

Hurricane Evacuation & Sheltering Plan Overview

September 12, 2007



•Department of
Emergency Management

•Department of
Transportation

•Department of Social Services

•Virginia State Police

•Virginia National Guard



Hurricane Forecast

- Annual hurricane forecast serve to remind us that we need to continually prepare for tropical weather events.
- If only one hurricane makes landfall during the season and it impacts the Commonwealth

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That's a bad year!

El Nino

- The presence of warmer than normal tropical Pacific Ocean temperatures which generates stronger westerly wind flows across the United States
- Stronger westerly winds limit the development of Atlantic hurricanes
- A rapidly developing *El Nino* during the 2006 hurricane season contributed to a shut-down in hurricane activity limiting impact to the USA.

La Nina

- The presence of normal to cooler than normal tropical Pacific Ocean temperatures which diminishes the westerly wind flows across the United States
- Weaker westerly winds increase the development and intensity of Atlantic hurricanes
- *La Nina* favors more Atlantic hurricanes and *El Nino* favors fewer hurricanes.

2007 NOAA Forecast

- 13-16 named storms (Avg/Yr 10)
- 7-9 hurricanes (6)
- 3-5 major hurricanes (Category 3-5) (2)

- The prediction for an above-normal 2007 hurricane season reflects the expected combination of two main climate factors: 1) the strong likelihood of developing *La Nina* conditions in the tropical Pacific Ocean and 2) the continuation of conditions that have been conducive to above-normal Atlantic hurricane seasons since 1995.

