SB 256

Department of Legislative Services

Maryland General Assembly
2015 Session

FISCAL AND POLICY NOTE

Senate Bill 256 (Senator Pinsky, *et al.*)
Education, Health, and Environmental Affairs

Maryland Shoreline Risk Assessment, Preparation, and Adaptation Act

This bill generally requires the Maryland Department of Agriculture (MDA), the University of Maryland Center for Environmental Science (UMCES), and the Maryland Department of the Environment (MDE) to study and provide information on the impacts of climate change and sea level rise on the State's agriculture, shorelines, coastal areas, and major cities and towns. The bill also incorporates climate change within the Maryland Environmental Policy Act (MEPA) and the State's smart growth policy, and applies the State's recently enacted Coast Smart design criteria to a capital project involving a highway after July 1, 2016.

The bill takes effect July 1, 2015.

Fiscal Summary

State Effect: General fund expenditures increase by $532,600 in FY 2016 for the Department of Natural Resources (DNR), MDA, and MDE to implement the bill; expenditures decrease in FY 2017 after several initial studies are completed. Higher education expenditures increase by $50,000, likely in FY 2018, for UMCES to establish sea level rise projections required by the bill. Transportation Trust Fund (TTF) expenditures may increase beginning in FY 2017 to the extent that highway design and/or construction costs increase; long-term highway maintenance expenditures may decrease. Revenues are not affected.

(in dollars)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Revenues	$0	$0	$0	$0	$0
GF Expenditure	532,600	69,600	15,000	15,000	15,000
SF Expenditure	0	-	-	-	-
Higher Ed Exp.	0	0	50,000	0	0
Net Effect	($532,600)	($69,600)	($65,000)	($15,000)	($15,000)

Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate effect

Local Effect: Local government expenditures may increase for some jurisdictions beginning in FY 2017 to the extent that highway costs increase under the bill's updated design criteria. Local workloads increase, likely minimally, to update local comprehensive plans in accordance with the bill's updated State planning policy and to coordinate with the Maryland Department of Planning (MDP) and the Coast Smart Council on matters of technical assistance related to model ordinance development and design and siting criteria. Long-term expenditures may decrease as a result of greater preparedness. Revenues are not affected.

Small Business Effect: Minimal.

Analysis

Bill Summary: The bill requires MDA, in consultation with the Maryland Commission on Climate Change and the Coast Smart Council, to conduct a comprehensive assessment of the impacts, including economic impacts, of climate change on State agriculture by July 1, 2016. The assessment must include the risks from drought, rising temperatures, greater prevalence of diseases and pests, flooding and saltwater intrusion, and soil erosion. Based on the latest science on these topics, the assessment must recommend preparation and adaptation strategies and identify technical assistance that MDA can provide to farmers. MDA must make the assessment available on its website and update the assessment every five years.

The bill requires UMCES to establish science-based sea level rise projections for the State's shorelines, including maps of areas that may be most affected by storm surges, flooding, and extreme weather events. The projections must be available on the Internet and updated at least every five years.

MDE, in consultation with the Maryland Commission on Climate Change and the Coast Smart Council, must conduct a comprehensive assessment of the environmental and economic impacts of sea level rise, increased precipitation and temperature, storm surges, flooding, and extreme weather events on the State's major cities and towns, including the City of Annapolis, Baltimore City, and Ocean City. The assessment must be completed and made available on the Internet by July 1, 2016, and updated every five years.

The bill requires MDP, in consultation with the Coast Smart Council, to develop model local laws and ordinances that incorporate Coast Smart siting and design criteria in the development and construction of structures and highways by July 1, 2016. Beginning July 1, 2016, if a State capital project involves construction of a highway, the highway must be constructed in compliance with existing Coast Smart siting and design criteria.

The bill also amends MEPA to require that the DNR guidelines used by State agencies in preparing any required MEPA environmental effects reports also account for climate change risks, including sea level rise, increased precipitation and temperature, storm surges, flooding, and extreme weather events. The bill also applies the Coast Smart siting and design criteria established by Chapter 415 of 2014 to a highway that is part of a State capital project after July 1, 2016.

Finally, the bill expands the State Economic Growth, Resource Protection, and Planning Policy by including a statement that reads: "preparation and adaptation: consideration of climate change risks, including sea level rise, increased precipitation and temperature, storm surges, and flooding, based on available data predicting the likelihood of future extreme weather events."

