

The Coming Gridlock of ATC



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In September, the Department of Transportation held its forty-first Transportation Research Forum in Washington. ALPA was invited to attend and present our views on a panel of aviation users.

In that presentation, we expressed our belief that if the government and industry do nothing, the air traffic control system will gridlock early in the new millennium. There was no doubt that the attendees heard our message. The follow-up questions indicated that significance of our statement was understood.

What is needed to prevent this gridlock? The media has realized that the delays of this year were up significantly. They have reported that the FAA’s method of modernizing is not keeping up with the demand and that if we do nothing the system will fail. While this is true, the media has only partially explained the needed action to stop the air traffic system from being overwhelmed.

Several attempts to modernize the ATC system have been undertaken with limited success. The FAA management first tried to dictate the improvements from Washington. The air traffic controllers union (NATCA) proved to the FAA that controller input was essential. As a result, much of the work first done by FAA management had to be redone. Some improvements regarding how airplanes are handed-off between facilities were finally instituted but major improvements did not occur. The FAA then realized that input for the users of the ATC system was needed. ALPA entered the process.

We, as pilots, see the successes and failures of the ATC system more closely than that any other group. Our view from the cockpit allows us a unique vantage point. The inclusion of this perspective is essential to the future success of

the ATC system. All the groups that use the system must be a part of the solution.

The next step in solving the problem is funding. Without a steady stream of funding, there can be no contracts with manufacturers to build the needed hardware and software. The money exists in the Aviation Trust Fund, but Congress has not allowed it to be used for the intended purpose. This needs to change so that a steady flow of money can allow the research and testing to begin on the next generation of ATC radar.

Computers are essential to the ATC system. We finally moved away from a manual system of air traffic control where controllers manually move “shrimp boats” as airplanes flew across our nation. Computers allowed data blocks to be attached to radar targets. Positive control meant better separation and an increase in the number of aircraft that a controller could separate. This step provided an increase in safety and efficiency. This type of dual improvement is the blueprint for the next step.

Computer technology has come a long way since the first data blocks began to appear on radarscopes, yet the FAA is still using some of the original computers. A step into the twenty-first century is now needed. We have the technology to have conflict probes view 20 minutes in the future and predict conflicts between airplanes. The necessary decisions can be made to minimize the impact on both aircraft. Using the previous system as a blueprint, there will be an increase in safety and efficiency. This should be funded and installed sooner rather than later. This conflict probe is a step toward “free-flight.”

No longer should we be confined to airways. Why should we not use the most efficient route for our airplanes? The answer is only because

the current air traffic system does not have the ability to separate airplanes as easily on random routes as on airways. Therefore, when the traffic goes up, the efficiency goes down. We fly in very congested areas so we are affected by this limitation frequently. This limitation can be, and should be, improved.

The concept of "free-flight" has been in use for several years. An example of the existing use of "free-flight" is the clearance from San Francisco departure control: "USAir 123 cleared direct Charlotte." Unfortunately, the only time we get this clearance is on a "red-eye." Why can we not use this during the day as well as at night? With conflict probe and conflict resolution we could.

The enroute portion of air traffic control can be improved with conflict probe, but what about the terminal area? Some groups, including NATCA, have stated that enroute traffic improvements are meaningless without improvements in place at the airports. As usual, there is complexity in the answer to this position.

Without question more runways are needed in our country. One look at San Francisco, New York's LaGuardia, or Washington's Reagan National and the need for more runways is obvious. Yet, none of these airports are building runways. There are limitations (environmental or others) that prevent the needed concrete from being poured.

If we are not going to get the needed runways in the near future, what can we do? There are more efficient and safer methods of moving traffic from arrival fixes to the runways. In the past, we have seen efforts to accomplish this. Some have helped while others have caused massive increase in cockpit workload. A good example of increased cockpit workload is the arrival flow into Los Angeles. LAX has one of

the worst arrival procedures in the country. Not only is it very complex, requiring careful programming of airborne flight management systems, there are many modifications to the route, arrival, and runway. Local knowledge is essential. This poor system has decreased safety as traffic increased. This is the blueprint of what we do not want the nation's air traffic to look like. We must learn from the mistakes of LAX.