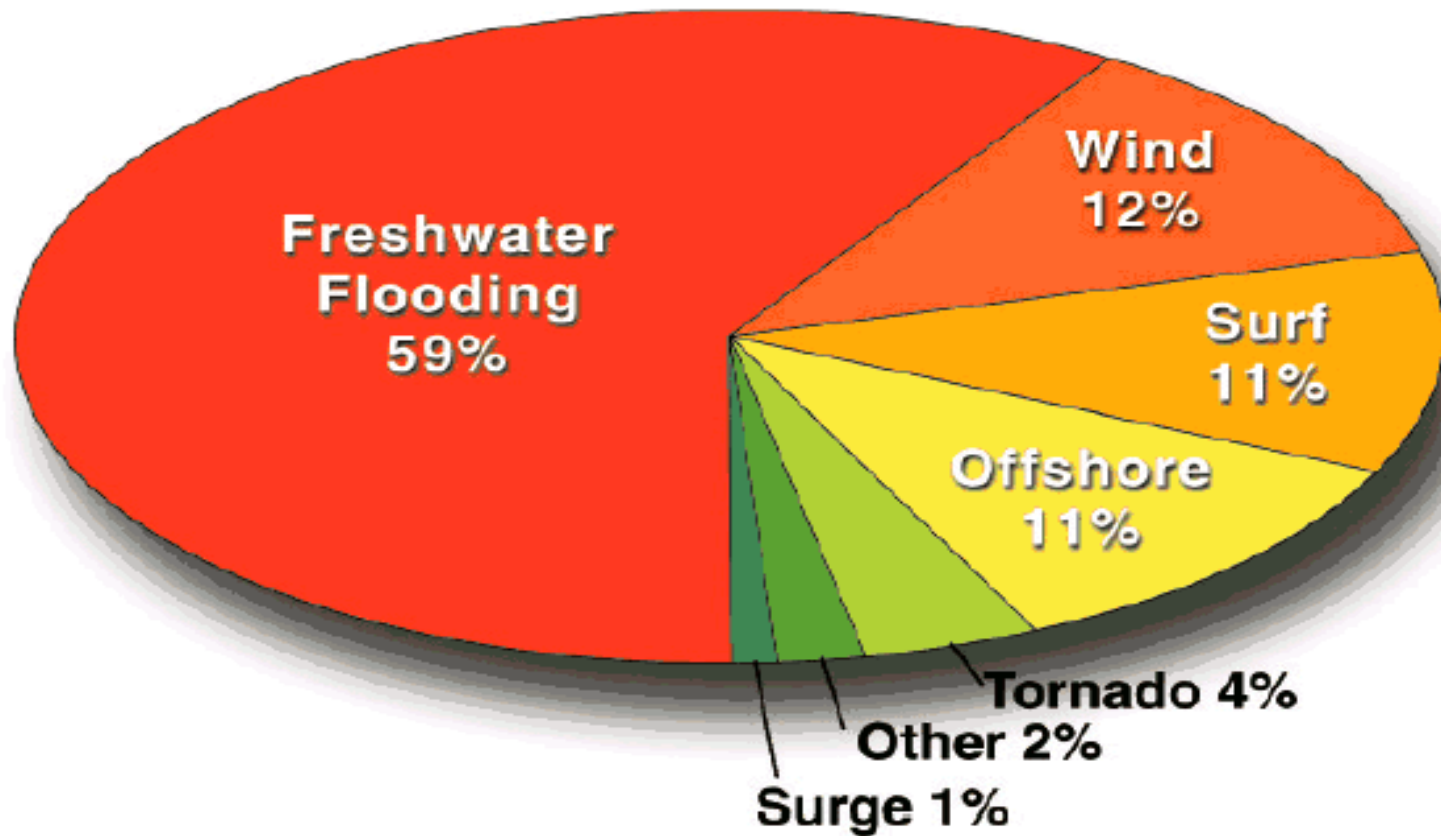


East Coast Strike Facts

- 92% of active seasons have had at least one hurricane strike
- 42% of active seasons have had at least two hurricane strikes
- The 2007 Forecast projects a 50 percent chance that at least one major hurricane will hit the East Coast.

Why we evacuate!

Leading Causes of Tropical Cyclone Deaths in the U.S 1970-1999



What has been accomplished since 2006?

- Hurricane Evacuation Workgroups
- Additional Hurricane Gates on I-64
- Lane Reversal Exercise – May 20, 2007
- Coordination of Emergency First Aid w/VDH-OEMS at designated locations along I-64
- Coordination of Emergency bulk fuel supplies along evacuation routes
- Annual Hurricane Readiness Checklist



Evacuation & Sheltering Coordination

- Virginia Evacuation Coordination Team for Operational Response (VECTOR) - Comprehensive oversight team in VEOC consisting of VDOT, VDEM, DSS (sheltering), VSP, VaNG, Tourism Commission and others
- SOPs under constant development





What will VECTOR do?

- VECTOR will review storm impact potential and vulnerabilities, evacuation issues & timing, shelter needs, and prepare recommendation for Governor's Evacuation Decision Consideration
- Evacuation & Sheltering Con-Ops

Hurricane Evacuation and Sheltering Concept of Operations - DRAFTED

- A cross-walk of mass care sheltering with the hurricane evacuation plan to combine related timelines for both activities
- Involved:
 - Localities –Hampton Roads and Richmond Metro jurisdictions;
 - State Agencies - VDEM,VDOT,VDSS,VSP,VNG
 - Red Cross and Others

