



HAMPTON ROADS BRIDGE- TUNNEL UPDATE

JOINT COMMISSION ON TRANSPORTATION ACCOUNTABILITY

Dennis Heuer, District Administrator
August 18, 2009

Simultaneous Events in Hampton Roads on July 2

James River Bridge (Route 17)

- Power lines down
- All traffic stopped

Monitor-Merrimac Memorial Bridge-Tunnel

- Loss electrical power

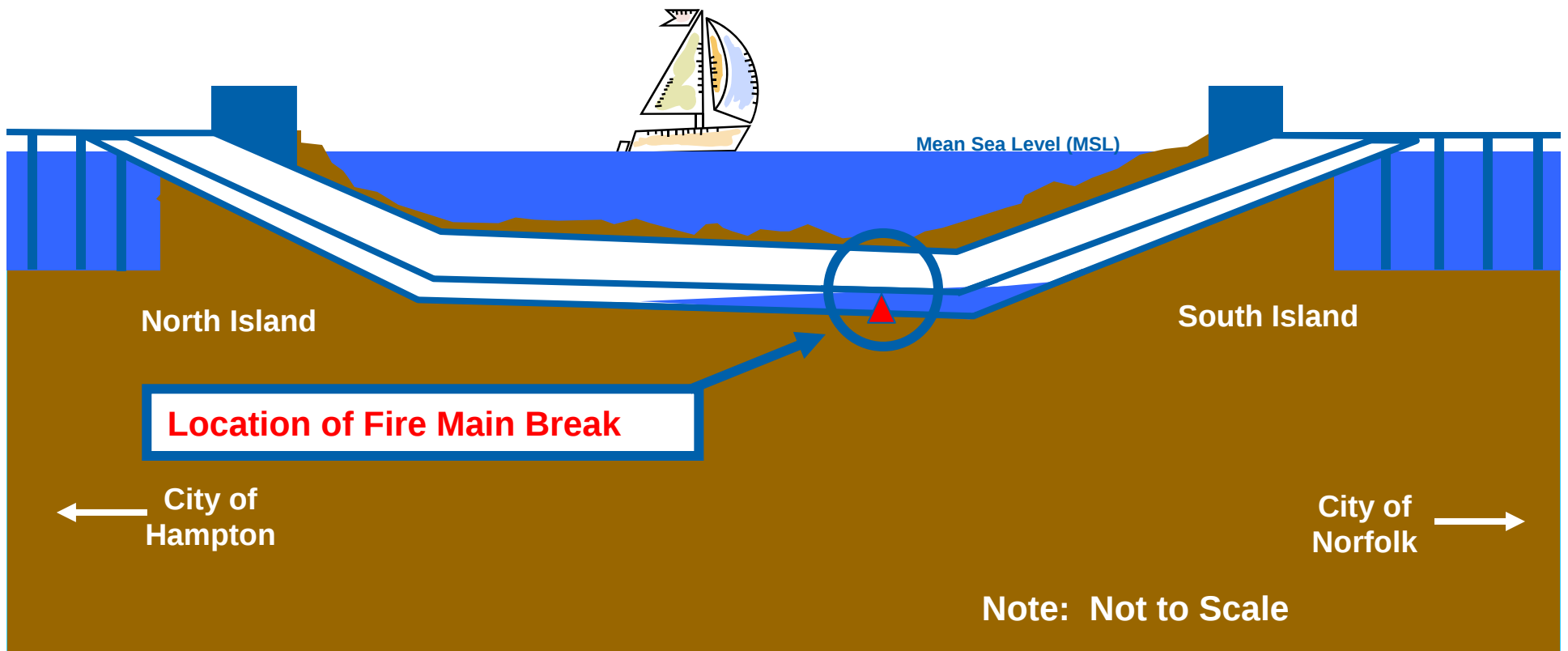
Hampton Roads Bridge-Tunnel

- Loss of electrical power

Chesapeake Bay Bridge-Tunnel

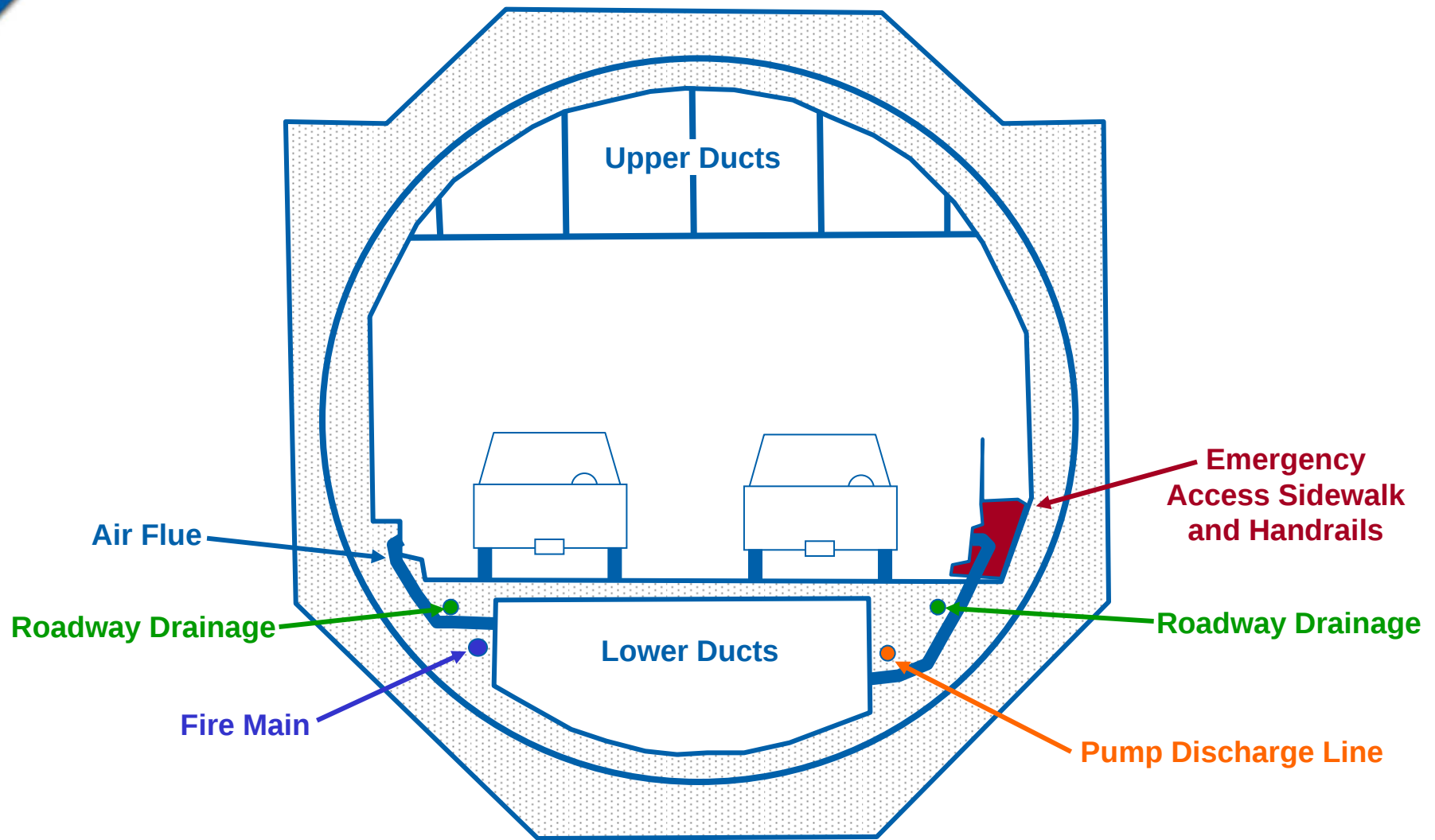
- Tractor-trailer overturned

HRBT Tunnel Side Profile



Westbound Tunnel Cross Section

(Looking South Towards Norfolk)