Current Law:

Coast Smart Council

In response to ongoing concern about the vulnerability of the State's infrastructure investments to sea level rise and coastal flooding, in December 2012, Governor O'Malley issued the Climate Change and Coast Smart Construction executive order. Among other things, the executive order directed:

- all State agencies, when they propose capital budget projects for new State structures or the reconstruction or rehabilitation of substantially damaged State structures for inclusion in the State capital budget on or after July 1, 2013, to consider the risk of coastal flooding and sea level rise to the project and to site and design State structures to avoid or minimize associated impacts;

- the Department of General Services to update its architecture and engineering guidelines to require new and rebuilt State structures located in specified flood hazard areas to be elevated two or more feet above the 100-year base flood elevation, unless a variance is warranted; and

- DNR, in consultation with the Maryland Commission on Climate Change and other relevant parties, to develop additional proposed guidelines concerning Climate Change and Coast Smart Construction.

In response to the executive order, in February 2013 DNR convened a Maryland Climate Change and Coast Smart Construction Working Group to develop (1) recommendations for additional Coast Smart criteria for the siting and design of new, reconstructed, or

rehabilitated State structures, as well as other infrastructure improvements; (2) recommendations concerning the potential application of Coast Smart guidelines to non-State infrastructure projects that are partially or fully funded by State agencies; and (3) any other recommendations for executive and/or legislative action.

Chapter 415 of 2014 established a Coast Smart Council in DNR and required the council to develop specified "Coast Smart" siting and design criteria to address sea level rise and coastal flood impacts on capital projects. Generally, Chapter 415 codified the 2013 executive order.

Maryland Climate Change Commission

The Climate Change Commission was established by Governor O'Malley by executive order in April 2007 to address the causes and effects of climate change in Maryland. The commission is charged with developing a plan of action with benchmarks and timetables for its implementation. The final action plan was submitted in August 2008 and the commission also submits annual reports. The commission is comprised of several working groups (on Adaptation and Response and Greenhouse Gas and Carbon Mitigation, as well as a Scientific and Technical Working Group) to develop expertise and provide advice on particular issues relating to climate change. In November 2014, the Governor signed a new executive order to expand the membership of the commission and include the development of a plan to achieve an 80% reduction in greenhouse gas emissions by 2050.

MEPA

MEPA was established by Chapter 702 of 1973 and requires State agencies to prepare environmental effects reports for each proposed State action that significantly affects the quality of the environment. A "State action" is a request for legislative appropriations or other legislative actions that will alter the quality of the air, land, or water resources. MEPA is similar to and modeled after the National Environmental Policy Act, a foundational federal environmental law that requires federal agencies to consider the environment in all major federal actions and involves studying alternatives and evaluating various environmental impacts and mitigation measures.

Smart Growth Policy

Several State entities are charged with addressing development and growth issues in the State, including MDP, the Smart Growth Subcabinet, and the Maryland Sustainable Growth Commission. Additionally, numerous statutes, policies, and programs, including the Sustainable Growth and Agricultural Preservation Act of 2012, Program Open Space, the Maryland Agricultural Land Preservation Foundation, and the State's Priority Funding

Areas, have been established to steer growth in developed areas and preserve the State's natural resources, open spaces, and agricultural areas.

Background: In July 2014, the National Oceanic and Atmospheric Administration released a report entitled "Sea Level Rise and Nuisance Flood Frequency Changes around the United States," which stated that recurrent flood events on the East, West, and Gulf coasts have increased by between 300% and 900% since 1960. The report examined 45 particular locations in the United States and found that the cities of Annapolis and Baltimore were ranked first and second on the list of U.S. cities with the largest increase in the number of flood days since 1960. The report noted that the average number of flood days in Annapolis had increased from 3.8 in the seven-year period between 1957 and 1963 to 39.6 between 2007 and 2013. The remaining three cities in the top five (Atlantic City, Philadelphia, and Sandy Hook, New Jersey) are also in the mid-Atlantic region. Land subsidence, combined with sea level rise, were attributed by the report to the particularly high sea levels in the region.

State Expenditures: General fund expenditures increase by a total of $532,621 in fiscal 2016 for MDE and MDA to study and provide information on specified impacts of climate change and for DNR to update the Coast Smart design and siting criteria for highways. Higher education expenditures increase by $50,000 in fiscal 2018 only for UMCES to develop sea level rise projections. TTF and Consolidated Transportation Bond expenditures for the Maryland Department of Transportation (MDOT) may increase by an indeterminate amount beginning in fiscal 2017, although long-term highway maintenance expenditures may decrease due to greater preparedness and resiliency of transportation infrastructure.

	FY 2016	**FY 2018**
DNR Contractual Position	1	
Salary and Fringe Benefits	$57,036	$0
MDA Contractual Services	125,000	15,000
MDE Contractual Services	350,000	0
UMCES Sea Level Rise Projection		50,000
Operating Expenses	585	0
Total State Expenditures	**$532,621**	**$65,000**

Fiscal 2017 expenditures reflect annual increases and employee turnover as well as annual increases in ongoing operating expenses. Fiscal 2018 expenditures reflect only ongoing costs for MDA and costs for UMCES to develop the required sea level rise projection. Although it is unclear in which fiscal year the UMCES sea level rise projection is funded, it is assumed that the projection is conducted in fiscal 2018, which is five years following the release of the 2013 projection; the bill seeks to reproduce each subsequent projection every five years.

