



ENVIRONMENTAL DEFENSE

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Maryland's Intercounty Connector: Exacerbating Petroleum Dependence and Global Warming

Many factors contribute to major transportation decisions such as the proposed Intercounty Connector (ICC), an east-west highway connecting the I-270 and I-95/US 1 corridors in Maryland's National Capital Region. A critical factor that has not received sufficient attention is the project's implication for the state's and region's petroleum dependence.

Unchecked growth in oil demand—almost all driven by transportation—adds to the security risk faced by the citizens of Maryland and the nation. This issue is one of which residents in the National Capital Region are only too well aware. The ICC's impact on increasing petroleum demand also means an increase in global warming pollution, which is raising temperatures at an unprecedented rate and creating grave risks of climate disruption.

A decision to build the ICC would be a decision to increase oil dependence. Such a choice by the state's policy makers is clearly against the public interest and national security.

- ▶ Building the ICC would increase regional petroleum fuel demand by 5% within a generation compared to the no-build option.
- ▶ Building the ICC would increase regional petroleum fuel demand by 11% within a generation compared to the most cost-effective, and equitable option identified in a joint study by Environmental Defense and other organizations.¹

To truly help protect homeland security—one of the project's ostensible goals—policy makers must ensure that the proposed transportation investments will reduce, rather than increase, oil consumption. To date, the state's decision makers have failed to take into account the energy-security impacts of the proposed project. When selecting alternatives for assessment, policy makers pre-judged the outcome by narrowly limiting the choices to highway expansion options. They thereby implicitly neglected alternatives that would cut oil consumption while more cost-effectively meeting the project's other objectives. The two alternatives examined in the Draft Environmental Impact Statement (DEIS) are basically two alignments of the ICC highway. Both alternatives generate more vehicle miles traveled, and more oil consumption, than the baseline no-build option.

- ▶ **Environmental Defense urges policy makers to reject the ICC, revisit the planning process to examine the petroleum-demand impacts of all options, and select one that will help decrease the region's petroleum dependence.**

Transportation is a major factor in Maryland's oil dependence

As of 2001, the transportation sector in Maryland accounted for 72% of the state's total oil consumption, consuming 75 million barrels of oil that year, with 95% going to motor gasoline and diesel fuel.² The oil consumed by the state's transportation sector has increased nearly 2% each year over the past decade.³ The 11% difference in oil use between the cost-effective option identified by Environmental Defense and the ICC clearly shows the important role of careful planning in curbing the region's growing reliance on oil. Paying attention to the petroleum-use impacts of transportation investment decisions is, therefore, a crucial step to helping reduce the state's and the nation's oil consumption.

Oil dependence aggravates climate disruption

Every gallon of gasoline burned causes 19.6 pounds of CO₂ emissions, a main contributor to global warming. Burning a gallon of diesel releases 22.4 pounds of CO₂ emissions.⁴ Therefore, reducing oil consumption also reduces global warming pollution. The gasoline and diesel fuel consumed by Maryland's transportation sector generate 34% of the state's CO₂ emissions,⁵ so transportation investment decisions are key to addressing global warming.

The State of Maryland has started taking action to cut greenhouse gas emissions from transportation, including by providing incentives for transit use and assistance for ridesharing.⁶ These measures, however, can only complement, not substitute, for the prudent infrastructure and land-use planning decisions needed to develop an efficient transportation system. Maryland's Climate Change Action Plan highlights the importance of careful land-use and infrastructure planning for cutting vehicles miles traveled (VMT) and thereby cutting global warming pollution.⁷ State policy makers should follow this guidance when making major project decisions.

Regional planning decisions do matter, and matter a lot, for oil dependence

It is a misconception that state and local transportation decisions are of little consequence for problems such as oil dependence and global warming. While these topics often are seen as national or international issues, the form that regional growth takes has considerable impacts. The following questions and answers address the need to consider the oil dependence impacts of regional transportation decisions.

Isn't controlling petroleum demand the responsibility of the federal government in policies addressing the auto and energy industries, rather than regional transportation planning?

Reducing petroleum dependency is a widely shared responsibility. Rising fuel consumption is the result of many decisions made at all levels of the transportation system. The types of vehicles chosen and how efficient they are do matter, of course. But there are no "magic bullets" for cutting oil use through vehicle technology or alternative fuels, so managing the security and global warming risks of rising oil use can only come from a combination of efficient land use, efficient transportation choices and efficient vehicles.

Policies that address only vehicles and fuels are far too limited to compensate for transportation planning decisions that compound oil dependence. The ICC is such a project. Failing to choose a "smart growth" option that more efficiently and equitably manages transportation demand would be a lost opportunity to manage petroleum demand and its related risks for national security and global climate.

Isn't the impact of a regional decision such as the ICC so small that it makes little difference for problems of national and international scope, such as global warming and oil dependence?

The decision whether or not to build the ICC is, in fact, of great consequence. The decision's impact on oil use is comparable to the regional impact of national policies addressing petroleum consumption over the 25-year planning horizon.

The difference in oil use between building the ICC and the best smart-growth alternative is 11% (see Table 1). Given the market barriers to changing car design and the huge obstacles to shifting the motor fuels infrastructure, the on-road vehicle fleet would be lucky to see as much as a 25% reduction in oil demand over the next 25 years.⁸ Even a timely political compromise to raise auto efficiency may yield no more than a 15% improvement. Thus, the here-and-now regional planning decision regarding the ICC has an effect similar in magnitude to long debated energy policies. Such an analysis applies, of course, to regional planning decisions throughout the country. The nation's ability to address oil dependence and global warming from cars hinges on the decisions of policy makers in all jurisdictions. Maryland policy makers must not shirk their responsibility in this regard.

