

Francis Scott Key Bridge Collapse

Scott Kelly

Ops and Engineering Division Chief

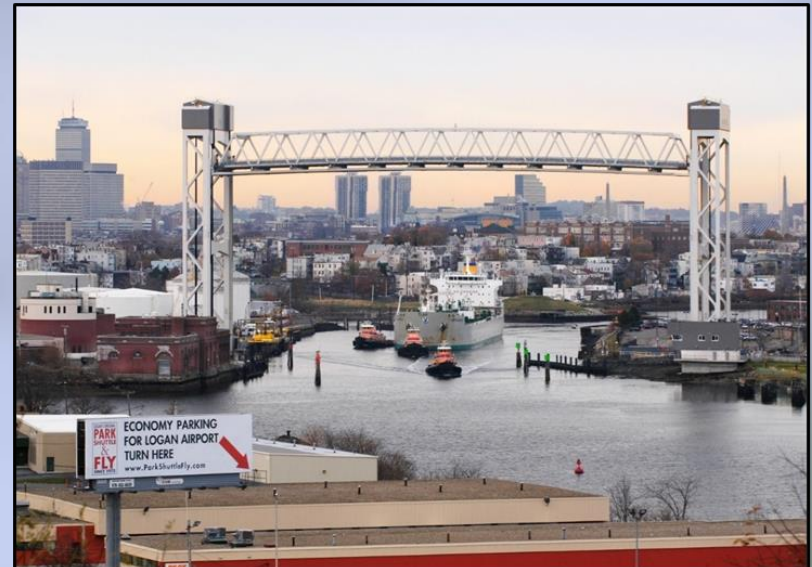
U.S. Coast Guard Office of Bridge Programs

September 17, 2024

Coast Guard Missions



- **Maritime Law Enforcement**
 - Drug & Migrant Interdiction
 - Living Marine Resources
- **Maritime Response**
 - Search and Rescue
 - Marine Environmental Protection
- **Maritime Prevention**
 - Marine Safety
 - Marine Environmental Protection
- **Marine Transportation System Management**
 - Aids to Navigation
 - Ice Operations
 - **Bridge Program Administration**
- **Maritime Security Operations**
 - Ports, Waterways, Coastal Security
- **Defense Operations & Readiness**



Marine Transportation System



25,000 miles of navigable waterways

13,000 bridges

8,200 waterway facilities

32 million recreational boaters

135 million ferry passengers

350 ports

3,700 marine terminals

238 lock chambers

1,400 intermodal connectors

\$649 billion annually to US GDP

68,000 vessel calls at US ports

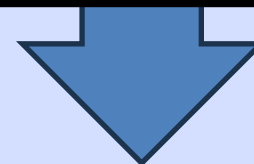
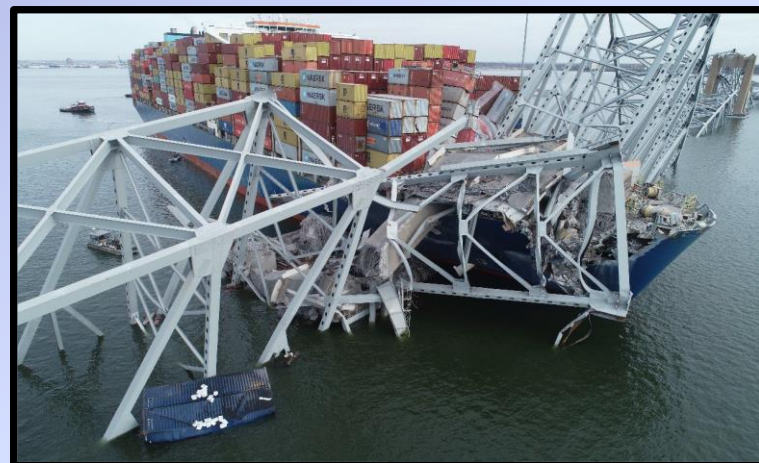




