



## Social, Economic, or Natural Resources

Concerning environmental justice, we look forward to reviewing your demographic analysis of the area.

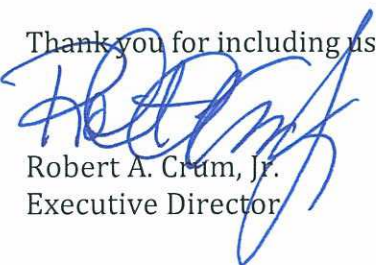
Climate change and its impacts are a major concern in Hampton Roads. We recommend that VDOT account for climate change impacts in the planning, design, and construction of any improvements to the Bowers Hill Interchange. Specifically, the area near the Bowers Hill Interchange is significantly vulnerable to tidal and storm surge flooding. We recommend that VDOT consider incorporating an assessment of how recurrent flooding and sea level rise will affect the proposed improvements and include adaptation strategies in the design of any specific projects. Guidance for how to incorporate sea level rise into project planning is available from both NOAA ("Global and Regional Sea Level Rise Scenarios for the United States" <https://tidesandcurrents.noaa.gov/publications/techrpt83> Global and Regional SLR Scenarios for the US final.pdf) and the U.S. Army Corps of Engineers ("Climate Change Adaptation – Comprehensive Evaluation of Projects with Respect to Sea-Level Change" - <http://www.corpsclimate.us/ccaceslcurves.cfm>).

In addition to sea level rise, recent research suggests that precipitation patterns may change significantly as result of climate change. Efforts by both FHWA ("HEC 17 – Highways in the River Environment: Extreme Events, Risk, and Resilience" <https://www.fhwa.dot.gov/engineering/hydraulics/pubs/hif16018.pdf>) and the City of Virginia Beach ("Analysis of Historical and Future Heavy Precipitation" [https://www.hrpdcva.gov/uploads/docs/5A Attachment AnalysisofHistoricalandFutureHeavy Precipitation Finalrev 20180326.pdf](https://www.hrpdcva.gov/uploads/docs/5A%20Attachment%20AnalysisofHistoricalandFutureHeavyPrecipitation%20Finalrev%2020180326.pdf)) suggest that precipitation intensity and quantity will increase. VDOT should consider using the FHWA guidance and the Virginia Beach study to develop appropriate designs for any potential projects at the interchange.

Improving public access to natural and coastal resources for recreation is another area of emphasis for Hampton Roads communities. The Bowers Hill Interchange is co-located with a segment of the East Coast Greenway, a major regional multi-use trail. We recommend that the study incorporate potential impacts to this resource and potential opportunities for improving the trail during the interchange improvement process.

Mr. Case plans to attend the April 11, 2018 meeting in Richmond.

Thank you for including us in this project.



Robert A. Crum, Jr.  
Executive Director