

Letters to the Editor (Washington Times, 02/06/04)

New navigation system essential for pilots

According to Secretary of Transportation Norman Y. Mineta, the United States will need to triple the capacity of its air traffic control (ATC) system over the next 20 years ("Bush eyes expanding aviation capacity," Business, Jan. 28). We agree.

On September 11, air traffic controllers helped clear the skies of some 4,500 aircraft within four hours. It may be of interest that a 1971 report ("Improving the Nation's Air Traffic Control System") of the President's Science Advisory Committee during the administration of Richard Nixon proposed a system sized for 50,000 aircraft aloft at any time.

The favored system used Earth satellites for the three essential functions of navigation, communication and independent monitoring of position.

In particular, the committee proposed what since has become the global positioning system (GPS) for navigation and a similar approach to precision position location so that the ATC system would have the second-by-second position of each aircraft to an accuracy of about 100 feet. Rather than voice radio communication to one controller after another, messages would travel by satellite data link, although voice via satellite would be available in an emergency.

Now that GPS is ubiquitous — and high-precision bombs by the thousands strike their targets with the aid of GPS and a tiny, inexpensive inertial navigation package — it is time to take the plunge to a new ATC system that would coexist for a few years with the old. It would supply blind and automatic landing capability, replace emergency-locator beacons and greatly increase the capacity of the airspace worldwide. It would lower the cost of providing and using ATC services. Protection against radio interference with GPS in the crucial flight portions near airports would be provided by local GPS transmitters (pseudolites) providing vastly greater signal strength than is available from the satellites 7,000 miles away.

The all-satellite system would enable a "free flight" regime, in which pilots would declare the most desirable route and then pursue it conflict-free. We hope the research, engineering and development advisory committee created by Mr. Mineta will open the way to this system or to one of comparable capability and economy.

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