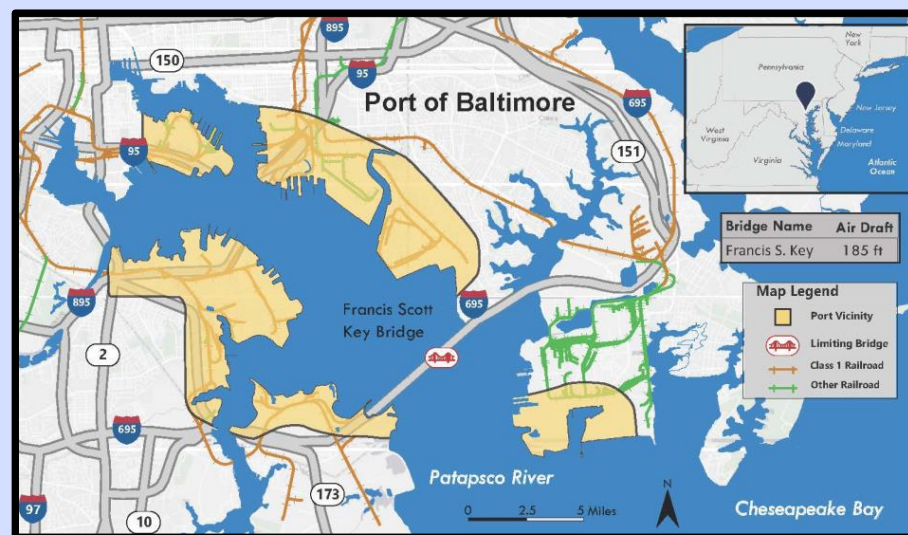
Balancing Act



- “Just in time” supply chain demands
- Transient conditions: wx, tides, marine events
- Ports balancing Infrastructure needs/costs
- Cargo going under bridge also goes over the bridge

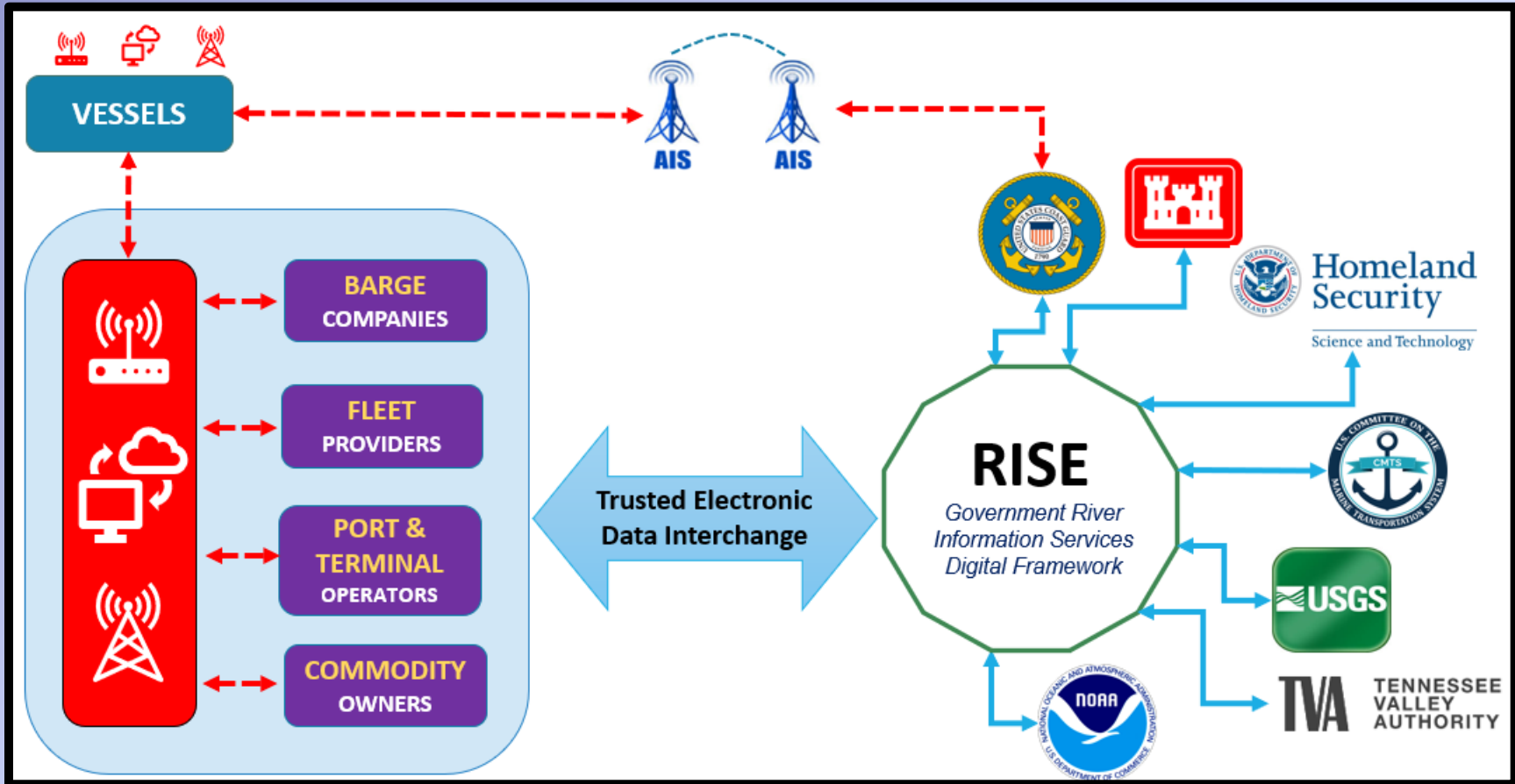


- **Requires partnership, planning & coordination**





RISE Overview



DHS S&T/USCG/USACE RISE Demo

USACE DHS S&T, and USCG Office of Navigation Systems are collaborating on RISE digital infrastructure to enhance navigation, safety and security of planning and operations throughout US inland waterways

