

Highlights of [GAO-10-636](#), a report to the Subcommittee on National Security and Foreign Affairs, Committee on Oversight and Government Reform, House of Representatives

Why GAO Did This Study

The Global Positioning System (GPS) provides positioning, navigation, and timing (PNT) data to users worldwide. The U.S. Air Force, which is responsible for GPS acquisition, is in the process of modernizing the system. Last year GAO reported that it was uncertain whether the Air Force could acquire new satellites in time to maintain GPS service without interruption. GAO was asked to assess (1) the status of Air Force efforts to develop and deliver new GPS satellites, the availability of the GPS constellation, and the potential impacts on users if the constellation availability diminishes below its committed level of performance; (2) efforts to acquire the GPS ground control and user equipment necessary to leverage GPS satellite capabilities; (3) the GPS interagency requirements process; and (4) coordination of GPS efforts with the international PNT community. To do this, GAO analyzed program documentation and Air Force data on the GPS constellation, and interviewed officials from DOD and other agencies.

What GAO Recommends

GAO recommends that the Department of Defense (DOD) and the Department of Transportation (DOT) develop comprehensive guidance for the GPS interagency requirements process. DOD did not concur with the recommendation, citing actions under way. DOT generally agreed to consider it. GAO believes the recommendation remains valid.

View [GAO-10-636](#) or [key components](#). For more information, contact Cristina Chaplain at (202) 512-4841 or chaplainc@gao.gov.

GLOBAL POSITIONING SYSTEM

Challenges in Sustaining and Upgrading Capabilities Persist

What GAO Found

The Air Force continues to face challenges to launching its IIF and IIIA satellites as scheduled. The first IIF satellite was launched in May 2010—a delay of 6 additional months for an overall delay of almost 3-½ years—and the program faces risks that could affect subsequent IIF satellites and launches. GPS IIIA appears to be on schedule and the Air Force continues to implement an approach intended to overcome the problems experienced with the IIF program. However, the IIIA schedule remains ambitious and could be affected by risks such as the program's dependence on a ground system that will not be completed until after the first IIIA launch. The GPS constellation availability has improved, but in the longer term, a delay in the launch of the GPS IIIA satellites could still reduce the size of the constellation to fewer than 24 operational satellites—the number that the U.S. government commits to—which might not meet the needs of some GPS users.

Multiyear delays in the development of GPS ground control systems are extensive. In addition, although the Air Force has taken steps to enable quicker procurement of military GPS user equipment, there are significant challenges to its implementation. This has had a significant impact on DOD as all three GPS segments—space, ground control, and user equipment—must be in place to take advantage of new capabilities, such as improved resistance to jamming and greater accuracy. DOD has taken some steps to better coordinate all GPS segments. These steps involve laying out criteria and establishing visibility over a spectrum of procurement efforts. But they do not go as far as GAO recommended last year in terms of establishing a single authority responsible for ensuring that all GPS segments are synchronized to the maximum extent practicable. Such an authority is warranted given the extent of delays, problems with synchronizing all GPS segments, and importance of new capabilities to military operations. As a result, GAO reiterates the need to implement its prior recommendation.

The GPS interagency requirements process, which is co-chaired by officials from DOD and DOT, remains relatively untested and civil agencies continue to find the process confusing. This year GAO found that a lack of comprehensive guidance on the GPS interagency requirements process is a key source of this confusion and has contributed to other problems, such as disagreement about and inconsistent implementation of the process. In addition, GAO found that the interagency requirements process relies on individual agencies to identify their own requirements rather than identifying PNT needs across agencies.

The Department of State continues to be engaged internationally in pursuit of civil signal interoperability and military signal compatibility, and has not identified any new concerns in these efforts since GAO's 2009 report. Challenges remain for the United States in ensuring that GPS is compatible with other new, potentially competing global space-based PNT systems.