

Coastal Resiliency / Issues Affecting Operational Readiness

WEDA 2018 Dredging Summit

Norfolk, Virginia

Rear Admiral Ann Phillips, USN (Ret)

June 26, 2018



Setting the stage



ISABEL 2003

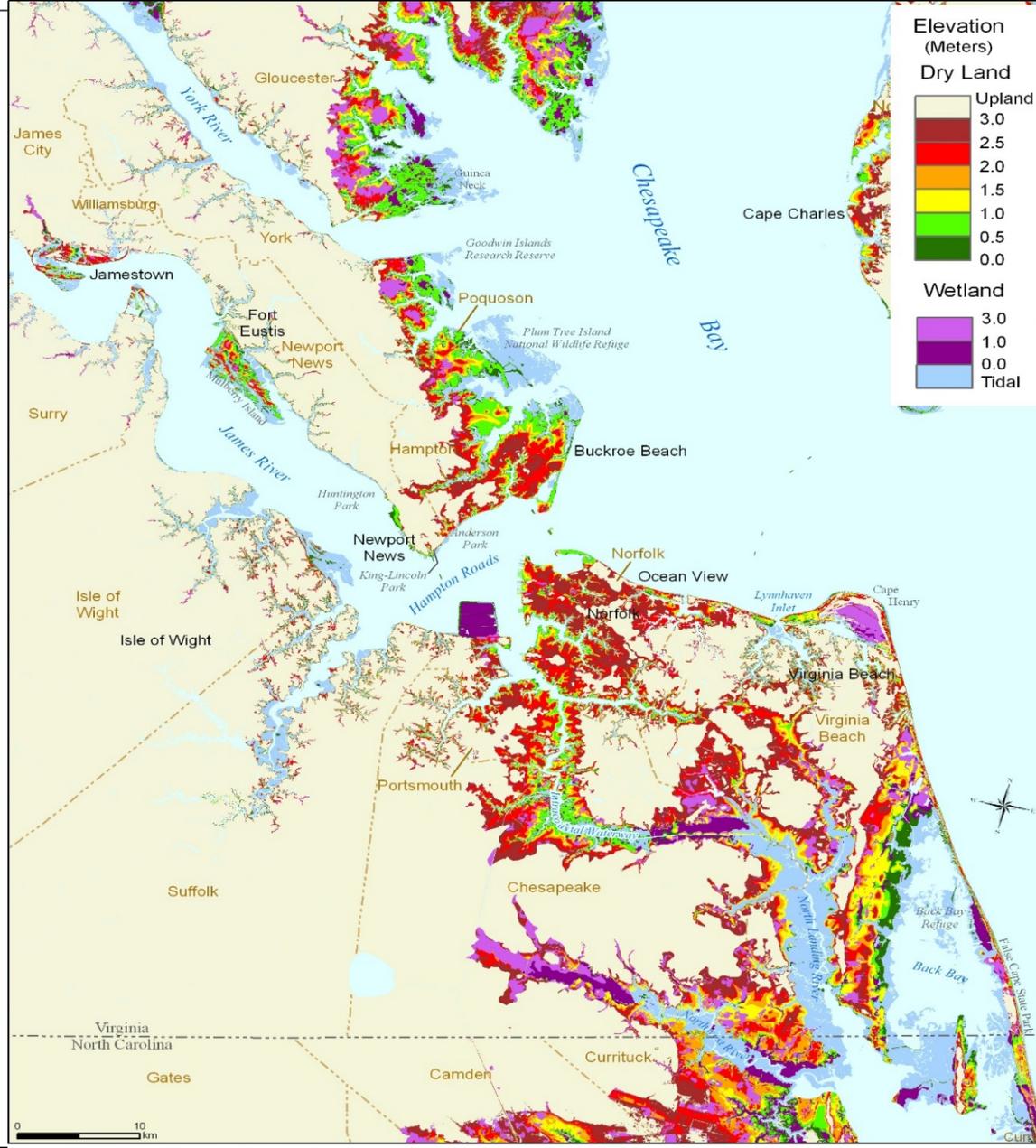
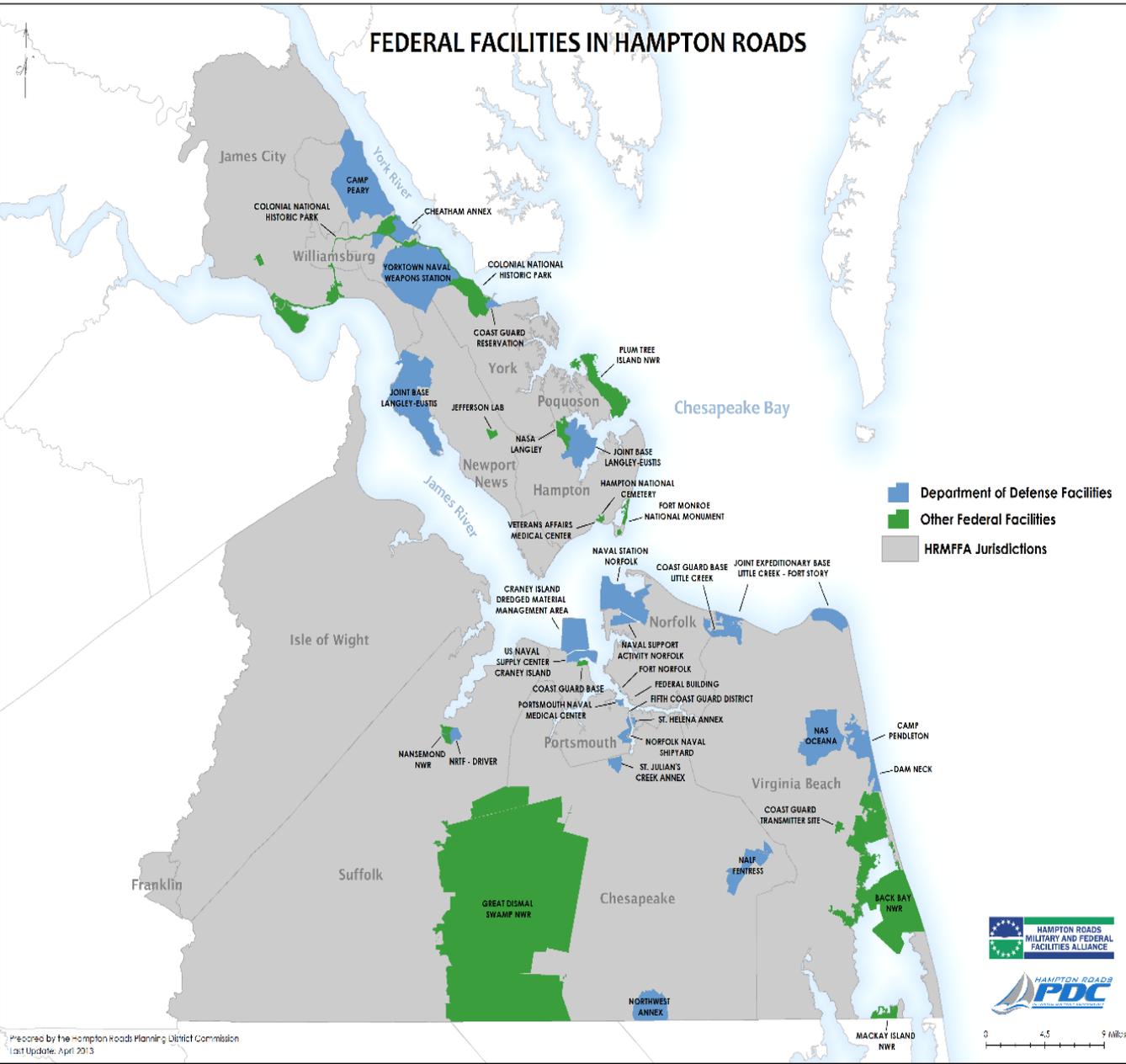


- The region is flat – a little sea level rise inundates a lot of land
- Sea level rise + land subsidence causes serial flooding
- Huge Federal and Commercial Maritime presence
 - Increasing risk
 - Cost/benefit to relocate National Assets?
- Challenge: How to adapt facilities, cities, municipalities, neighborhoods, transportation corridors to increased flooding?
- Adaptation in progress - but:
 - Not collaborative across region
 - Slow pace (series vice parallel action)
 - Danger = Wait for the “Big One” to make progress?