State-Managed Shelters

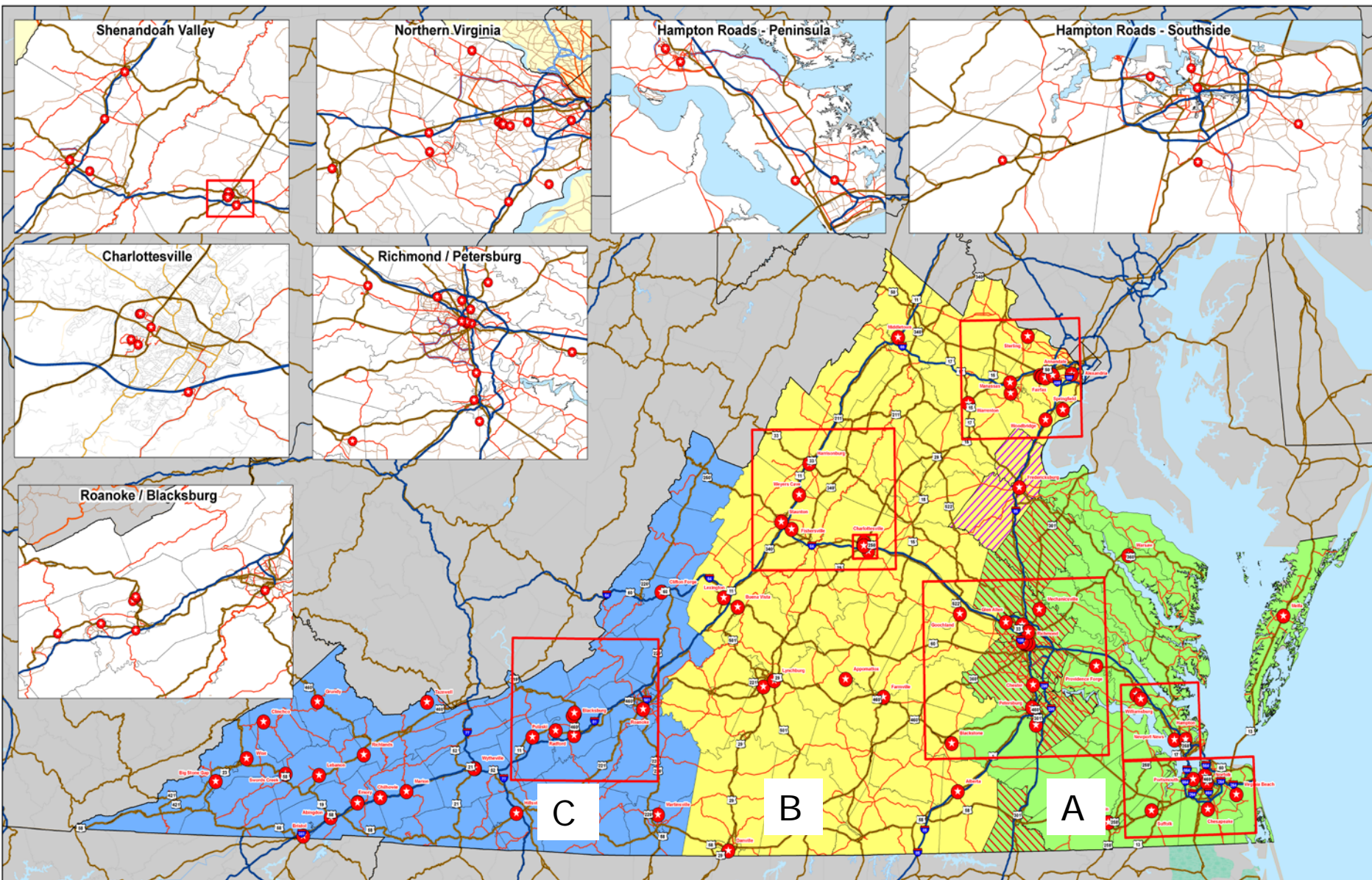
- For those people seeking public shelter
 - ~10% of the total evacuating population
 - 40,000 evacuees
 - Includes transportation dependent





Potential Shelter Survey

- Started with higher education group in mass
 - Group with the most potential for large spaces and on-site mass care capabilities
- 107 total sites reported
 - Higher education
 - Other state departments

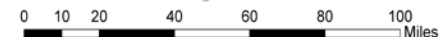


Potential State Sheltering Facilities

★ Potential State Shelter Sites



Map Created 03/20/07



Shelter Site Assessments

- Four rounds of site assessments
 - 1st – Large Potential Capacity/ Zones A & B
 - Completed end of June
 - 2nd – Large Potential Capacity/ Zones B & C
 - 3rd – Large Potential Capacity/ Zone C
 - 4th – Small Potential Capacity
- Types of assessments:
 - Physical/Engineering
 - ADA
 - Security
 - Mass Care
 - Special Medical Needs Care
 - Animal Sheltering

Rounds One & Two Assessment Preliminary Results

- 63 buildings assessed to date
- 28 have been determined viable
 - Potential capacity:
 - General Population: @57,000
 - Including 1,200+ Special Medical Needs Capacity
 - Pets: 5,240 spaces



