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U.S. DOT Quantification Initiative: DOT’s Collaboration with the Hampton Roads Sea Level Rise Pilot

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U.S. DOT Quantification Initiative

DOT’s Collaboration with the Hampton Roads Sea Level Rise Pilot

5/18/16

Alan Strasser
Steering Committee Member
U.S. DOT Climate Change Center
DOT’s Role in Hampton Roads

- Past: DOT has led or contributed to:
  - HR Climate Change Vulnerability Assessment Pilot Project (2011)
  - HR Military Transportation Needs Study (2013)

- Currently: Participates on the HR Pilot
  - Infrastructure WG (IWG)
  - Economic Impacts WG
Gulf Coast II: Criticality and Engineering

Example: Assessed Infrastructure Criticality in Mobile, AL

Gulf Coast Tools can be augmented by quantification
Objectives of DOT’s Quantification Initiative

- Supports Hampton Roads Pilot Phase I Report (2015): “IWG has concluded that any planning activities taken to address infrastructure need to address the cost and benefits of proposed actions to aid in decision-making.” (p. 24)

- In collaboration with Hampton Roads Pilot, DOT developing cost tool that provides methods for:

  1. Voluntary grantee consideration of financial impacts in infrastructure planning due to climate change and severe weather
  2. Augmenting science-based implementation of the Federal Flood Risk Management Std. (EO 13690)
  3. Prioritizing and managing U.S. DOT facilities to address EO 13653
Why Quantification Is Important

Addresses Key Questions:

• What is the CO$T of preparing the national transportation network for climate change?

• What communities are most vulnerable based on private and public a$$ets?

• How do we define co$t and vulnerability (e.g., assets risk management and/or loss of use)?

• What tools can assist in project-specific justification and prioritizing future inve$tement$ (e.g., FFRMS)?
Methodology and Status

Current Task (1) Developing a baseline of the transportation system:
• Modal assets: size, scale, geographic location, function
• Asset condition, structural integrity, asset vulnerabilities and exposure
• Adapting, estimating costs of preventive vs. post-disruption improvements.

Future Tasks (2016 - 8/31/17)
• Task 2: Determining future costs using different scenarios and time scales
• Task 3: Small-scale pilot analysis using different scenarios and time scales
• Task 4: Region-scale using different scenarios and time scales
Status and Next Steps

Next Steps:

– Continued coordination with HR Pilot and HR stakeholders on asset RM and disruption analysis
– Continue coordination with TRB/NCHRP and FHWA on cost-benefit studies
– Seeking partnership opportunities