



Federal Aviation Administration's (FAA's) Troubled NOTAM System Has Been on Congress's Radar for Years

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In the early morning of January 11, 2023, [the Federal Aviation Administration's \(FAA's\) Notice to Air Missions \(NOTAM\) system failed](#). The messages or NOTAMs disseminated by the system frequently are referred to as Notices to Airmen. They convey critical flight safety information to pilots and aircraft dispatchers. NOTAMs consist of information about the current conditions and hazards associated with airports, airspace, navigational aids, and air traffic services. They include safety-critical details, such as possible airport construction activity, and associated hazards, such as temporary cranes or other aerial obstructions, possible runway closures, and outages of facilities and equipment used for inflight navigation, communications, and aircraft tracking. The NOTAM system also conveys information about temporary flight restrictions, including airspace restrictions imposed for national security reasons. This information is pooled from a variety of sources, including FAA's flight data center, and airports and other aviation facilities throughout the country.

Without access to these data, pilots, who are [responsible for obtaining and analyzing all data relevant to a planned flight](#), were unable to make informed safety decisions during the outage. With the system unavailable for several hours, FAA imposed a ground stop halting most morning airline flights. The NOTAM system was restored gradually over several hours, as the database of recently submitted notices had to be reconstituted, and extensive flight delays continued throughout the day.

NOTAMs are disseminated in a variety of ways. They are directly accessible through the [NOTAM website](#). They are also relayed through FAA's [System Wide Information Management \(SWIM\)](#) program, a net-centric platform for aviation system data sharing that is a key component of the [Next Generation Air Transportation System \(NextGen\)](#) air traffic infrastructure modernization initiative. Most large airlines now rely on the SWIM platform to obtain NOTAM and other flight service data feeds in their flight operations, and dispatch centers and use these data to evaluate operational safety of their scheduled flights. While a number of larger business aircraft operators also are relying on SWIM for flight data, smaller general aviation aircraft operators primarily obtain NOTAMs, along with aviation weather briefings, through FAA's contractor-operated [Flight Service](#) or through a variety of third-party flight planning tools. Flight Service provides NOTAMs, aviation weather, and flight planning resources either

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through its web-based portal or by telephone (1-800-WXBRIEF) for pilots unable to access internet resources. In addition, FAA provides an Application Programming Interface (API) to allow third-party developers of flight planning tools to access, package, and disseminate NOTAM data along with weather and other information needed to create and assess flight routes and file flight plans. Based on statements from FAA, it appears that neither SWIM nor Flight Service contributed to the NOTAM system outage on January 11, 2023. However, both were impacted directly by the inability to access or disseminate up-to-date NOTAMs while the main NOTAM system was down, as were third-party flight planning tools that access and disseminate NOTAM data. FAA is continuing to investigate the outage, but preliminary indications point to the introduction of a corrupted database file. So far, there is no indication of a cyberattack or malicious intent.

In its [FY2023 budget estimate](#), FAA itself described the NOTAM repository as “failing vintage hardware” and requested almost \$30 million to support ongoing modernization of the Aeronautical Information Management Program that encompasses the NOTAM system. Congress fully funded that request and in FY2022 had provided increased funding above the requested amount to accelerate FAA’s multiyear effort to modernize and integrate legacy aeronautical data systems (see [Table 1](#)).

Table 1. Requested and Enacted Funding for Aeronautical Information Management

	\$Millions			
	FY2020	FY2021	FY2022	FY2023
Requested	5.3	7.5	8.9	29.4
Enacted	5.3	7.5	22.2	29.4

Source: CRS analysis of FAA budget justifications and appropriations legislation.

Besides being antiquated, the NOTAM system also has been criticized for being arcane and difficult to use and interpret. A [July 2017 near accident at San Francisco International Airport](#), attributed in part to the obscurity of NOTAM information about a closed runway, prompted the National Transportation Safety Board (NTSB) to recommend more effective ways to present safety-critical information. The International Civil Aviation Organization (ICAO) has since launched a [global campaign](#) to overhaul NOTAM system standards.

The FAA Reauthorization Act of 2018 (P.L. 115-254, §394) required FAA to continue developing and modernizing the NOTAM repository in a central location and to provide a web-based, searchable archive of all NOTAMs. This built upon the requirements of the 2012 Pilot’s Bill of Rights Act (P.L. 112-153), which directed FAA to convene a stakeholder NOTAM improvement panel and initiate a NOTAM improvement program with the goals of better tailoring NOTAM dissemination to specific flight plans, providing data in a format that is more usable and easier to search, and creating a publicly accessible archive. The Notice to Airmen Improvement Act of 2021 (H.R. 1262), passed by the House in June 2021, would have required FAA to revisit and reassess modernization of the NOTAM system by establishing another stakeholder task force on NOTAM improvement and would have authorized FAA to implement the task force’s recommendations. A similar measure, the Notice to Airmen Improvement Act of 2019 (H.R. 1775), was passed by the House in October 2019. Neither bill was considered on the floor of the Senate.

Since statutory authorizations for most FAA programs are set to expire at the end of FY2023, Congress is set to debate FAA reauthorization in the coming months. Concerns over the NOTAM system and other aging FAA information systems that store and disseminate safety-critical data are likely to figure prominently in the reauthorization debate in light of this recent system failure and its impacts on air commerce.

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