Other Shelter Activities

Richmond – Norfolk MOU

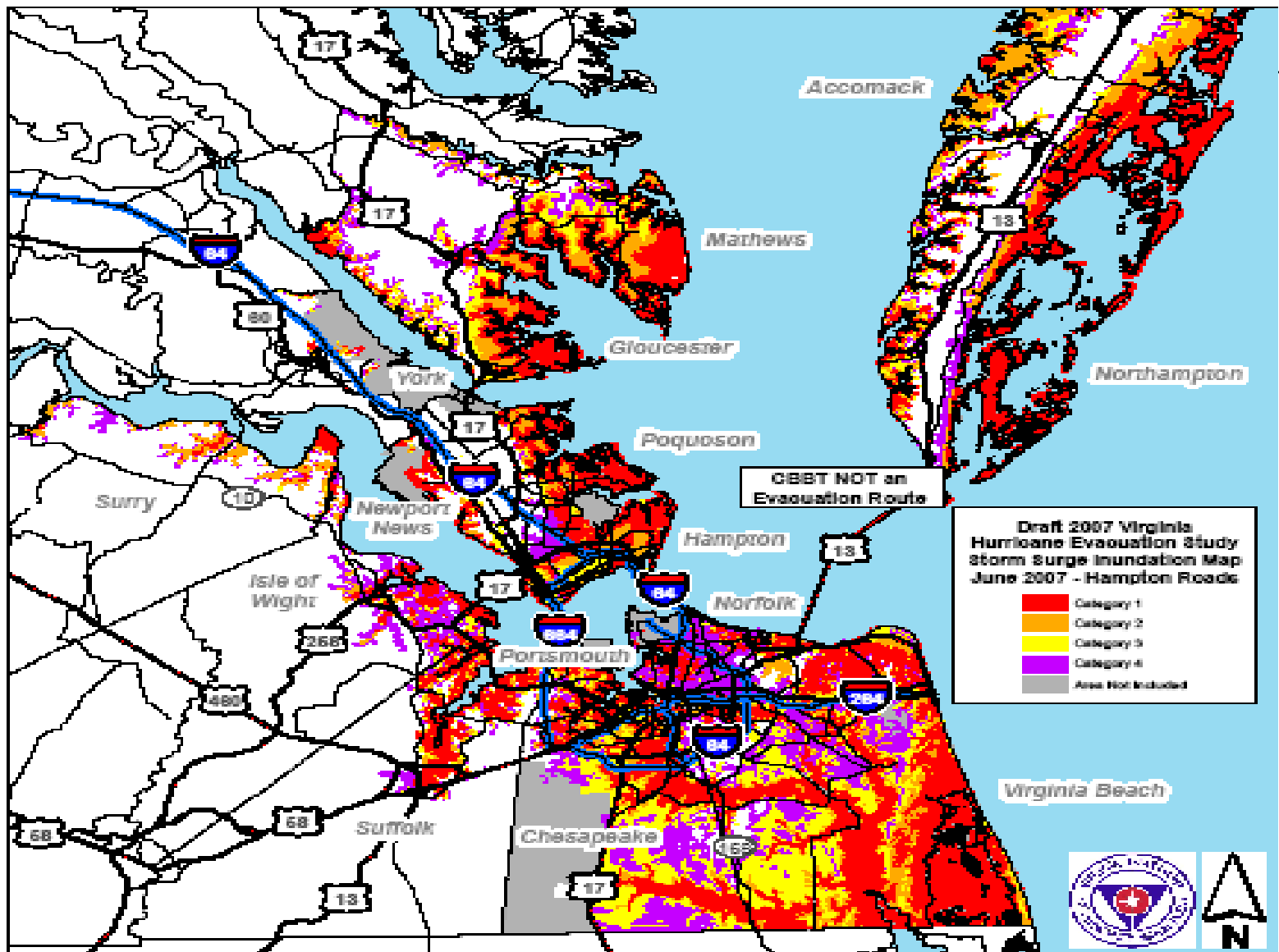
- Pending reciprocal agreement for sheltering due to a mass city-wide evacuation
- Transportation Dependent and essential staff only
- Evacuating city to provide shelter management team and staffing
- Facilities: Richmond Coliseum, Greater Richmond Convention Center, and Norfolk Scope



Transportation Planning

- VA HES Behavioral Analysis
- VA HES Transportation Analysis
- VTRC Evacuation Transportation Study
- Continue to model effects from Hampton Roads Traffic Control Plan & updated Transportation Analysis
 - ODU/VMASC

Updated Storm Surge Maps





Mass Transit Evacuation

- State planning on-going with the DRPT as lead
 - Resource listing of potential Virginia mass transit resources (commercial included) is complete and updated
- Localities within the Hampton Roads area are working with the HRPDC to develop local plans for transportation dependent
 - City of Norfolk – pick-up points and distribution point

Rail Evacuation

- State planning on-going
 - MOUs being developed with CSX and Norfolk Southern for essential equipment
 - Plan to be drafted for committee review
- Local planning on-going
 - Determining need
 - Assessing acceptability of timeframe



Inmate Evacuation

- State owned facilities (DJJ/DoC):
 - Have plans in place
 - Plans have been tested and exercised in many cases
- Local facilities:
 - On-going planning – committee meeting regularly since November 2006
 - Similar challenges to general population evacuation but with the complexities of inmate segregation and security requirements

Lane Reversal Exercise- May 20

- 3 Goals for the exercise
 1. Test Communications
 2. Practice protocols and cooperation
 3. Close gates

- Great Success as exercise and for determining where adjustments or more work is needed