Port of Baltimore



- 50' port...navigation channel is dredged to 50'
- \$3.3 Billion in total personal income
- 15,330 direct jobs, 139, 180 connect jobs, \$395 mil in tax
- \$2.6 billion in business revenue
- 1st in Autos, light trucks, farm/construction machinery, gypsum, imported sugar
- 2nd export coal
- 440,000 cruise pax in 2023



Francis Scott Key Bridge



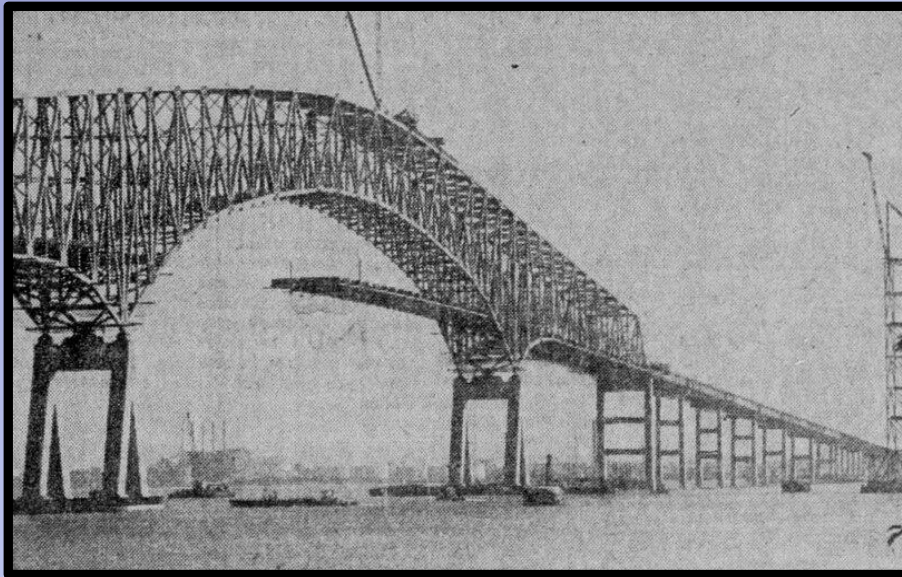
Construction: Aug 1972

Opened: March 1977

Clearance below: 185'

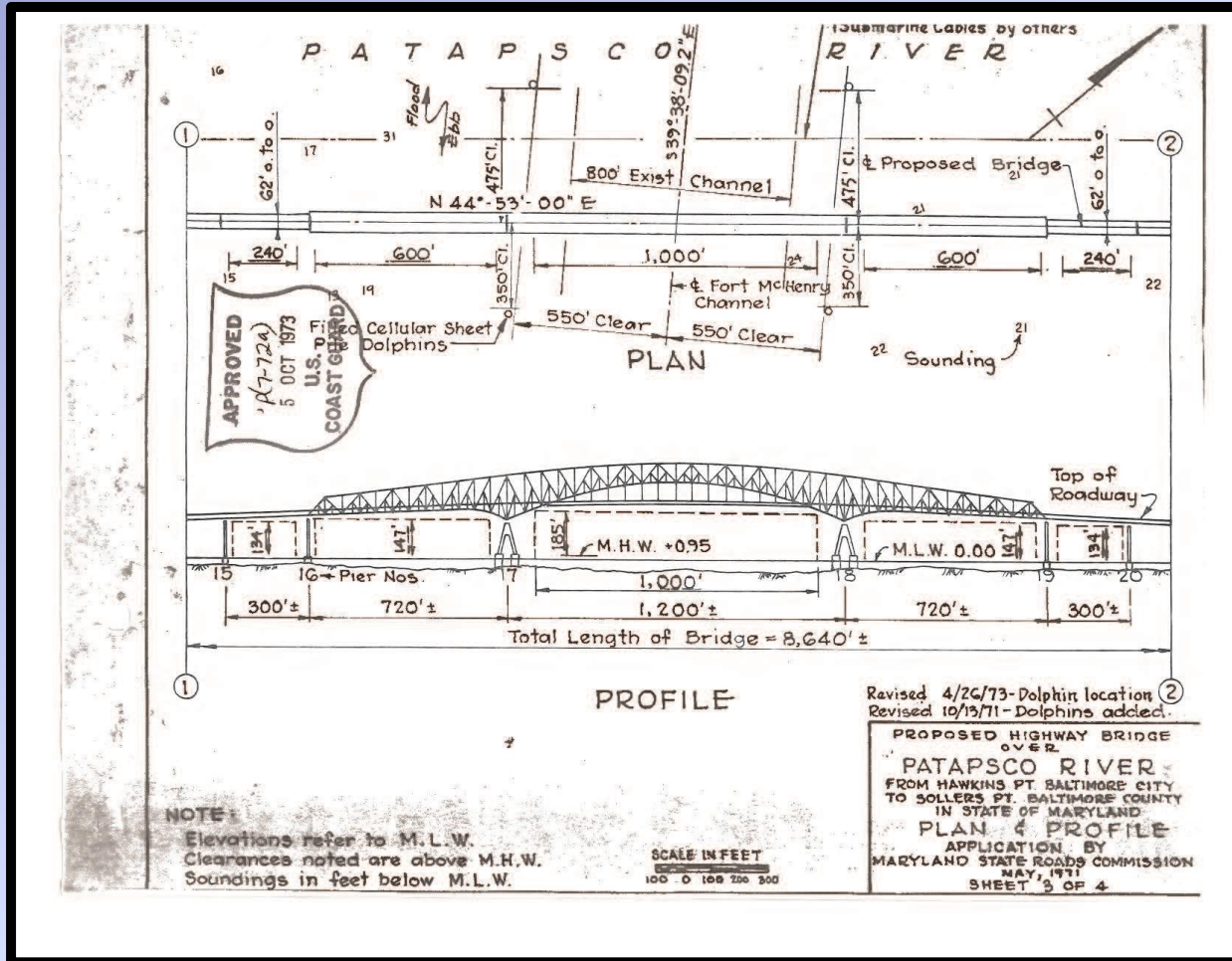
Horizontal Clearance 1100'

