

Land Use and Transportation Workgroup
Governor's Climate Change and Resiliency Update Commission
August 27, 2015

I. Introduction

The Land Use and Transportation Workgroup of the Climate Change and Resiliency Update Commission was established to focus on ways to support improved planning, inter-locality cooperation, and improved transportation infrastructure. The Workgroup was specifically tasked with examining ways in which state policy, permitting, and fee structures all encourage or discourage smarter growth settlement and commuting patterns. The Workgroup was also asked to focus on concrete and systemic recommendations rather than individual projects or localities. In addition to the three meetings of the full Commission (held in September 2014, December 2014, and April 2015), the Workgroup met three times on its own (April 10, 2015, July 20, 2015, and August 21, 2015).

The initial Workgroup meeting in April 2015 included discussion of a wide range of potential recommendations, with a focus on first assessing the continued viability of recommendations from the previous Climate Commission's work. The Workgroup elected early on to focus on recommendations that could be primarily implemented by the Governor and state agencies within the next two years. However, the Workgroup recognized that establishing and maintaining partnerships, particularly with federal agencies, would be important. The Workgroup also felt it would be important to make recommendations that would have statewide impacts. Specific proposals that were discussed included urban development area regulations, state vehicle fleet composition requirements, zero emission vehicle standards, infrastructure design standards, floodplain management regulations, conservation easement reform, and reform of the wetlands impact permitting process.

Over the last two Workgroup meetings in July and August the Workgroup came to a consensus on three focus areas for the final recommendations: mitigation (reducing greenhouse gas emissions), land use adaptation, and transportation adaptation. The Workgroup considered various recommendations using these categories. In addition, the Workgroup also considered whether action from other levels or branches of government would be required, what costs might be, and how quickly recommendations could be implemented. Based on these criteria, the Workgroup finalized its three recommendations on August 21, 2015.

II. Recommendation #1: Adopt a Zero Emission Vehicle Program

Virginia should adopt a Zero Emission Vehicle (ZEV) program in order to improve air quality, reduce greenhouse gas emissions, and provide increased flexibility and reliability in the electric power sector.

a. Goal

The goal of the recommendation is to increase the prevalence of zero emission vehicles in the state of Virginia. Clean, non-polluting transportation options are part of an economy-wide transition to cleaner energy sources that protect public health and reduce the greenhouse gas emissions driving climate change. The ZEV program requires manufacturers to sell a certain number of zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles. At full implementation in 2025, the ZEV program will result in approximately 15 percent of new cars sold having advanced technology drivetrains (battery electric, plug-in hybrid, or fuel cell).

b. Prior or Current Related Efforts

Virginia reduced the carbon-intensity of electricity generation by 34 percent from 2005-2012. The cleaner grid means that the carbon emission savings available through switching from gasoline combustion to electric charging are even greater than in 2008, when the Commission last considered the California Low Emission Vehicle (CALEV) program. Additionally, the Clean Power Plan, which limits carbon pollution from the power sector, was finalized at the beginning of August 2015. This rule sets the state and nation on a path towards reliance on more diverse electricity resources that will benefit from the grid storage services that electric vehicles offer. The National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) paired the Corporate Average Fuel Economy (CAFE) standard and the national greenhouse gas (GHG) emissions standard in a joint final rule.

The regulation was updated in August 2012 to extend the rule to model years 2017 and beyond. These standards will require an average fleet-wide fuel economy of 49.7 mpg and 163 g/mi CO₂ in 2025. Currently Virginia abides by federally established fuel economy, GHG, and exhaust emissions limits. States must comply with the federal standards, but Section 177 of the Clean Air Act allows California to set its own standards at least as stringent as the federal standards. In March 2014 EPA set Tier 3 vehicle emissions standards that “are closely coordinated” with California’s LEV III standards as well as with EPA’s and California’s programs for GHG emissions.

c. Actions Needed

Promulgation of a rule by the Department of Environmental Quality and through the State Air Pollution Control Board to waive Virginia into the California ZEV program. Consideration of incentives for ZEV ownership, such as increasing ZEVs in public fleets, encouraging private fleets to utilize ZEVs, promoting workplace charging, planning for ZEV infrastructure and investment, and facilitating access, compatibility, and interoperability of charging networks.

d. Cost Assumptions: This action could be achieved minimal public cost through administrative action.

e. Implementation Period: 1 year.

f. End Result: At full implementation in 2025, the ZEV program will result in approximately 15 percent of new cars sold having advanced technology drivetrains (battery electric, plug-in hybrid, or fuel cell).