Lane Reversal Exercise – May 20

○ Lessons Learned

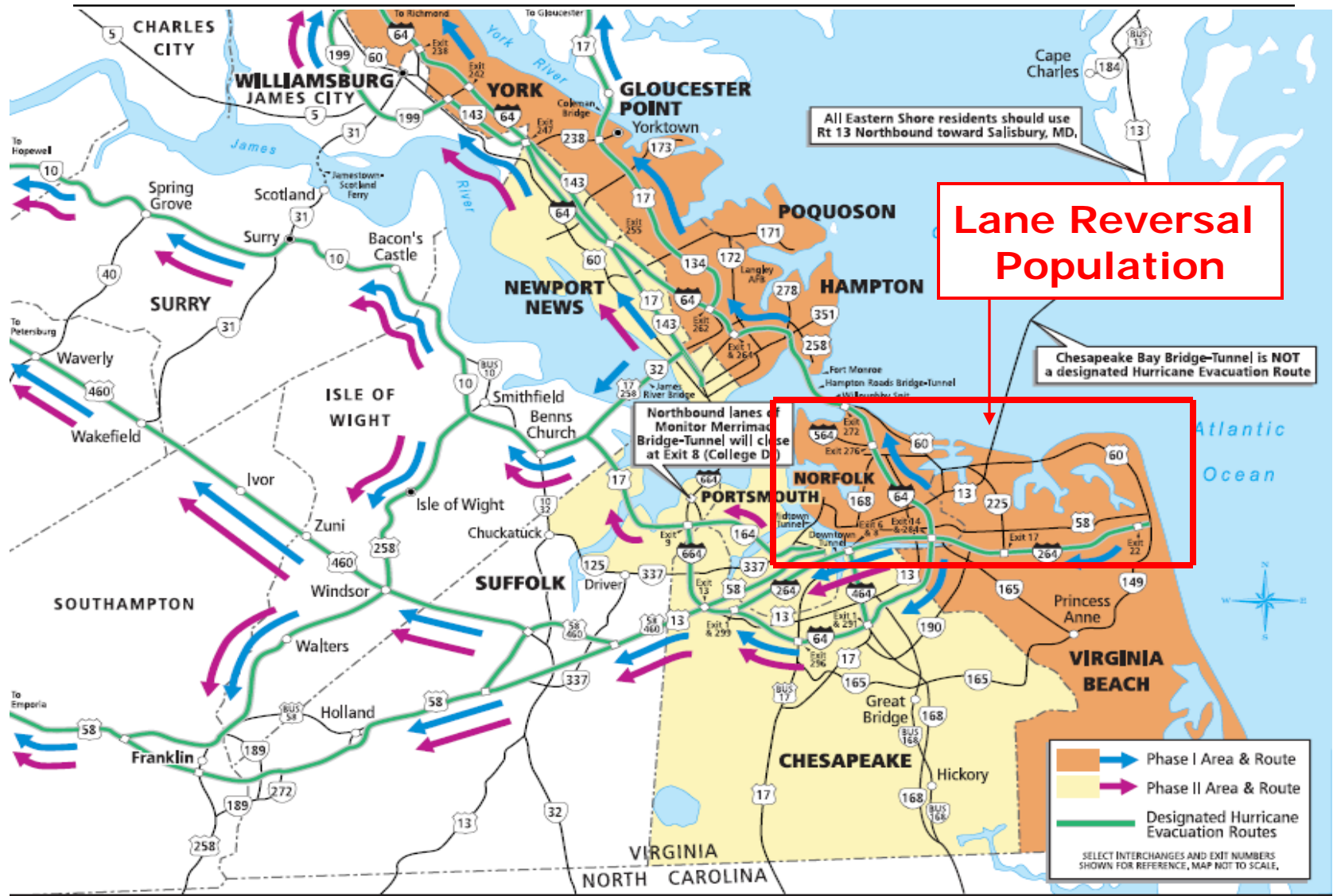
- Communications successful between the agencies and localities
- Dead spots discovered with radio communications
 - Need redundant communications pathway
- Sequence of closure, opening at I-295 Exit 200, needs adjustment
- Media need a designated, protected area adjacent to command center
- Crossover control to be added
- Hardwire Mobile Command Post communication at site
- Incorporate NIMS in all planning
- Staffing needs being re-evaluated



The decision to evacuate

- Governor determines if an evacuation is to be mandatory and when and how implemented
 - Governor can delegate authority to Local jurisdictions who determine which areas to evacuate based upon risk
- Phased evacuations
 - Phase 1 & 2
- Lane Reversal (Contra-flow) can be used for any category storm at the Governor's discretion