Total length: 8,635'





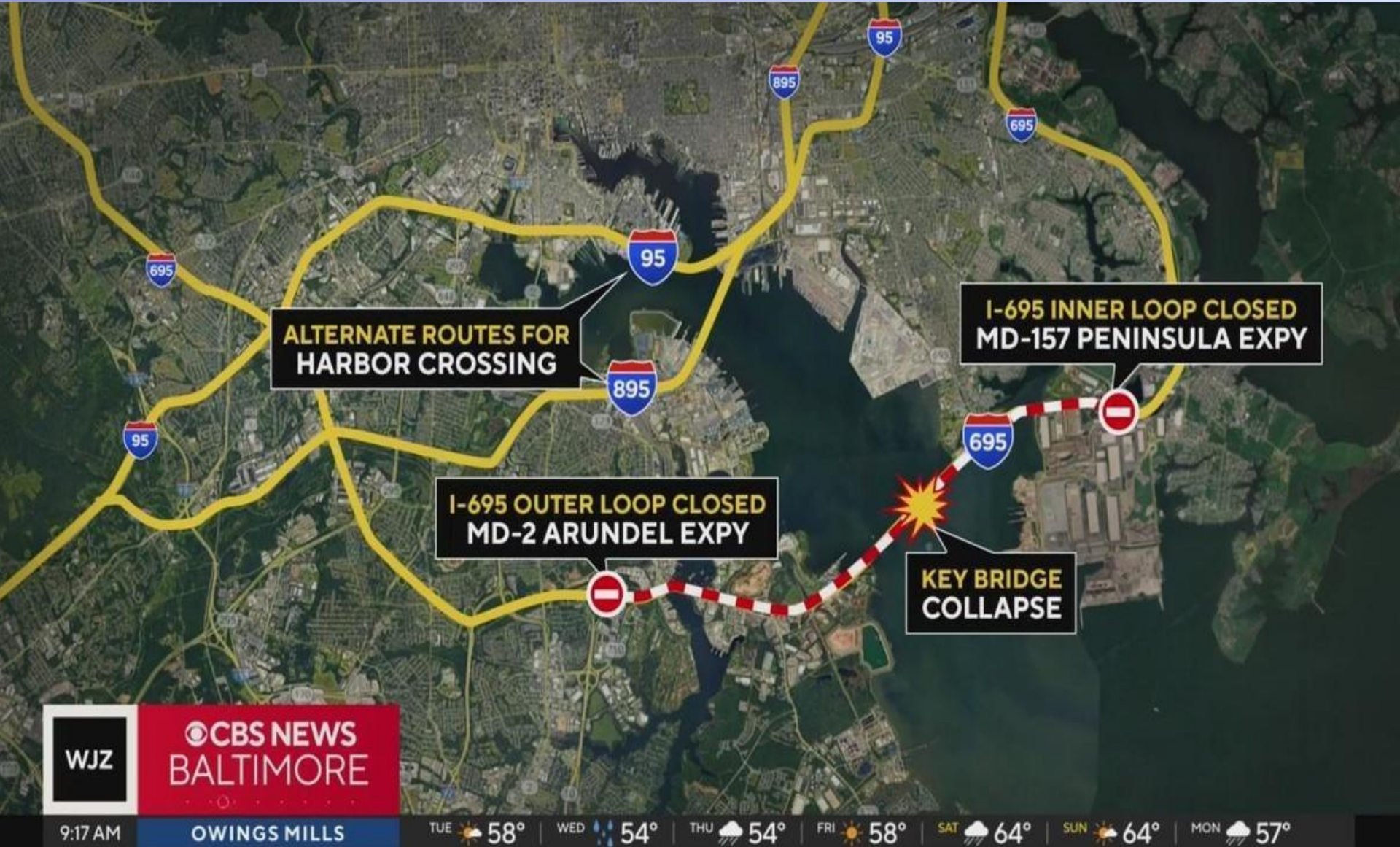
Francis Scott Key Bridge



The Casualty



The Casualty



WJZ
CBS NEWS BALTIMORE

9:17 AM | OWINGS MILLS | TUE 58° | WED 54° | THU 54° | FRI 58° | SAT 64° | SUN 64° | MON 57°