Note: Not to Scale

Fire Main Wall Rupture



Response

July 1 - July 8

July 1 – 2

- Restored traffic by 7:30 p.m. on July 2
- Conducted emergency response

July 2 – 8

- Initiated emergency recovery operations
- Pumped water out
- Dried out mid-river pump room
- Dried out lower tunnel ducts
- Removed two motors and one pump

Response

July 9 – July 10

July 9

- Replaced two motors and one pump
- Removed second pump

July 10

- Repair and replace second pump
- Complete emergency recovery operations
- Held public meeting

Response

Current and Future Milestones

- Process review stand-down
- Repair and pressure test fire main
- Established an Independent Review Panel

Tunnel Maintenance

<u>Facility</u>	<u>Value</u>	<u>Period</u>	<u>Status</u>
HRBT	8.2M	2003-2009	Complete
HRBT	46.2M	2008-2013	Underway/Programmed
ERT-DT	2.3M	2003-2008	Complete
ERT-DT	4.1M	2005-2012	Underway/Programmed
ERT-MT	0.7M	2004-2008	Complete
ERT-MT	7.5M	2005-2014	Underway/Programmed
MMMBT	6.1M	2004-2009	Complete
MMMBT	7.4M	2009-2013	Underway/Programmed

HRBT History

Built in 1957

Regular Inspections

- Electrical, mechanical and structural inspection by VDOT once every seven years
 - HRBT inspected by this team in 2003 and report completed in October 2003
- Fire Main Hydrostatic Pressure Testing (NFPA 25) required every 5 years; last completed in 2006
- Fire Main Flow Rate Testing (NFPA 25) required every 5 years; last completed 2007
- Ventilation Fan Deluge (Sprinkler) System Testing (NFPA 25) required every 3 years; last completed 2007
- Portal Flood Gate Operational Testing completed twice each year near the beginning and end of hurricane season; last completed June 2009
- Electrical Switchgear Equipment Calibration scheduled every five years; last completed 2004
- Drainage Pumps, Fire Pumps, Ventilation Fans, and other components checked routinely

Special Reviews

- *Parsons Brinckerhoff Quade & Douglas, Inc.* - inspection and provided recommendations for all tunnels during 1996 and 1997
- *Earth Tech* - review of existing reports for all tunnels, reconciled against NFPA 502 requirements and provided preliminary recommendations with estimated costs & proposed schedule in 2004 - Hampton Roads Tunnels estimate was ~\$30M over 5 years
- *Parsons Brinckerhoff Quade and Douglas, Inc.* – performed follow-on study to Earth Tech reports for all tunnels and provided more detailed, prioritized recommendations with estimated costs and proposed schedule in 2007 - Hampton Roads Tunnels estimate was ~\$60M over 5 years.

Action Plan

Current and Future Milestones

Independent Review Panel

Mission

- **Review existing policies and procedures relating to tunnel operations**
 - Maintenance and operations
 - Communicating systems
 - Traffic management
 - Technology
- **Develop recommendations**

Schedule

- **3 Meetings**
- **First Meeting held Aug. 10**
- **Final report in September**

Action Plan

Current and Future Milestones

Independent Review Panel

Membership

- Chair: Philip J. Tarnoff, Center for Integrated Transportation Systems Mgmt., Univ. of Maryland
- Steven Mondul, Deputy Asst. to the Governor, Commonwealth Preparedness
- Wallace Twigg, Regional V Director, Virginia Dept. of Emergency Management
- Lt. Ernest Poole, Jr., Bureau of Field Operations, Division V, Virginia State Police
- John M. Keifer, Director, Department of Public Works, City of Norfolk
- Lynn Allsbrook, Traffic Operations Management, City of Hampton
- Steve Ernst, Senior Engineer for Safety and Security, Federal Highway Administration
- Jeff Holland, Executive Director, Chesapeake Bay Bridge Tunnel
- Steve Napolitano, General Manager, Port Authority of New York and New Jersey
- Don Smith, Tunnel Maintenance Operations Manager, Maryland Transportation Authority
- Connie Sorrell, Chief of Systems Operations, VDOT



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