III. Recommendation #2: Develop an Adaptation Plan for Transportation Infrastructure

The Governor should direct the Secretary of Transportation and relevant agencies (including the Commonwealth Transportation Board (CTB), the Department of Rail and Public Transportation (DRPT), and the Department of Transportation (VDOT)) to conduct a statewide vulnerability assessment of the Commonwealth’s transportation infrastructure to climate impacts (including sea level rise and recurrent flooding) and develop an adaptation plan for reducing those impacts.

a. Goal

The goal of this recommendation is to improve understanding of how and where the Commonwealth’s transportation infrastructure is vulnerable to climate impacts and to better plan and design projects so that they are more resilient. Transportation infrastructure is both a vital component of the Commonwealth’s economy and a major investment of local, state, and federal resources. It is therefore important that these investments be made in a way that ensures that they will function effectively for their intended lifespans.

b. Prior or Current Related Efforts

VDOT’s Structure and Bridge Division is currently evaluating the impact of climate change on design guidelines. The Transportation Research Council is preparing a work plan to address issues associated with climate change impacts on transportation assets and structures. Several

regional organizations, including the Accomack-Northampton Planning District Commission (PDC), Hampton Roads PDC, the Hampton Roads Transportation Planning Organization, the Middle Peninsula PDC, and the Northern Virginia Regional Commission, have already conducted vulnerability assessments.

c. Actions Needed

Vulnerability analysis (including research on impacts, data collection, and spatial analysis).
Adaptation planning process (including designation of project team and scope for each agency).
Adaptation plan composition (including policy development and public outreach).

d. Cost Assumptions: Costs for the vulnerability analysis would depend on the availability of data and the type and scale of analysis selected. Planning process would require funding for agency staff time. Proposal could be implemented in-house, in partnership with local governments and planning district commission, or through consultants.

e. Implementation Period: 1-2 years

f. End Result: The end result of this proposal would be a comprehensive assessment of the vulnerability of the Commonwealth's transportation infrastructure to climate change impacts, which would aid in current emergency management planning and assist in long-range land use and transportation planning efforts. The adaptation plan developed would provide guidance to state, regional, and local transportation agencies on infrastructure design, siting, and planning to better prepare facilities for climate change impacts.

IV. Recommendation #3: Update Natural Resources Regulations

The Governor should direct the Secretary of Natural Resources and relevant agencies (including the Department of Conservation and Recreation (DCR), the Department of Environmental Quality (DEQ) and the Virginia Marine Resources Commission (VMRC)) to assess the potential impacts of climate change on the Commonwealth's natural resources and update any regulations pertaining to those resources if necessary.

a. Goal

The goal of this recommendation is to determine whether the Commonwealth's regulations protecting natural resources and ecologically sensitive areas (wetlands, floodplains, and water bodies) will continue to be effective as a result of climate change impacts. If issues are identified, this recommendation would result in suggested changes to better protect those resources.

b. Prior or Current Related Efforts

Several planning district commissions have considered the impacts of climate change on natural resources. State and federal agencies are also in the process of studying potential climate change impacts on natural resources in Virginia. Assessments of potential climate change impacts on Virginia have been completed by the Virginia Institute of Marine Science, the Chesapeake Bay Program, and the U.S. Global Change Research Program, among others.

c. Actions Needed

An initial survey of natural resources regulations likely to be affected by climate change, including regulations pertaining to Chesapeake Bay Preservation Areas, tidal wetlands, floodplain management, stormwater management, and coastal primary sand dunes. An assessment of potential climate change impacts on these resources and if current regulations are sufficient to maintain these resources. Development of recommended changes to regulations to account for climate change impacts.

d. Cost Assumptions: There would be some costs associated with collecting information on climate change impacts and with coordinating the process to determine if changes are necessary and what changes should be made. Most if not all of this work could be done by state agencies and academic institutions.

e. Implementation Period: 1-2 years.

f. End Result: The end result from this proposal would be a determination of whether existing regulations pertaining to natural resources will be sufficient to achieve their purposes under impacts from climate change and a set of recommended changes to those regulations.

V. Concluding Remarks

As stated above, the Workgroup agreed to recommendations addressing both mitigation and adaptation that were perceived to be cost-effective and implementable by the Governor during the next one to two years. Each of the three recommendations can be implemented via executive branch action under the Administrative Process Act. In addition to increasing the Commonwealth's climate resilience, the Workgroup believes that these recommendations, if implemented, will have other significant benefits to residents and businesses of the Commonwealth.