Post TS MATTHEW 2016



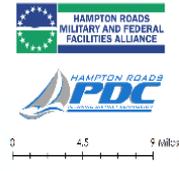
FEDERAL FACILITIES IN HAMPTON ROADS



Federal Facilities with Elevation . . . For Comparison

Elevations of Land Close to Sea Level
 Elevations are above spring high water, which is the average high tide during new and full moons, and approximately the inland boundary of tidal wetlands. This map is a general graphical representation of elevations in the area depicted, not designed to estimate the precise elevations at specific locations. Actual elevations at specific locations may be 75 cm above or below the elevation shown.
 Source: J.G. Titus and J Wang. 2008. "Maps of Lands Close to Sea Level along the Mid-Atlantic Coast". US Environmental Protection Agency.

Prepared by the Hampton Roads Planning District Commission
 Last Update: April 2013



Federal - DOD

- Risk Quantification for Sustaining Coastal Military Installation Asset and Mission Capabilities (RC-1701) SERDP (Focus: Naval Station Norfolk)
 - Sea level rise – threat multiplier to mission sustainability
 - ‘Tipping point’ at SLR of 0.5 m “damage probabilities increase dramatically.”
 - “Critical systems *incapacitated*” above 1.0 m
 - (This is prior to NOAA/NCA#4 VOL 1 of 2017 update adding 0.5 m to every curve!)
- NAVFAC Resiliency Planning Guide - 2017
- NASA/JB Langley-Eustis
 - Predictive Storm / Flooding Mapping Tool



The Region / Cities



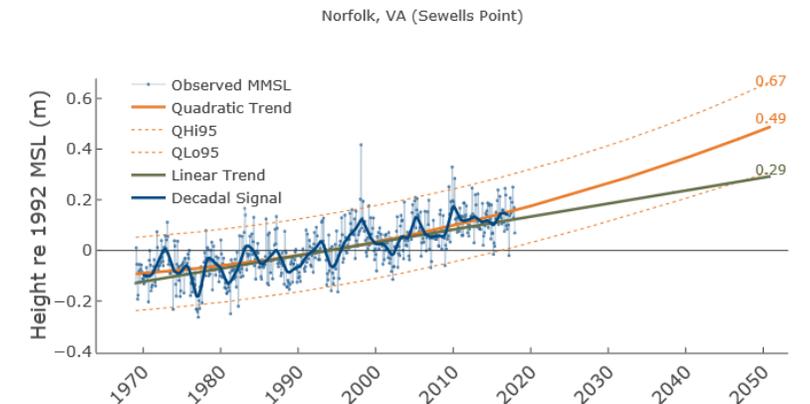
**Virginia Beach
Post TS MATTHEW 2016**

- Intergovernmental Pilot Project – 2014-2016
- Virginia/Norfolk 2016 NDRC grant - Chesterfield Heights
- Hampton Urban Water Plan (post Dutch Dialogues)
- Va Beach 4\$M SLR and Recurrent Flooding Response Plan and Precipitation Analysis – in progress
- Norfolk USACE CSRM \$1.8 B (released 27 Oct 2017)
- JLUS Studies Norfolk/Va Beach (2018) followed by Chesapeake/ Portsmouth (2019), plus ongoing Hampton
- Bluemoonfund Watershed Study 2017-2018

