

Memorandum

To: Governor Martin O'Malley
From: David A. Moskowitz
Date: August 3, 2010
Subject: Reducing GHG Emissions From Light Vehicles, Comparing Strategies

Reducing greenhouse gas emissions from cars and light trucks represents a challenging but important goal for states across the nation, including the State of Maryland. The transportation sector accounts for 32 percent of greenhouse gas emissions in Maryland, more than 75 percent of which come from cars and light trucks. Thus reductions in this area are crucial to achieving statewide greenhouse gas (GHG) emission reduction goals.

In this memo we review Maryland's GHG emission reduction efforts to date and recommend additional action to reduce light vehicle GHG (LVGHG) emissions.

GHG Emissions Reduction in Maryland

In 2007, the Maryland Climate Change Commission (MCCC or the Commission) was established by Executive Order of the Governor. The following year, the Commission released The Climate Action Plan Final Report, recommending goals of reducing Statewide GHG emissions by 2020 to at least 25 percent below 2006 levels, and by 2050 to 90 percent below 2006 levels. Next, the Greenhouse Gas Reduction Act of 2009 (the Act) was signed into law. It requires the State (1) to meet the Commission's goal for 2020, (2) to establish a GHG reduction plan with specific regulations and programs, and (3) to prepare a plan to achieve the Commission's 2050 goal. The Act also contains short term GHG reduction goals, relative to 2006 levels, of 10 percent by 2012 and 15 percent by 2015. These goals are shown in *Table 1*, along with historic transportation sector GHG emissions data. Finally, the first Implementation Status Report was released in November 2009.

Source	1990	1995	2000	2005	2010	2015	2020	
Onroad Gasoline	17.91	19.67	21.61	23.94	25.29	26.97	28.78	
Onroad Diesel	2.91	3.42	5.09	5.89	6.83	7.91	9.18	
Jet Fuel/Av. Gas	1.49	1.41	1.68	1.31	1.32	1.37	1.42	
Boats and Ships - Ports/Inshore	1.16	0.90	0.90	0.87	0.81	0.87	0.93	
Boats and Ships - Offshore	0.21	0.35	0.39	0.31	0.33	0.35	0.37	
Rail	0.39	0.27	0.05	0.06	0.06	0.06	0.06	
Other	0.14	0.14	0.16	0.14	0.16	0.18	0.19	
Total (Baseline)	24.20	26.16	29.90	32.52	34.81	37.71	40.93	
Goals (assuming sector-based proportionate contributions)								
-15% from 2006 levels by 2015, -25% from 2006 levels							27.64	24.39
Reductions required from baseline							10.07	16.54

Table 1: Actual (gray) and projected contributions of the transportation sector to Maryland GHG emissions, and emissions (MMTCO_{2e}) required to meet 2015 and 2020 goals. (Maryland Climate Change Advisory Group, 2008)

The Implementation Status Report (the Report) indicates that current plans for LVGHG emissions reductions are insufficient to meet the 2020 goal (as illustrated in *Figure 1*). Report makes recommendations for improving performance within the current budget, such as increasing coordination and collaboration among State agencies, but also goes further to examine various additional strategies. In particular, the integration of transportation and land use planning is cited as the key to ensuring substantive and lasting GHG reductions. One scenario proposed by the Commission includes six billion dollars in unfunded state and national transportation and land use programs (“TLU Strategies” in *Figure 1*). However, the projections for this scenario indicate that even full implementation of these programs would not eliminate the target shortfall. This conclusion, while unfortunate, does provide one benefit: it illustrates that there are no penalties for failure to meet the goals.

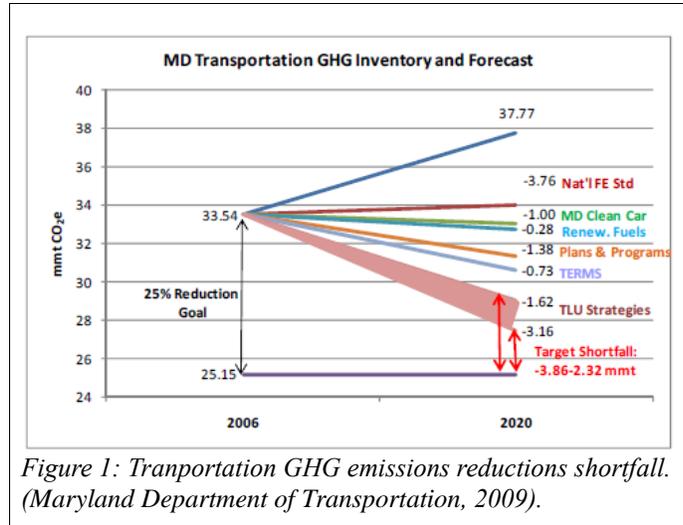


Figure 1: Transportation GHG emissions reductions shortfall. (Maryland Department of Transportation, 2009).

