should receive initial consideration are New York, Chicago, Los Angeles, the San Francisco Bay area, and Washington, D.C. Action to obtain positive control service in these terminal areas should be started immediately with implementation dates no later than July 1970.

Let me pause there to comment briefly on positive control. I noted that the previous witness used basically only one argument against it; that is, under positive control there have been collisions and there have indeed been collisions when the aircraft was under positive control. That does not really argue against positive control. It is quite clear, as Mr. Dingell was saying, that collisions can be avoided by giving aircraft the benefit of positive separation under the ATC system, and I don't believe really that is debatable. It is entirely possible even under all that precaution that there will be collisions but we at least will have done everything we can to avoid them.

GREATER AIRCRAFT AND PILOT CAPABILITIES

How well, and under what circumstances, users participate in the air traffic control system has a fundamental bearing on the system's ability to serve them safely and efficiently. Not only is it important to have more users participate in the system, but it is equally important that participating users be capable of doing so without placing an extraordinary burden on the system. If air traffic control must compensate for lack of capability in the aircraft, or lack of pilot proficiency, then the kind and quality of ATC service will be adversely affected.

Inability to communicate with air traffic control on each of the specific VHF frequencies used by different ATC functions is already eroding the capability of ATC to provide some types of service. For the future, this communications capability will be essential.

There will also be a growing need for airborne radar transponders that can automatically report identity and altitude of the individual aircraft to ATC. Recognizing that the ATC system can function better when aircraft are properly equipped to cooperate with it, the airlines have equipped their fleets with basic radar transponders. Additionally, airlines are now equipping their aircraft with newer transponders which send the necessary identity and altitude signals to permit the automatic display of this information on controller's scopes. An ATA survey earlier this year showed that about 200 airline aircraft are already equipped with these newer devices and that 70 percent of the fleet will be fully equipped by 1970. Another 20 percent will at least be equipped to send the individual identity signals. The airlines' aircraft will be equipped to transmit automatically their individual identity and altitude signals long before ATC facilities will be prepared to receive and display them.

The airlines recommend that:

a. Airspace users be encouraged to equip their aircraft with those avionics devices that will enhance their ability to participate in the ATC system, even though such equipment might not be required by regulation in certain airspace.

b. FAA specify by regulation that avionics equipment and pilot capability required for safer and more efficient operation of the ATC system, even outside of high density areas.