

Bosphorus Strait Annual Traffic: Unique Vessels vs. Total Transits

Overall Transit Statistics (Yearly)

The Bosphorus (Istanbul) Strait sees tens of thousands of ship transits each year. Official data typically report total vessel passages (each transit counted) rather than unique ships. For example, annual transit totals were about 41,112 in 2019, 38,551 in 2021, 35,146 in 2022 (a low due to the Ukraine conflict), and 39,000 in 2023[1][2]. (Peak traffic was in 2007 with ~56,606 transits[2].) These figures count every passage, so if the same ship crosses multiple times, each passage is included in the total.

Unique Vessels Per Year

The number of distinct vessels traversing the Bosphorus in a year is significantly lower than the total transits, since many ships make repeat trips. Authoritative AIS-based analysis for 2021 found that approximately 6,071 unique ships carried out roughly 38,304 transits that year[3][4]. In other words, on average each vessel crossed the strait about 6–7 times in 2021. (The official transit count for 2021 was 38,551[5], in the same range as the AIS estimate.)

For other years, unique vessel counts can be inferred to be on the order of only a few thousand per year. While exact unique counts aren't published in the standard Ministry reports, the pattern is similar: distinct ships number in the low thousands annually, far less than total passages. For instance, 2019's ~41k transits were dominated by ~18.6k general cargo ship transits and ~9k tanker transits[6] – but the actual number of different ships would have been much smaller, given many of those cargo and tanker vessels traveled multiple times.

Repeat Transit Frequency

Many ships transit the Bosphorus multiple times within the same year, especially those in liner trades or regional routes. In 2021, for example, general cargo vessels logged *16,472 crossings by only 1,697 unique ships* (nearly 10 trips per ship on average)[7]. Container ships showed an even higher repeat rate: *2,769 crossings by just 229 unique container vessels* (about 12 transits per vessel)[8][9]. Tankers and bulk carriers also often made more than one round-trip: e.g. 8,260 tanker transits by 1,455 distinct tankers in 2021 (~5–6 trips each)[8][4]. This means the same ships frequently reappear, shuttling back and forth through the strait.

In aggregate, a large portion of vessels are repeats. One analysis noted that roughly half of the ships transiting the Bosphorus in a given period had two or more passages in that year[10]. The General Directorate of Coastal Safety (KEGM) data used in research confirms “some ships transited the Bosphorus multiple times on different dates” within the year[11]. In other words, the “unique vessels” count is much lower than total

movements because many traders (especially regional feeder container ships, oil/chemical tankers, and general cargo coasters) transit repeatedly throughout the year.

Summary of Findings

In summary, yearly unique-vessel totals for the Istanbul Strait are on the order of 5,000–6,500 ships per year in recent times – substantially fewer than the ~35–41k annual transit count. The difference is due to repeat transits: many ships (often on Black Sea–Mediterranean routes) cross the Bosphorus multiple times annually. For 2021, for example, about 6,000 unique vessels made over 38,000 crossings, and similar ratios likely hold for other years[3][4]. Repeat frequency is high: certain vessels transit monthly or even weekly. Thus, while ~40k passages occur in a year, they are generated by only a few thousand individual ships – with numerous vessels looping through the strait again and again over the year[8][9].

Sources: Official Turkish Ministry of Transport/KEGM statistics (via Anadolu Agency, Nordic Monitor) for yearly transit totals[1][2], and AIS-based maritime traffic analyses for unique vessel counts and repeat-transit breakdowns[3][4][8][9]. These data underline the heavy usage of the Bosphorus by the same ships making multiple trips each year.

[1] [6] Over 41,000 vessels pass through Bosphorus in 2019

<https://www.aa.com.tr/en/economy/over-41-000-vessels-pass-through-bosphorus-in-2019/1722573>

[2] [5] Russia-Ukraine conflict takes toll on commercial traffic through the Turkish Straits with a sharp decline in warships - Nordic Monitor

<https://nordicmonitor.com/2024/03/russia-ukraine-conflict-takes-toll-on-commercial-traffic-through-the-turkish-straits-with-sharp-decline-in-warships/>

[3] [4] [7] [8] [9] [11] Gross Tonnage-Based Statistical Modeling and Calculation of Shipping Emissions for the Bosphorus Strait

<https://www.mdpi.com/2077-1312/13/4/744>

[10] [PDF] PROCEEDINGS

http://www.io-bas.bg/publications/proceedings/BS2024_PROCEEDINGS.pdf