

# Francis Scott Key Bridge collapse

On March 26, 2024, at 1:28 a.m. EDT (05:28 UTC), the main spans and the three nearest northeast approach spans of the Francis Scott Key Bridge across the Patapsco River between Hawkins Point and Dundalk, Maryland, United States, collapsed after the container ship *Dali* struck one of its piers.

Two people were rescued from the river; one had no injuries, while the other was transported to a hospital in critical condition. Six members of a construction crew working on the roadway were reported missing; two bodies were recovered, and the other four are presumed dead.<sup>[1]</sup>

Much of the Port of Baltimore remains closed to shipping as a result of the collapse. Wes Moore, the Maryland governor, called the event a "global crisis" and stated that over 8,000 jobs were impacted. The closure of the waterway is causing estimated losses of \$15 million per day.

## Background

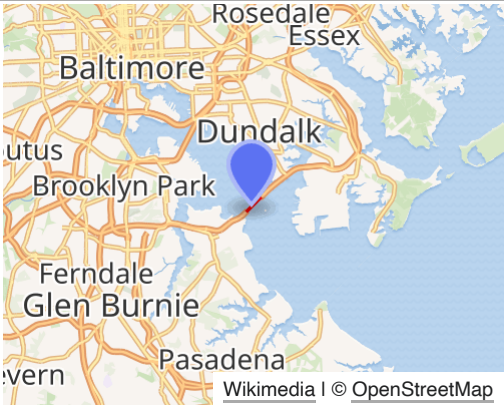
The Francis Scott Key Bridge was a steel arch-shaped continuous truss bridge. It opened in 1977, and it ran northeast from Hawkins Point, Baltimore, to Sollers Point in Dundalk, crossing the Patapsco River, a vital shipping route giving access to the Port of Baltimore<sup>[3]</sup> and one of the busiest in the United States.<sup>[4]</sup> The port handled more than 444,000 passengers, 52.3 million tons of foreign cargo valued at \$80 billion in 2023, and was the leading U.S. port for automobiles and light trucks for the preceding 13 consecutive years (with more than 847,000 vehicles in 2023).<sup>[3][5]</sup> It also employed 15,000 people and indirectly supported 140,000 others.<sup>[6]</sup>

The bridge was the second longest continuous truss bridge in the United States and third longest in the world.<sup>[7]</sup> The 1.6-mile-long (2.6 km) bridge carried four lanes of Interstate 695 which is a beltway around Baltimore.<sup>[3]</sup> Two lanes of traffic in each direction<sup>[8]</sup> were used by approximately 34,000 vehicles each day.<sup>[4]</sup> A cargo ship collision in 1980 left the Key Bridge undamaged.<sup>[9]</sup>

### Francis Scott Key Bridge collapse



*Dali* pinned under one of the collapsed segments of the bridge



<b>Date</b>	March 26, 2024
<b>Time</b>	1:28:49 a.m. <span>EDT</span> (05:28:49 <span>UTC</span> )
<b>Location</b>	<span>Baltimore metropolitan area</span> , <span>Maryland</span> , <span>United States</span>
<b>Coordinates</b>	<span><span><span><span><span>39°12′56″N</span> <span>76°31′47″W</span></span></span><span><span>﻿</span> / <span>﻿</span></span><span><span></span></span></span></span>
<b>Type</b>	Bridge collapse
<b>Cause</b>	Loss of propulsion on ship, leading to collision with pillar and subsequent collapse of the bridge truss.
<b>Deaths</b>	6 (2 confirmed, 4 presumed)
<b>Non-fatal injuries</b>	1+

MV *Dali* is a container ship registered in Singapore, and at the time of the allision was operated by Synergy Marine Group<sup>[10]</sup> and owned by Grace Ocean Private Ltd.<sup>[11]</sup> It was built in 2015 with a length of 980 feet (300 m), a 157-foot (48 m) beam, and a 40-foot (12.2 m) draft.<sup>[12]</sup> Danish shipping company Maersk chartered *Dali* upon its delivery.<sup>[13]</sup> *Dali* passed two port inspections in 2023, according to the Maritime and Port Authority of Singapore (MPA). The first inspection was completed in June at San Antonio, Chile, where a monitor gauge for fuel pressure was repaired. A second inspection in September by the U.S. Coast Guard in New York did not identify any issues.<sup>[14]</sup>

*Dali* had previously traveled from Panama to the U.S., arriving in New York on March 19, 2024.<sup>[15]</sup> From there, the ship sailed to the Virginia International Gateway in Portsmouth, Virginia, before departing for Baltimore on March 22, arriving on March 23.<sup>[15][16]</sup>

The main shipping channel under the bridge was estimated to be 50 feet (15 m) deep, while National Oceanic and Atmospheric Administration (NOAA) charts show the depth at the bridge supports to be approximately 30 feet (9.1 m).<sup>[17]</sup>

## Collapse

*Dali* left the Port of Baltimore at 12:44 a.m. EDT (04:44 UTC) on March 26, 2024,<sup>[19]</sup> bound for Colombo, Sri Lanka.<sup>[20]</sup> The ship's crew of 22 were Indian nationals,<sup>[21]</sup> and the ship had two local American harbor pilots on board.<sup>[2]</sup> At 1:24 a.m.,<sup>[22][23]</sup> the ship suffered a "complete blackout" and began to drift out of the shipping channel; a backup generator supported electrical systems but did not provide power to the propulsion system.<sup>[6]</sup> At 1:27 a.m., a mayday call was made from the ship,<sup>[23]</sup> notifying the Maryland Department of Transportation that control of the vessel had been lost and that a collision with the bridge was possible, citing loss of propulsion.<sup>[24]</sup> One of the pilots requested that traffic be stopped from crossing the bridge immediately.<sup>[8][25][26][27]</sup> The ship's lights went out and came on again some moments later; the lights then went off again and powered back on immediately before impact as renewed smoke was emitted from its funnel.<sup>[2][28]</sup> At the pilot's request, Maryland Transportation Authority Police dispatch requested officers to stop traffic in both directions at 1:27:53 a.m.; outer loop (eastbound/northbound) traffic was stopped at the south side after 20 seconds. Inner loop (westbound/southbound) traffic

Property damage

- Collapse of bridge spans
- Allision<sup>[a]</sup>-related damage to *Dali* and its cargo
- At least seven vehicles submerged



The bridge (pictured in 2015) facing upstream; *Dali* hit the fourth pillar from left<sup>[2]</sup>



MV *Dali* immobilized by the wreckage



*Dali*'s size, though considered large, is less than that of the largest container ship.<sup>[18]</sup>