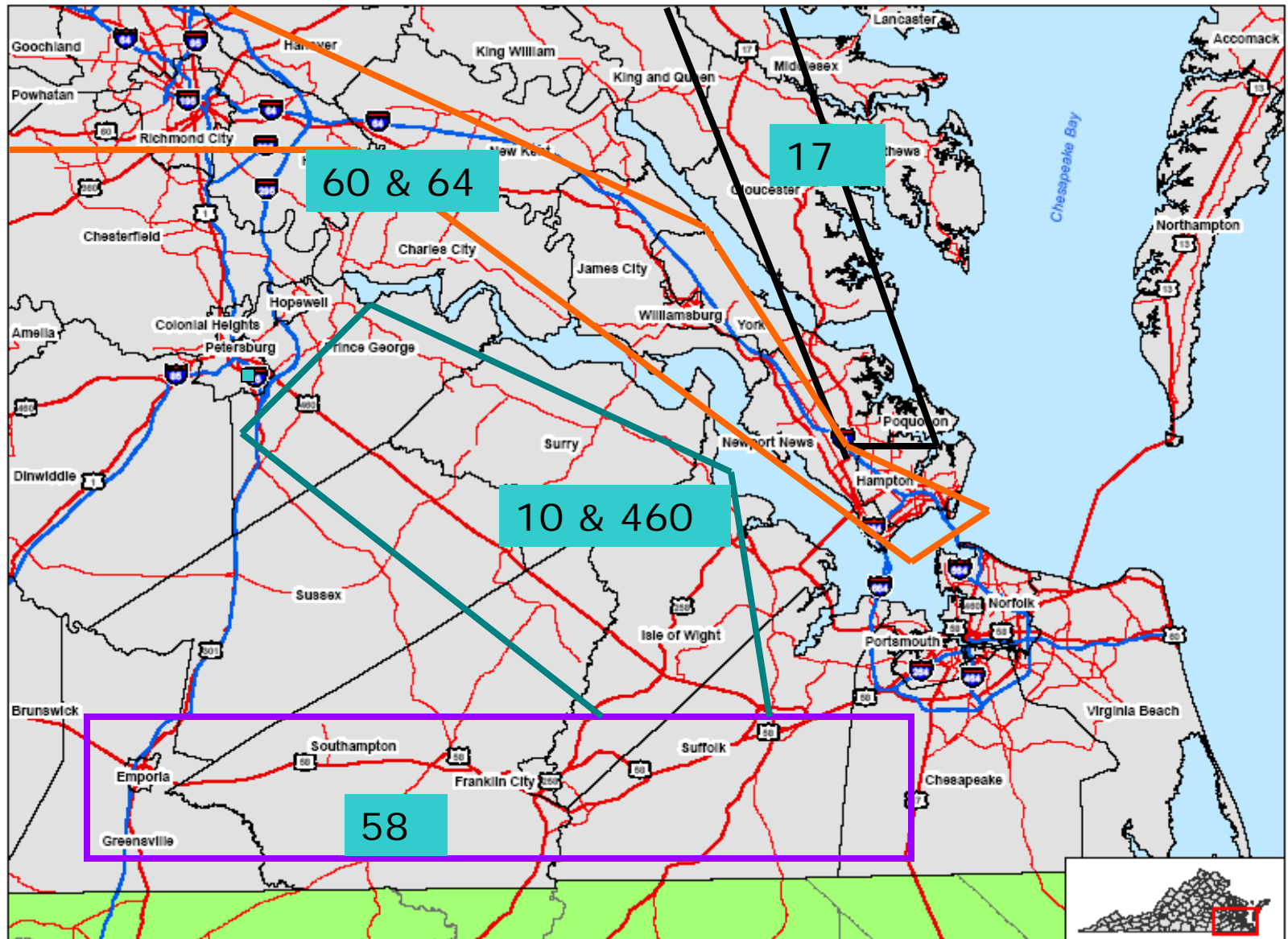
Hampton Roads Phased Evacuation Plan



Evacuation Routes

- Major evacuation routes from Virginia's coastal area are:
- **Routes 58, 60, 460, 10, 17 and I-64** toward Emporia, Petersburg, Fredericksburg, Richmond and other inland locations
- **Not everyone will use I-64!**

Evacuation Route Corridors



How many evacuees are we talking about?