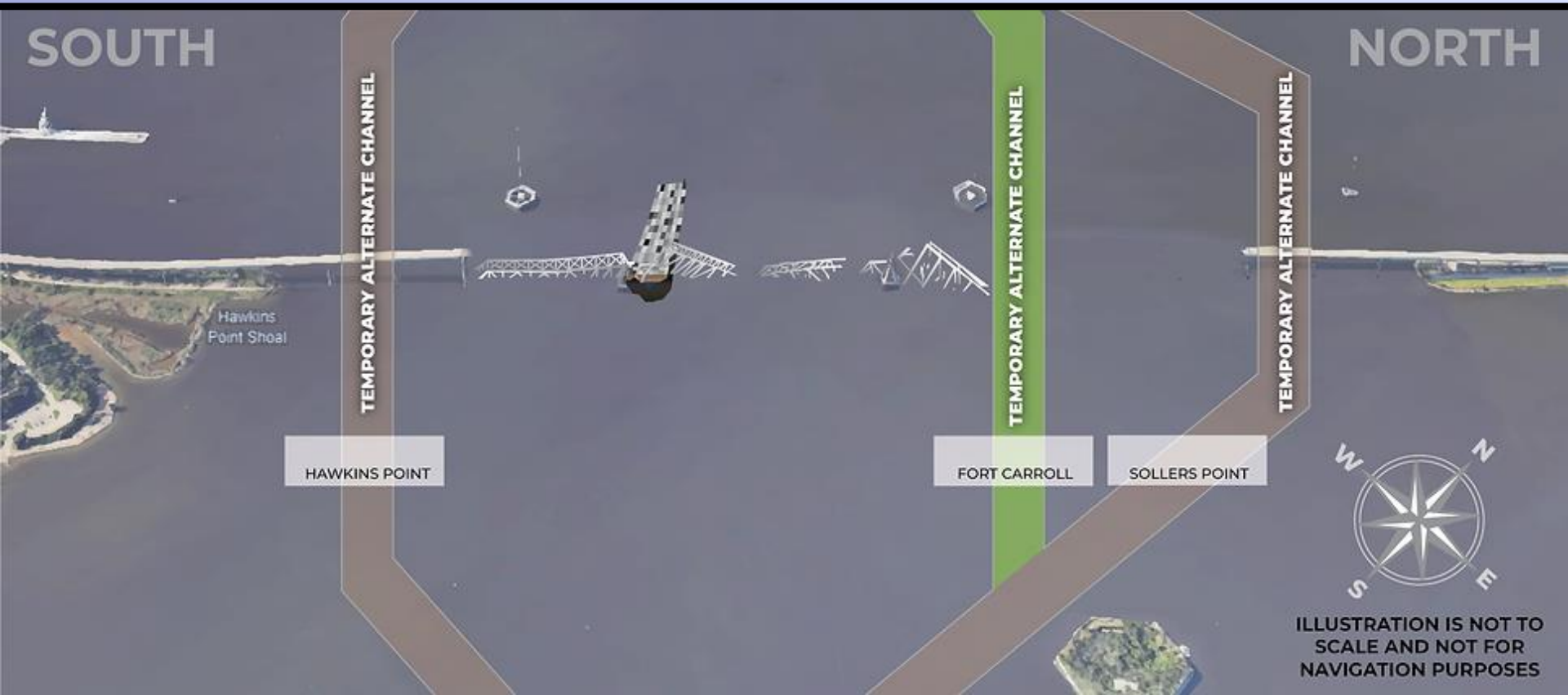
The Casualty



The Impact



- 6 lives lost
- MD State of Emergency
- National supply chain disruption short term
- Regional and local economic impact long term