DNR

General fund expenditures increase by $57,621 in fiscal 2016 and $54,641 in fiscal 2017 for DNR to hire one contractual natural resources planner to assist with transportation planning and engineering as well as general climate adaptation planning. DNR provides staff support for the Coast Smart Council, which, under the bill, must (1) update the Coast Smart design and siting criteria for highways; (2) update MEPA guidelines; (3) consult with MDA on its comprehensive assessment of agricultural impacts; (4) consult with MDE on its comprehensive assessment of environmental impacts; and (5) consult with MDP to develop model local laws and ordinances. DNR also provides staff support to the Adaptation and Response Working Group of the Maryland Climate Change Commission, which is also tasked with several duties under the bill. DNR's expenditures are not affected after fiscal 2017.

MDE

General fund expenditures increase, likely by at least $350,000 in fiscal 2016 for MDE to contract with consultants with the scientific and economic expertise to conduct a comprehensive assessment of the environmental and economic impacts of sea level rise, increased precipitation and temperature, storm surges, flooding, and extreme weather events on the State's major cities and towns. Similar contractual costs recur every five years to repeat the analysis; thus, MDE's expenditures are not affected again until fiscal 2021.

MDA

General fund expenditures increase by $125,000 in fiscal 2016 only, and by $15,000 annually thereafter for MDA to contract with one or more consultants with scientific and economic expertise to conduct the required assessments of climate change on the State's agricultural sector. MDA advises that it does not currently possess any such expertise; in fact, its current representation on the Maryland Commission on Climate Change is supported by a grant that expires in September 2015. The bill requires a comprehensive assessment, including economic impacts, which requires MDA to procure additional resources to consult with the Maryland Commission on Climate Change, the Coast Smart Council, the agricultural community, and other scientists and economists to adequately forecast the risks from drought, rising temperatures, greater prevalence of disease and pests, flooding and saltwater intrusion, and additional soil erosion.

UMCES

Higher education expenditures increase by $50,000 in fiscal 2018 for UMCES to establish sea level rise projections, including maps of areas that may be most affected by storm surges, flooding, and extreme weather events. Although the bill requires these projections to be released every five years, it does not specify when the initial projection is due. UMCES assumes that the next projection is developed in fiscal 2018, which is five years following the release of the 2013 projection. Expenditures may be incurred in a different year, however, if sea level rise projection work is done by UMCES earlier or later.

MDOT

TTF expenditures may increase beginning in fiscal 2017 to the extent that highway design and/or construction costs increase from the application of Coast Smart siting and design criteria. MDOT advises that, without knowledge of the future content of these siting and design standards, it cannot provide a reliable estimate of the increase, if any, in transportation expenditures that may result from highway construction under the new criteria. Long-term expenditures associated with maintenance of highways, particularly highways located in areas that are projected to be subject to future flooding or other climate impacts, may decrease due to greater preparedness and resiliency of transportation infrastructure.

MDP

MDP advises that its workloads may increase, which necessitates a shifting of priorities, but that it can handle any such increase with existing resources. The bill requires MDP to develop new local model laws and ordinances to accommodate new Coast Smart criteria; MDP advises that this type of work is routine within the department. Further, the additional contractual position within DNR can absorb much of this work. MDP is also likely involved in additional communication and coordination with local governments to assist with the update of future comprehensive plans and with the adoption of model ordinances established under the bill.

Local Expenditures: Local government expenditures may increase beginning in fiscal 2017 to the extent that capital costs associated with the construction of new structures or highways increase under the bill's updated design criteria. However, staff for the Coast Smart Council advise that most counties in Maryland already consider certain standards in the construction of new capital projects.

Local workloads increase, likely minimally, to update local comprehensive plans in accordance with the bill's updated State planning policy and to coordinate with MDP and the Coast Smart Council on matters of technical assistance related to model ordinance

development and design and siting criteria. Long-term expenditures, however, may decrease as a result of greater preparedness.

Additional Information

Prior Introductions: None.

Cross File: HB 881 (Delegate Frush) – Environment and Transportation.

Information Source(s): Maryland Department of Agriculture, Department of Budget and Management, Department of Natural Resources, Maryland Department of Planning, Maryland Department of the Environment, Maryland Department of Transportation, University System of Maryland, National Oceanic and Atmospheric Administration, Department of Legislative Services

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