- @ 700,000 people are located in storm surge areas (*including tourists*)
- @ 400,000 people expected to evacuate Hampton Roads Region including any remaining NC evacuees
- Approximately 10% of evacuees (40K +/-) will seek public shelter based upon hurricane behavioral analysis
- Others make private shelter arrangements with family, friends or in inland motels

Action Timeline For Evacuation

- 120 hr. - VECTOR stands up (as needed)
- 96 hr. - Alert state shelter facilities
- 72 hr. - Governor issues State of Emergency Declaration (*VDOT, VA National Guard & VA State Police put on alert*)
- 48 hr. - Mobilization of state resources
- 30 hr. - Governor's evacuation decision point
 - Phased or Lane Reversal
 - Threat Dependent
- 27 hr. - Evacuation implemented
- 3 hr. - Road clearance both East & Westbound
- 0 hr. -Arrival of Sustained Tropical Storm Force Winds (39mph)

Lane Reversal Resources Required for a 12 Hr Shift

VDOT –	212 personnel
State Police –	157 personnel
National Guard –	<u>166</u> personnel
Total	535



LANE REVERSAL

VDOT Responsibilities

- VSP will provide On Site Command Post w/Regional Representation (State & Local) at I-295/I-64 Interchange
- Sandston Residency crews mobilize and close I-64 east mainline, ramps and crossovers
- “Tiger Teams” mobilizes to assist with Lane Reversal setup



Lane Reversal – Stranded Motorist

- Motorists stranded on I-64 will be transported to the closest designated drop off point via DMV vehicles (i.e. shelter, refuge of last resort, other)
- VDOT & VSP will be patrolling all other evacuation routes

LANE REVERSAL – VDOT

- VDOT crews assist motorists as needed
- Hampton Roads & Richmond STC monitors traffic conditions (sensors, cameras, field crews)
- Implement traffic changes as conditions warrant (traffic volume, weather, storm track, etc.)
- TEOC, STC & Public Affairs disseminate traffic information (media, signs, 511, highway advisory radio)



Evacuation Coordination Roles

- Transportation Emergency Operations Center (TEOC) manages roadway operations from a statewide perspective; coordinates with State EOC (VDEM)
- 5 Regional Smart Traffic Centers (STC) and District Maintenance staff manage events from a regional/district perspective; coordinate with TEOC
- Hampton Roads and Richmond District Maintenance and Regional STC's are most involved

