

have sufficient runway length and equipment around the major metropolitan areas. This is about the only place where it occurs, where there is a congestion problem.

The business aircraft that would use those runways would be attracted to them and thereby would be removed from the long, jet runways at some of the major metropolitan airports.

If you look at the traffic picture in the United States and say we simply will ground all the airplanes which cannot comply with instrument flight rules or general aviation, we might look at the volume of traffic that we have. At the present time we are running about 32,000 daily instrument flights in the United States. We handle about 120,000 daily operations at locations with FAA towers, and we don't know precisely how many operations occur at places where we neither monitor nor measure, but our best estimate is that it is at least double this amount, or 200,000 to 250,000 flights a day.

If we expanded the present IFR system to require everyone who flies to be under the control of the ground, we would have to expand this number of 32,000 up to some 250,000, which is a manifold increase of our capacity. It would cost several billion dollars and take several years to do so, if one thought it was necessary.

If we took another tack and said that we would not permit the airlines to operate at any place where they do not have radar service, for example, we would stop airline service in about 400 cities. Conversely, we would get into a very large radar program in order to equip those cities, or we would simply stop general aviation from operating in and out of those cities and ground a large part of the general aviation operations today.

We think both the air carriers and general aviation are vital to the economy of the United States. The object is not to restrict either, but to provide the facilities and procedures to give maximum safety to both.

There are quite a few things that might be done. There is no single, dramatic solution to the problem. It simply won't be solved by a single action or a single solution as we see it. Obviously, we need more airports and more reliever airports around the large cities. Obviously, we need to expand the radar and instrument landing systems as we are attempting to do.

There are procedural things, and we are working on many of those, such as lowering and expanding the positive control area to provide more protection for the high-speed traffic. We could limit the speeds in the lower airspace so that the aircraft are more compatible with each other.

There is a great deal of work continuing on the expansion of radar services and traffic patterns around airports. This is a never-ending job which we will continue.

On the aircraft, itself, there has been work done over the last 20 years on trying to enhance their conspicuity, such as by better lights, better paints. It hasn't been too productive, but we think more can be done on lighting and perhaps paints. We are working on enhancing radar returns, both from a passive viewpoint so that the aircraft structure itself reflects radar better, and also on the beacon.

As all of you know, there is a great deal of work and now some promise shows on anticollision warning devices, particularly for large aircraft, against large aircraft. But they are some 5 years away.