The Response



- Unified Command
- Search and Rescue
- Salvage
- Port recovery
- [Home | Key Bridge Incident \(keybridgeresponse2024.com\)](https://www.keybridgeresponse2024.com)

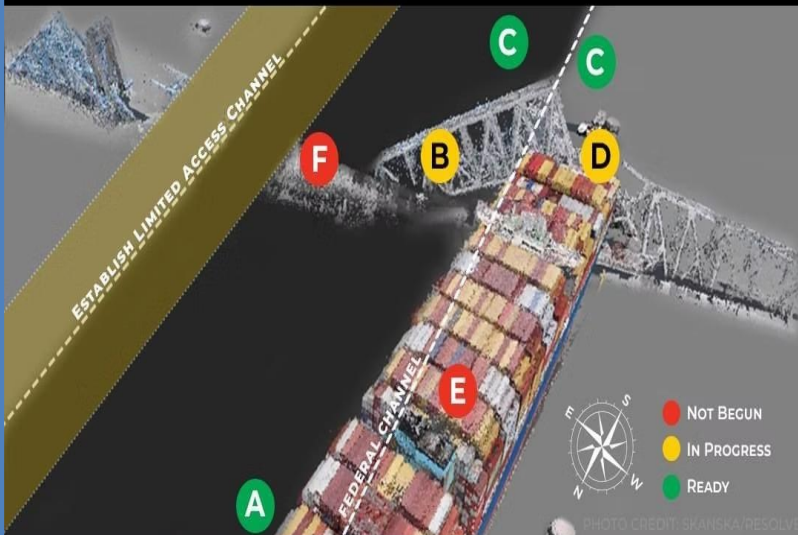


FRANCIS SCOTT KEY BRIDGE RESPONSE

SALVAGE OPERATIONS PLAN

The situation remains dynamic, and the plan and the graphic will be continually updated as the engineering data becomes known.



OUR COMMITMENT TO SUPPORTING THE UNIFIED COMMAND CENTER IN THE RECOVERY OF THE MISSING VICTIMS OF THIS TRAGEDY REMAINS OUR TOP PRIORITY.

OBJECTIVES	PRIORITIES
<p>A Stabilize DALI to prevent pivoting.</p> <p>B Analyze internal bridge truss structure.</p> <p>C Position 1000-ton and 500-ton floating cranes.</p> <p>D Remove wreckage from DALI.</p> <p>E Refloat DALI away from wreckage.</p> <p>F Disassemble and remove bridge.</p>	<p>1 CLEAR FEDERAL CHANNEL</p> <ul style="list-style-type: none"> ◦ Establish limited access channel ◦ Establish wreckage consolidation point ◦ Position cranes to remove bridge span from DALI ◦ Clear wreckage from DALI ◦ Remove wreckage from Federal Channel <p>2 REFLOAT & REMOVE DALI</p> <ul style="list-style-type: none"> ◦ Assess cargo and remove containers as necessary ◦ Stage assets for repositioning of DALI ◦ Refloat and move DALI from hard grounding <p>3 CLEAR REMAINING WRECKAGE</p> <ul style="list-style-type: none"> ◦ Systematically clear wreckage from outside of the federal channel ◦ Facilitated under the direction of Maryland Department of Emergency Services