Table 1. Comparisons of petroleum consumption and CO₂ emissions for the no-build, ICC, and efficient alternative scenarios

Scenario	Regional impacts (Projections for 2030)					
	Vehicle Miles Traveled (million miles per yr)	Change vs. no-build (%)	Petroleum Fuel Demand (million gals/yr) ⁱ	Fuel used vs. no-build (million gals/yr)	CO ₂ Emissions (MMT/yr) ⁱⁱ	CO ₂ emitted vs. no-build (1000 metric tons/yr)
No-build	7,955	--	265		2.4	
ICC	8,351	5%	278	+13	2.5	+117
Efficient alternative ⁱⁱⁱ	7,474	-6%	249	-16	2.2	-143

i. Assumes fleet average fuel economy of 30 miles/gallon in 2030.

ii. MMT stands for million metric tons.

iii. The efficient alternative scenario is the "Preferred Hybrid" option evaluated in the joint study conducted by Environmental Defense and other organizations. This option is a combination of the 2003 Constrained Long Range Plan, rail transit improvements, conversion of some existing freeway lanes to High Occupancy Toll (HOT) lanes supporting new express bus services, supporting a more transit-oriented development growth pattern that better balances local job and housing growth to reduce the need for long-distance commuting. For more details on assumptions and the methodology of analysis, see www.environmentaldefense.org/go/iccoptions.

If we're talking about national security, isn't the system capacity that the ICC would provide for evacuation routes more important than its impacts on fuel demand?

Compared to more efficient alternatives, the added congestion resulting from the ICC would counteract any hypothetical benefits of a new highway. In fact, it would arguably make an emergency situation harder to manage. Adding capacity to unclog roads is a false promise. Also, because the ICC is more costly than alternatives, it would squander resources that could be applied to improving regional emergency response systems and evacuation management by other means, such as the use of smart technologies to safely direct citizens to the best routes.

On the other hand, reducing oil dependence is a crucial aspect of enhancing homeland security. In fact, risks can be significantly reduced by relatively modest reductions in demand. The capacity margins of both the world oil market and petroleum distribution systems are sensitive to small changes in the supply-demand balance. So is the price of oil and, therefore, the total dollar flow from Americans to less-than-friendly interests who control major oil reserves. Transportation decisions that curtail oil demand help enhance energy security on both counts. The nation's current heavy dependence on oil resulted from many incremental decisions. Decisions to cut oil demand now will help the United States become progressively less vulnerable, rather than ever more vulnerable.

Conclusion

A review of the planning studies completed to date for the proposed ICC reveals that no serious attention has been given to the petroleum dependence impacts of this major regional project. Examining these studies for their fuel-consumption implications shows that building the ICC would significantly increase the state's and region's petroleum dependence, aggravating the risks associated with energy security as well as global warming. The ICC would increase the probability of higher oil prices as well as the dollar flow from Maryland to oil-supplying regions of the world that place the nation, and the National Capital Region, at risk.

Compared to building the ICC, a smart growth option would save 29 million gallons of petroleum fuels annually and save \$31 million in crude oil costs.⁹ By reducing oil use, money that would otherwise be transferred from the pockets of Maryland consumers to the hands of oil producers can be spent locally, benefiting the state's economy. The corresponding reduction of 260,000 tons of CO₂ pollution would make a significant contribution to Maryland's effort to combat global warming.

Environmental Defense urges policy makers to reject the ICC and re-open the planning process to explicitly include options that can lessen, rather than worsen, oil dependence. No good reason exists for policy makers to advance this irrevocable project, which will exacerbate energy security and environmental risks, especially when less costly alternatives have been shown to provide more effective traffic congestion relief.

NOTES

¹ Environmental Defense, et al. (2005) *The Intercounty Connector: Performance and Alternatives*. (<http://www.environmentaldefense.org/article.cfm?contentid=4220>)

² Energy Information Administration, *Individual State Data - Maryland*. Maryland's transportation sector oil use amounted to 74.9 million barrels, and the entire state consumed a total of 103.9 million barrels of oil in 2001. (http://www.eia.doe.gov/emeu/states/main_md.html, accessed February 10, 2005)

³ Ibid.

⁴ This only includes CO₂ emissions from end-use combustion at the vehicle. The full global warming impact (including oil extraction, refining and distribution) is about 30% higher. Emissions factors were taken from <http://www.eia.doe.gov/oiaf/1605/factors.html> (accessed February 10, 2005)

⁵ Derived from U.S. DOE/EIA, *Individual State Data - Maryland* (http://www.eia.doe.gov/emeu/states/main_md.html) and *GHG Emissions Reduction in Maryland, Appendix A*. ([http://yosemite.epa.gov/oar%5Cglobalwarming.nsf/UniqueKeyLookup/JMSY5ZCD97/\\$File/MDAppendices.pdf](http://yosemite.epa.gov/oar%5Cglobalwarming.nsf/UniqueKeyLookup/JMSY5ZCD97/$File/MDAppendices.pdf), accessed February 10, 2005)

⁶ *GHG Emissions Reductions in Maryland, Volume I: Current State Government Activities, and Volume 2: Voluntary Strategies*. (<http://yosemite.epa.gov/oar%5Cglobalwarming.nsf/content/ActionsStateActionPlans.html#MD>, accessed February 10, 2005).

⁷ *GHG Emissions Reductions in Maryland* (op. cit.), p.5.

⁸ Derived from "Projected Fuel Savings and Emissions Reductions from Light Vehicle Fuel Economy Standards," by J.M. DeCicco, *Transportation Research* 29A(3): 205-228 (1995).

⁹ Derived as the difference between the "Fuel used" options in Table 1, assuming a crude oil price of \$45 per barrel, 1 barrel of gasoline savings yields 1 barrel of oil savings, and 42 gallons per barrel.