Nevertheless, integration of transportation and land use planning remains vital. The programs proposed by the Commission are likely to fall short because while they involve both transportation and land use elements, they do not fundamentally integrate the planning processes. In fact, there are strategic actions that can be taken now to build capacity for deep long range GHG emissions reductions in the future. These actions involve significant changes to existing agency structures, and may incur resistance, but the GHG Reduction Act of 2009 requires the State to identify further legislation necessary to achieve the State's goals, and to set a timeline for its implementation.

In the past few years, Oregon and California have both enacted laws formalizing the integration of land use and transportation planning specifically for the purpose of reducing GHG emission related to transportation. These laws provide examples of various approaches that may be appropriate for the State of Maryland.

Integrated Transportation and Land Use Planning

California SB 375 (2008) and Oregon SB 1059 (2010) have both commonalities and differences. Their goals are similar: to reduce transportation sector GHG emissions through integration of transportation and land use planning. Furthermore, both place significant responsibilities on regional metropolitan planning organizations (MPOs). However, each approaches the problem in a distinct manner.

Relative Regional Autonomy in Oregon

Oregon SB 1059 requires adoption of a statewide strategy for reducing LVGHG emissions. The lead actor in developing the strategy is the Oregon Transportation Commission (OTC), but other

agencies have critical roles, including the State Departments of Transportation (DOT), Land Conservation and Development (DLCD), Environmental Quality (DEQ), and Energy (DOE), as do MPOs). A draft strategy is due to the DLCD in 2011, to be finalized in 2012. The strategy is to be structured around previously established targets for 2050 and interim goals for 2035 for the State and for each of the MPO regions therein (except the Portland Metro region).

The State is directed to use land use and transportation scenario planning to set the State strategy and goals, and to develop guidelines and a “toolkit” for scenario planning by MPOs. In other words, the State is responsible for establishing a “foundation [and] framework” for metropolitan area scenario planning. (Cortwright, 2010) Specifically, the state will estimate historic and current LVMT and LVGHG for each MPO region and assess the potential for LVMT and LVGHG reductions based on expected advances in technology, population growth, and other factors. The State will also be required to formulate a rubric for establishing metropolitan area LVGHG reduction targets, and to report on the costs and potential financing sources related to these goals. In turn, MPOs and local governments are granted the freedom, and given the responsibility, to develop and execute LVMT and LVGHG reduction programs, and to choose the manner and degree to which these are integrated with land use policies and programs.

California's More Prescribed Approach

In contrast, the State of California has a more prescribed approach. Here, MPOs are required to develop and implement land use and development plans known as Sustainable Communities Strategies (SCS). The SCS have a scope of at least eight years, and are required to conform to existing land use planning process, including the Regional Housing Needs Allocation (RHNA). Furthermore, SCS must identify symbiotic transportation systems necessary and sufficient for successful implementation. In effect, an SCS represents a land use mirror to the Region Transportation Plan (RTP) called for under federal legislation. The SCS will align the land use planning process with the transportation planning process, and is designed to ensure integration between the two.

At the state level, the California Air Resources Board (CARB) will oversee the development and approve the adoption of regional SCS. The CARB also has responsibility for setting state and regional targets for GHG reductions. SB 375 provides a framework for local (sub-regional) participation--including the creation of Regional Targets Advisory Committees to mediate these conversations, as well as multiple alternative ways for regions and/or localities to satisfy the State requirements. Finally, and perhaps most importantly, the law contains a strong legal foundation to ensure compliance.

Land Use Planning in Maryland

Land use planning has been given short shrift in Maryland. This is not a critique of the administration or MDOT—it is simply a recognition that old habits die hard. The 2010-2015 Consolidated Transportation Program includes promotion of transit oriented development and mandates the use of MPO plans as “input” for the State Report on Transportation (MDOT, 2010). However, current research indicates that transit oriented development is unlikely to reduce GHG emission within a 20 year time frame (Willson, 2010). We need more comprehensive integration

of land use and transportation planning—a unified agency with bi-fold authority.

That the Climate Action Plan Implementation Report was released solely by MDOT is a reflection of the lack of agency integration. MDOT by itself has neither the capacity nor the regulatory power to implement land use and transportation integration at the level required to meet Maryland's climate goals. Meanwhile the Maryland Department of Planning lacks decision-making authority—its power is limited to providing data and assistance.

We urge you to begin the process, and to introduce the idea at least that profound structural changes are on the horizon. The Transportation and Land Use Working Group that drafted the Report included over 50 pages of appendices detailing the importance of various integrated policies and programs. Near the top of the list, and indicated as critical was “Statewide Smart Growth Policy and Legislation” (MDOT, 2009). If Maryland is to achieve its climate goals, it must begin to build an appropriate and effective administrative and regulatory structure—this initiative might be a good place to start.

Sources

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