We will benefit from cleaner more efficient cars in the years to come, but by investing in a better transportation system for the metro region and greater Minnesota, we can cut down on our use of oil and stop our energy dollars from draining out of the state. We can cut our reliance on destructive tar sands oil. We can strengthen Minnesota's economy and create jobs for Minnesotans across the state. We can protect our natural environment and the health of our children.