Norfolk, Virginia

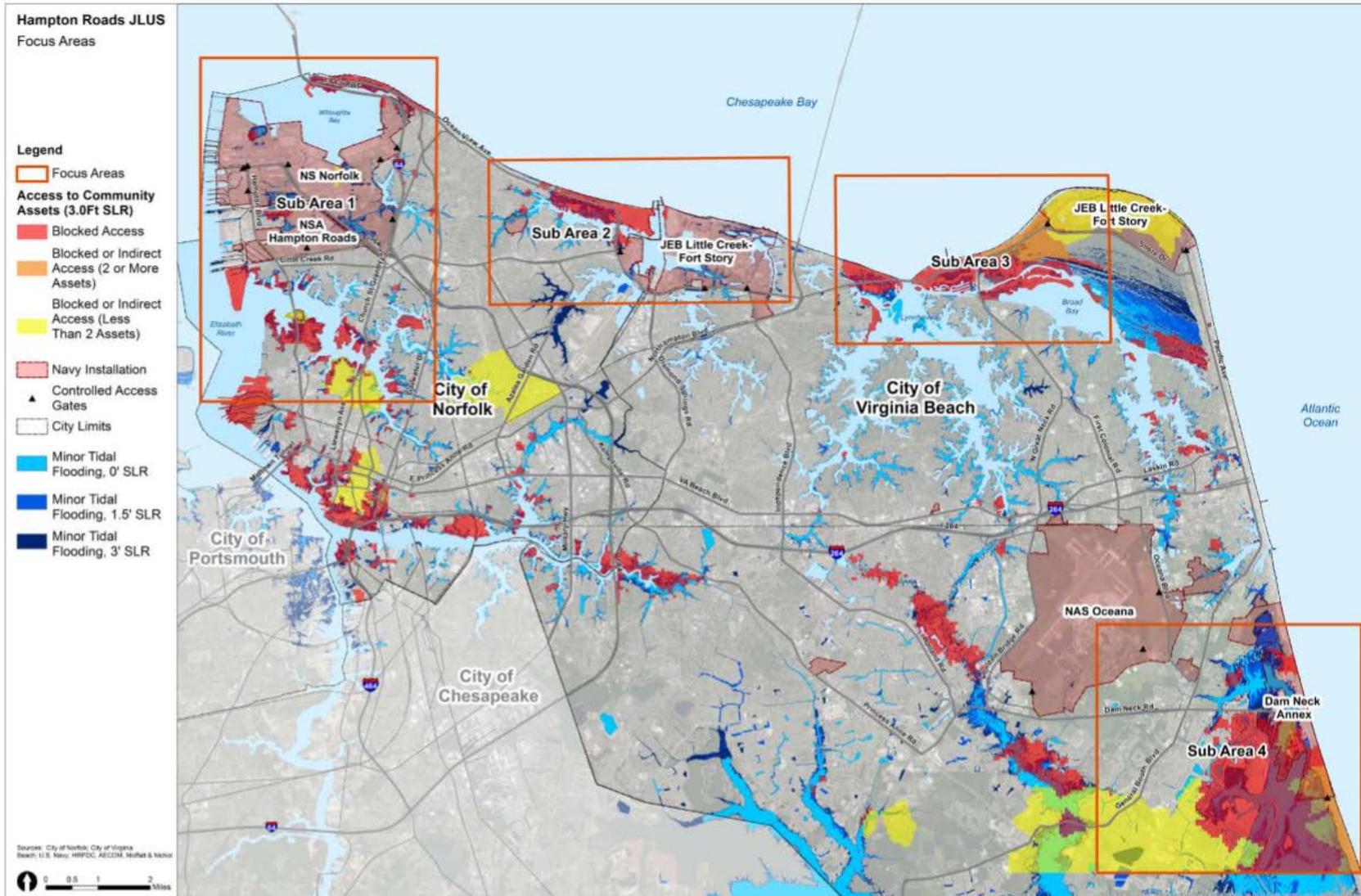
Sea-Level Report Card

2050 Projection



Joint Land Use Studies

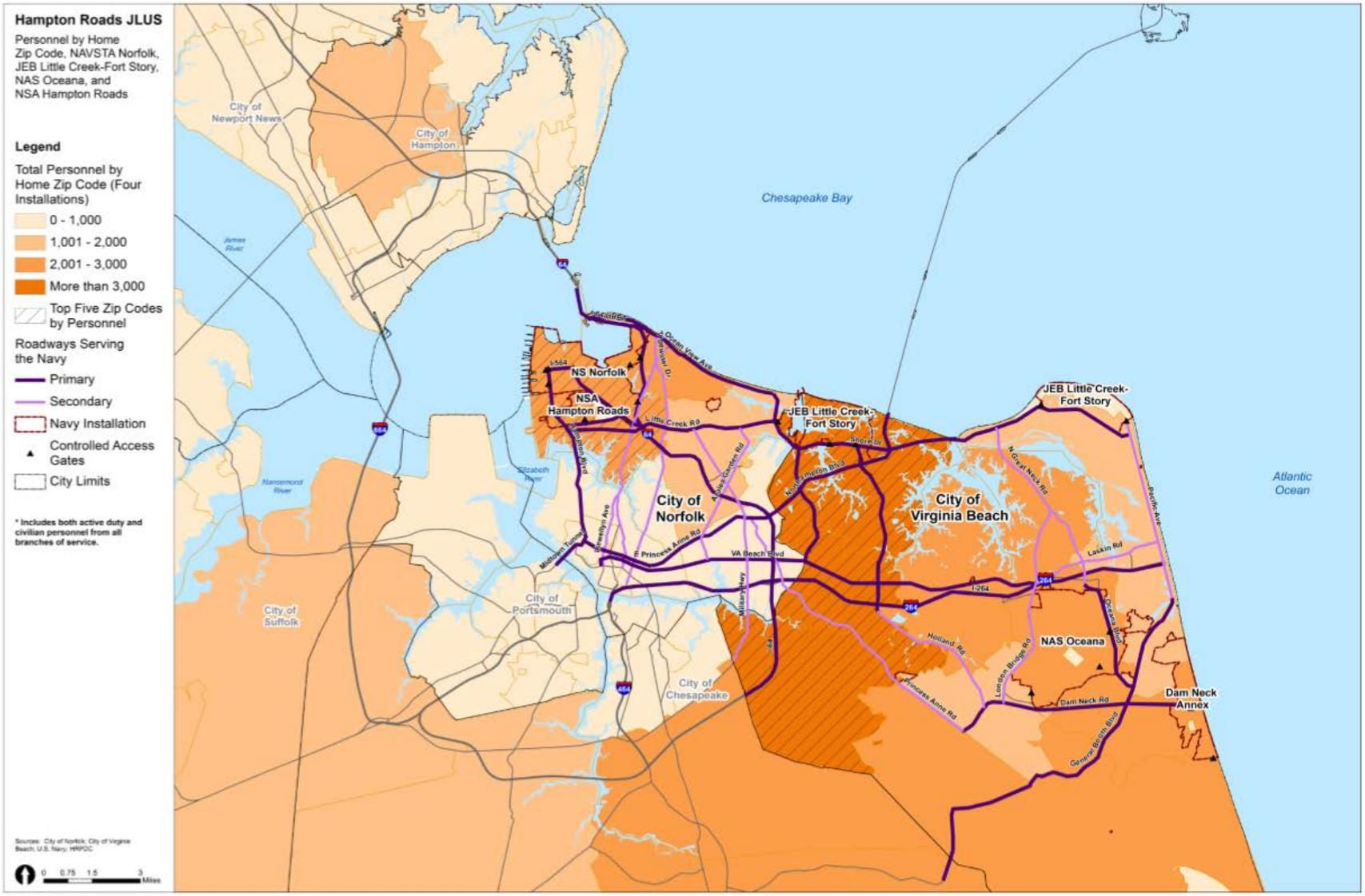
Target Areas for Action



Congressional Action

Commuting Patterns by Zip Code

Uniformed and Civilian personnel commuting to four Navy bases



Summary

- **Existential threat to the commercial and government infrastructure of the Hampton Roads Region. This is a threat to our National Security.**
- **Roads, rails, airports, and cities that serve the Maritime / Federal infrastructure are equally under threat.**
- **The Hampton Roads region understands recurrent flooding. *(The need for long term "re - visioning" less so.)***
- **Realistic but "stove-piped" planning is proceeding at some levels – *will Federal Legislation make a difference?***

Time and Tide wait for no man.