

The History of Transportation Technology: GPS Satellites and Tracking

Transportation technology looks very different today than it did for your parents and grandparents. You can look at your phone to figure out where you are, where you need to go, and how to get there. GPS lets you see where your family members are whenever you need them, and it guides transportation all over the world. It even helps apps make better suggestions about where to eat, shop, and play based on your location. Hardly anyone uses maps anymore, and even the most rugged hiker usually packs a GPS to help them stay safe and give them reliable directions, even in the middle of the wilderness.

GPS and the Military

Where did GPS come from, though? It seems like a big jump to go from paper maps to satellites in space telling you where you've wandered. Even the people who made GPS technology didn't know exactly what their satellites would be used for today. The U.S. military spent a lot of time and money on satellites to track transportation under water during the Cold War. But with a little math and a few clever ideas, they realized it could be used for a lot more.

GPS History Timeline

- 1957: The Soviet Union launches the first satellite, Sputnik I.
- 1959: To keep track of submarines carrying nuclear missiles underwater, the U.S. Navy creates a transit system that uses satellites.
- 1963: A military study by the Aerospace Corporation outlines the basis for modern GPS systems.
- 1974: The U.S. launches the first NAVSTAR satellite.
- 1978: The U.S. starts launching 11 more test satellites for the Block I GPS program.
- 1983: Korean Air Lines Flight 007 is shot down after making a navigation error, and the U.S. decides to help make air traffic and navigation safer by making GPS available to the public.

- 1985: Private companies begin making portable GPS receivers for the U.S. government.
- 1989: While the U.S. launches the first fully operational satellite in the Block II program, Magellan makes the first hand-held GPS device (NAV 1000).
- 1990: The U.S. Department of Defense creates Selective Availability, which makes GPS readings less accurate for non-military users.
- 1991: Although not all of the newest satellites are in place, the U.S. uses GPS during the Gulf War.
- 1995: All 24 GPS satellites become fully operational.
- 1998: U.S. Vice President Al Gore announces plans for GPS III satellites to do more for civilians, including two additional signals just for aircraft and civilian use.
- 1999: The first commercial GPS phone is made by Benefon.
- 2000: The U.S. Department of Defense decides to end Selective Availability. This lets more people use GPS for accurate transport information.
- 2004: Qualcomm, an electronics company, is the first to put live GPS on a mobile phone.
- 2005: Civilians get the first GPS channel for their use alone thanks to the new Block IIR satellites.
- 2010: The U.S. starts launching 12 Block IIF satellites, and the first makes history as the first satellite to get a ride on a modern rocket, or Evolved Expendable Launch Vehicle.
- 2016: The Block II program, which started in 1989, finishes as the last of the 12 IIF satellites are put in place.
- 2018: New innovations push the U.S. Air Force to add newer satellites, and the first GPS III satellite successfully launches.
- 2019: A SpaceX mission takes the next GPS III satellite into space.
- 2020: Plans to launch another satellite are put on hold because of the COVID-19 pandemic.

Today and Tomorrow

Today, the U.S. government still owns, operates, and takes care of the satellites and supporting machines that make GPS work. Although it started as a tool for the military, it is

an important and useful tool for civilians, businesses, and scientists, too. There's a lot more behind the "location" feature in your phone than you realized. Today, everyone with a smartphone uses GPS to make their daily lives a little better. It will be exciting to see how people use this technology in the future.

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