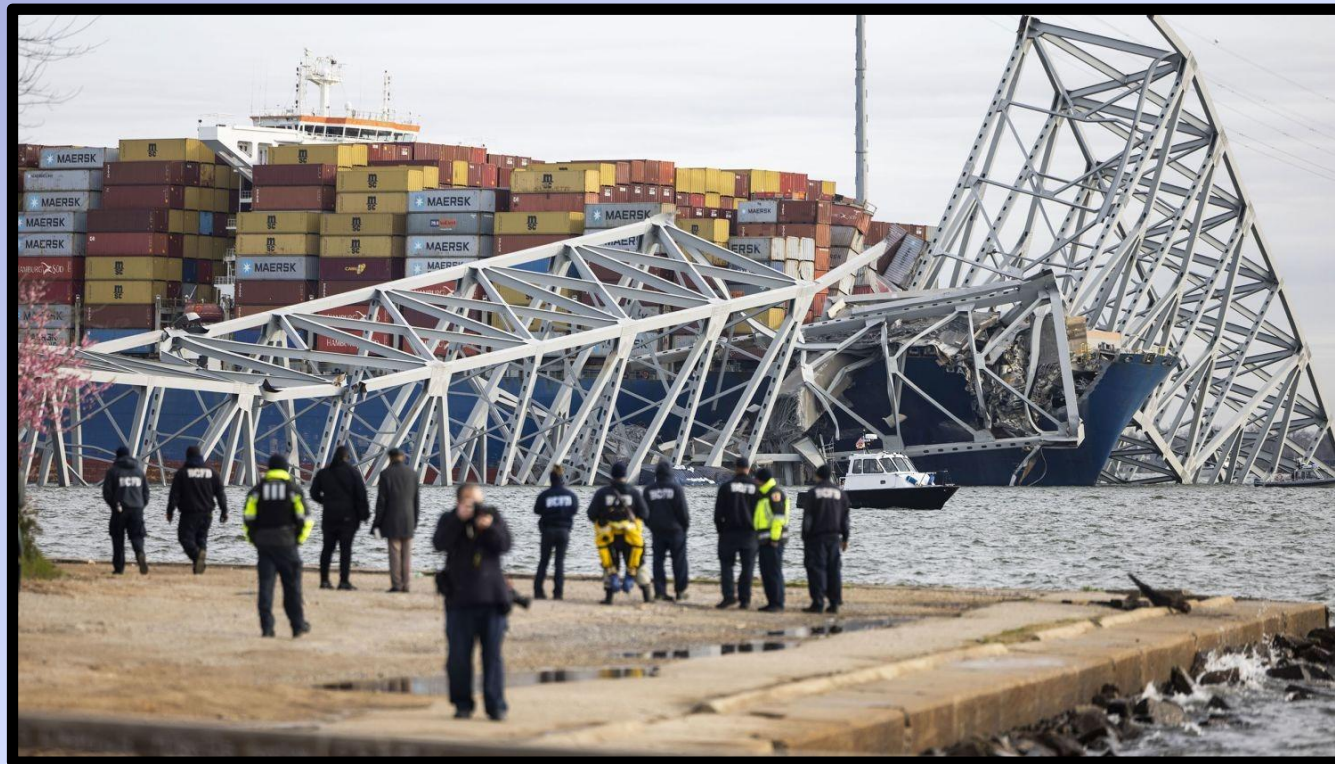
RELEASED BY BG JOHN LLOYD AS OF 03 APR 2024

NAB.USACE.ARMY.MIL

Investigations



- Major Marine Casualty
- NTSB Leading investigation
- Coast Guard Marine Board of Investigation