Returning Lanes to Normal Configuration

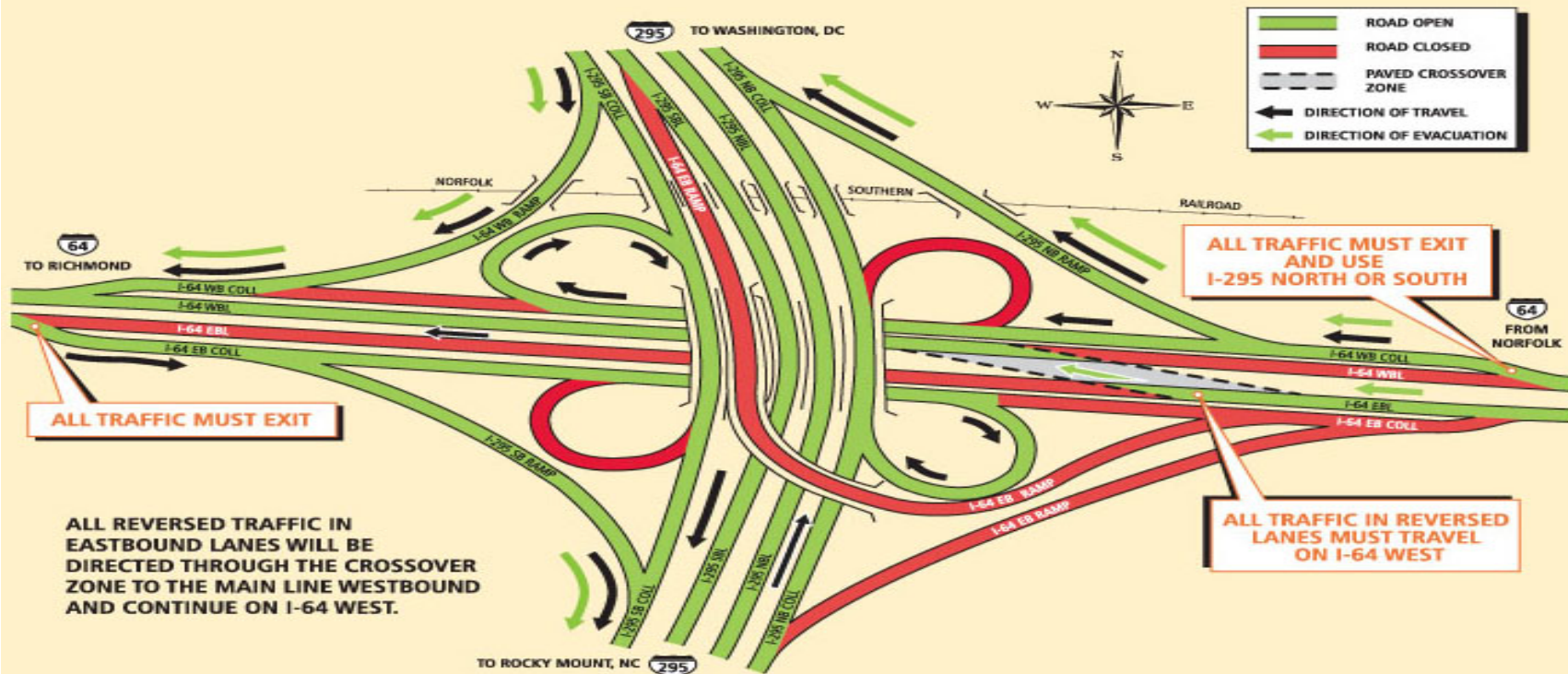
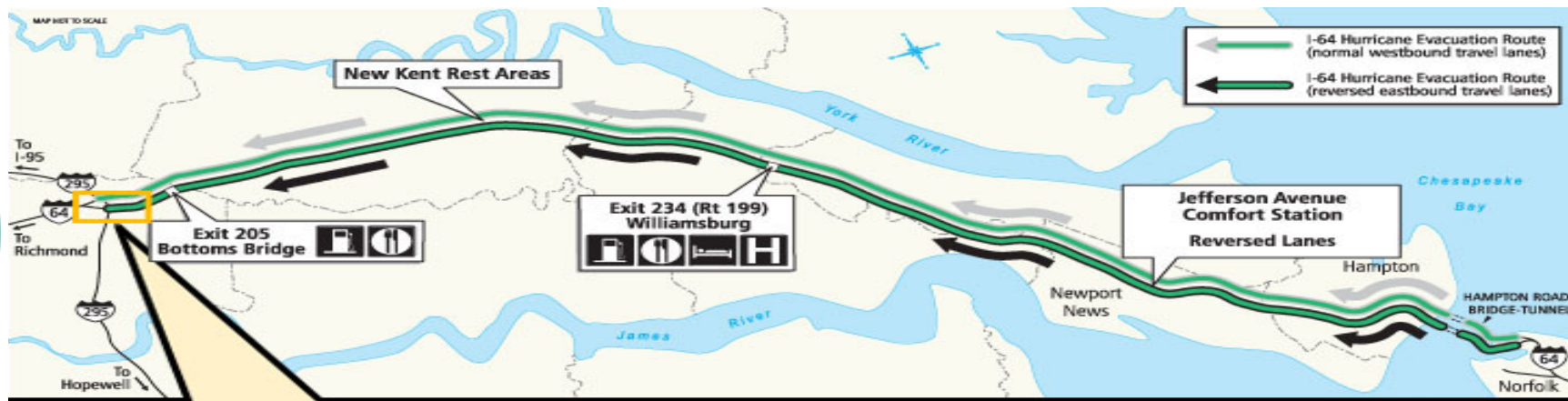
- Terminate evacuation 3 hrs prior to arrival of sustained tropical storm force winds (39 mph)
- VSP to sweep I-64 eastbound lanes (Reversed lanes) from East to West returning Interstate to normal flow



Additional Features and Services

- Hurricane gates on I-64 eastbound ramps to be added
- Coordination of bulk fuel distribution along evacuation route
- Use of VDOT Safety Service Patrol along I-64
- Emergency water/comfort/fuel stations at designated areas along I-64 & Rt 58
- Hurricane preparedness meetings on-going
- Portable traffic monitoring systems for evacuation routes not covered by camera system

I-295/I-64 Interchange





Additional Features and Services

- Contract towing services for vehicles that break down during the lane reversal on I-64
- Established towing procedures apply on all other evacuation routes
- Enhanced Public Education
- Continue to model effects from Hampton Roads Traffic Control Plan
- Full time VDOT liaison at VEOC

Summary

- VA continues to enhance its evacuation planning implementing lessons learned from recent hurricanes including Special Medical Needs and Pets
- Designated state facilities will be utilized as shelters or refuges of last resort
- Planning activities with localities and neighboring states continue
- Completion of VA Hurricane Evacuation Re-Study prior to the 08' season

DISCUSSION