Arrival flows can use part of the conflict probe technology. In addition, wake vortex consideration can be built into the flow pattern early so that the increased spacing requirements of heavy airplanes can be included with minimum disruption. Our blueprint for increasing safety and efficiency can be met. As the flow to the existing runways is improved, some other existing proposals can be included.

We are all aware of some of the proposals currently underway by the FAA. Land and Hold Short (LAHSO) and Precision Runway Monitoring (PRM) are two of the most well known. Each can help and, with the proper safeguards, can become part of ATC in the twenty-first century. Before these proposals can be implemented, they must meet the blueprint of safety and efficiency. Today they do not, but in the future, they could.

Working together, all of us in the aviation system can solve the air traffic control issues. Department of Transportation Secretary Rodney Slater heard this from ALPA at the Transportation Research Forum. He can help Administrator Jane Garvey solve the funding problem facing the FAA. This critical step is essential to prevent gridlock.

The answers to our air traffic control problems are not simple or cheap. However, if we do nothing, or continue as we have in the past, the cost of a standstill will be much higher.

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Air Safety 2000

We enter the new century with the opportunity to continue to improve aviation. We now fly more passengers than ever before. We fly them in more jet airliners than ever before. We fly in the same airspace that the Wright brothers used.

In 1927 Lindbergh open the Atlantic to flight. Today none of us would take a single engine airplane across the north Atlantic but we think nothing of boarding an Airbus or Boeing for the

flight. We are part of the incredible success of aviation.

This success comes with a price. Our passengers expect every flight to be a safe one. No longer are flyers, passengers or crew viewed as daredevils. Flight is almost as routine as a ride in an automobile. The expectation of complete safety in the air is the result of many years of effort. We have proved to the travelers of the world that flying is safe.

“As more airplanes fly in our skies, the very low accident rate will seem to erode as television brings into our homes up-to-the-minute pictures of any aircraft accident anywhere in the world.”

This belief in the safety of aviation has resulted in more people flying. That takes more airplanes and more crewmembers. As more airplanes fly in our skies, the very low accident rate will seem to erode as television brings into our homes up-to-the-minute pictures of any aircraft accident anywhere in the world. No matter that flying is the safest form of transportation, the pictures portray a different story. If we do nothing by 2015, based on the current growth predictions, there will be an airline accident every week. Our passengers will not stand for this. If we do nothing, politicians will attempt to regulate safety improvements. We have seen the results of their efforts. We must continue to improve.

There are efforts underway that will drastically improve the safety rate. Enhanced Ground Proximity Warning Systems (EGPWS) will significantly reduce Controlled Flight into Terrain accidents. However, not all countries are requiring its installation on their airplanes. The countries that need it most are the most resistant to this life-saving technology.

We have better, more realistic training for flight crews. Additionally, data gathered by our Flight Operations Quality Assurance Program

proves the success of our training. Our training continues to improve to equip us to deal with the demands of aviation in 2000. We have to apply the lessons learned in training in all of our flight operations.

Our airplanes are better than in the past. Our fleet is becoming more modern weekly. The latest aircraft include numerous safety improvements. Furthermore, we are improving our existing fleet. Cargo fire detection and suppression and installing EGPWS are examples of our existing fleet improvements.

With all of these improvements, now is a good time to reflect back on our successes and look forward to 2000 and beyond. We cannot allow the loss of an airliner a week. We must take the improvements and implement them on every flight so that the expectation of every flight's being a safe one can be met. In 1998, we had our first year with no passenger fatalities in the United States; we can and must continue that record. Striving for anything less is just plain wrong.