Board of Inquiry

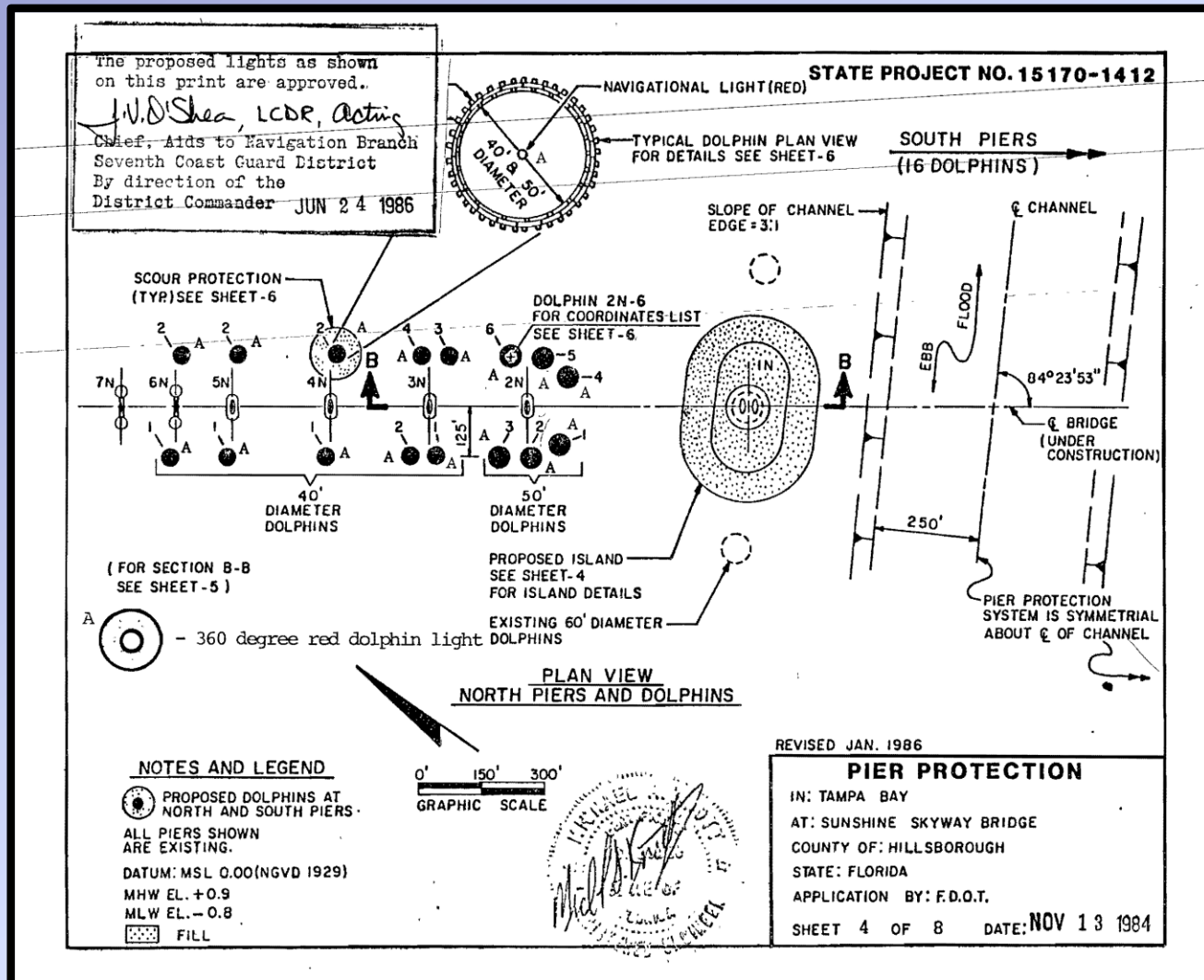


- Coast Guard evaluating risks to critical infrastructure
 - Larger vessels
 - Increased traffic density
 - Evaluating existing waterways risk assessment tools



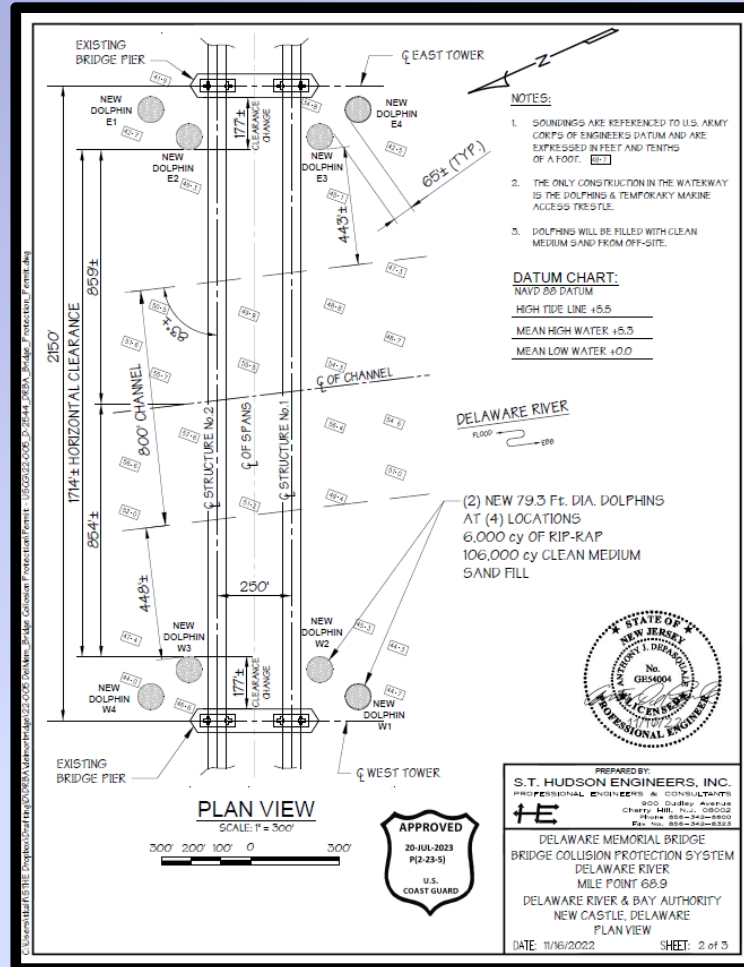


Sunshine Skyway Bridge





Delaware Memorial Bridge



Scott Kelly

Ops & Engineering Division Chief

U.S. Coast Guard Office of Bridge Programs

Scott.J.Kelly@uscg.mil

(202) 372-1545



Questions?

Points of Contact

Dave Lewald

Program & Management Analyst
USCG Office of Navigation Systems

Robert.d.Lewald@uscg.mil

(228) 342-3917

Brian Tetreault

Navigation Specialist
US Army Corps of Engineering
Engineer Research and Development Center
Coastal and Hydraulics Laboratory

brian.j.tetreault@usace.army.mil

(410) 456-0417

