AMERICAN AIRLINES, INC.

REQUIREMENT FOR NEW EQUIPMENT

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TABLE OF CONTENTS

		Page
A.	CONCLUSIONS	1
B.	RECOMMENDATIONS	2
C.	DISCUSSION	2
	1. The Problem	2
	2. Demand for Air Travel	3
	3. Equipment Requirement Based on Present Demand	5
	4. The Question of Equipment Type	7
	5. The Question of Over-Purchase	7
	6. The Question of Obsolescence	9
	7. Equipment Purchases of Other Carriers	10
	8. Ground Facility Requirement	11

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A. CONCLUSIONS

1. There is need for additional airplanes today.

a. At the present time demand for air travel exceeds the capacity of present equipment and additional services should be operated.

b. We are scheduling existing airplanes beyond the point of optimum utilization and this is resulting in increased unit expenses and a greater degree of irregular operation than would normally be countenanced. There is need for more maintenance spares and more airplanes in the routing to permit improved service. We are, also, scheduling flights at less desirable departure times with poorer loads than we could otherwise obtain.

c. We are in a developmental period of high-density DC6 coach service, and, so far, introduction of this service has required additional equipment. There has been no cancellation of standard fare service which would provide equipment for coach conversion and, as a result, we need additional airplanes for coach conversion.

d. Additional airplanes delivered in the fourth quarter will be needed to meet existing commitments and will not be available for expansion in 1952.

2. There is need for expansion of schedules, both for DC6 type service and also those route segments normally served by Convairs. Any expansion, however, should be accomplished by DC6 type airplanes rather than Convairs. To meet this requirement, additional DC6 airplanes should be purchased rather than additional Convair airplanes.

3. The equipment ordered by our competitors is for the dual purpose of retirement of obsolete airplanes and expansion of service. The existence of these obsolete airplanes provides a cushion against continued growth of demand, since retirement of old equipment can be delayed and all new airplanes can be used for expansion of service. American has no such cushion and can protect its competitive position only by placing orders for new airplanes.

4. American does have a cushion against over-ordering.

a. Under periods of low load factor, a surplus of equipment enables the adoption of scheduling practices which will develop revenues that can, in large part, recover the higher depreciation costs. Under conditions of intense competition, a carrier with lower utilization is in a position to have a distinct advantage in improved departure times and greater regularity of operation. High utilization of equipment, while saving on depreciation charges, can be very costly in lost revenues and higher unit maintenance and ground expenses.

b. Labor costs (direct and indirect) are rising sharply and will continue to rise. Additional airplanes assigned to Tulsa maintenance or to line operations can have valuable long-range advantage in reduced labor cost.

c. Should more DC6 type airplanes be ordered than needed for an expansion of long-haul DC6 service, DC6 airplanes could be substituted on certain Convair type schedules and a substantial number of the Convair airplanes retired.

d. Vigorous expansion of the coach-type service will tend to offset the effects of an otherwise declining traffic demand. This service is possible only with high-density DC6 type airplanes. This will tend to obsolete the Convair rather than the DC6 type airplane.

5. It is unlikely that any DC6 type airplanes will be obsoleted before five years. Even at that time the first planes to be retired would be older DC6's which will be fully depreciated.

6. Facilities and related equipment must be planned for in conjunction with plans for additional equipment.

B. RECOMMENDATIONS

1. It is recommended that twenty-four DC6B type airplanes be purchased for delivery in 1953, to be utilized as follows:

a.	10	for added DC6 type service.
b.	4	for substitution on DC6 flights now operated by Convair due to equipment shortage (New York-Detroit, New York-Cincinnati nonstops, etc.).
c.	5	for expansion on route segments now served by Convairs (such as, New York-Buffalo-Detroit-Chicago flights).
d.	2	for conversion to high-density seating to provide fourth transcontinental coach service.
e.	1	additional DC6 airplane for line maintenance.
f.	1	additional airplane as a system operations spare and pilot trainer.
g.	1	additional airplane assigned to Tulsa as a modification spare.
	24	Total for delivery in 1953.

C. DISCUSSION

1. The Problem

There is an unprecedented demand for air travel. In June, American transported 248,000,000 passenger miles, an increase of 36.6% above June a year ago. July traffic is estimated at 237,000,000 passenger miles, 40% above July a year ago, and August promises more traffic than July.

The demand for air travel exceeds the capacity of the entire industry and load factors are tighter than they should be for proper traffic handling and traffic development. The load factor in June for American was 81.3%. With added schedules in July, coupled with a less than normal seasonal slump in that month, the load factor is estimated to be 72.1%. August has begun at a higher load factor level than July.

To meet this demand, American has been adding schedules each month -- as new equipment is delivered and as additional flight crews can be trained. All new airplanes delivered to date have been placed in service and utilization has been increased to the highest level attained since the war.

In the fourth quarter American is taking delivery of the last six DC6B airplanes now on order. They were to have provided for expansion of service in 1952 but interchange agreements approved this year and traffic and maintenance demands have overtaken capacity and we still will be short. To meet all requirements for equipment this fall, it will be necessary to cancel some service operated by DC6's today, or substitute additional Convairs on DC6 schedules.

a. Five more airplanes are required for the interchange services than was contemplated this last winter, one more being needed on September 30 and four more needed on December 1.

b. It is necessary to expand coach service and plans call for conversion of three standard-seating airplanes to high-density-type in December, January and February.

c. The increased scale of operation plus mandatory engineering modifications require assignment of two additional DC6's and one additional Convair to Tulsa by September 1.

We will, therefore, be short DC6 type airplanes to meet existing schedule requirements and will not have capacity for expansion next summer except for the third coach flight which will be inaugurated on March 1.

At the existing level of demand there is need for expansion of schedules to fully exploit the potential on existing services and to inaugurate new services we have been certificated for, such as, Cincinnati-Dallas or Cleveland/St.Louis-Los Angeles.

If it is anticipated that demand will remain at or near its present level, it is clear that additional airplanes will be needed.

2. Demand for Air Travel

Consideration of the factors influencing air travel today leads us to believe that the demand will remain at this level (or higher) and that the requirement for more equipment will continue to exist in 1953 and later.

Many temporary factors are affecting demand for air travel. The most important are (1) Direct military conflict in Korea, (2) Development of a peacetime civilian armed force of 3,500,000 men, (3) Reorganization and expansion of productive facilities, (4) Relocation of population and migration of working force, (5) Very high rate of business activity attended by governmental controls, material and labor shortage, and (6) High tax situation causing relaxed efforts at cost control.

It is believed that the above temporary factors stimulating demand came into play coincidentally with an upsurge in long-term demand for air travel. Without Korea, it is believed that 1950 and 1951 would have been years of substantial growth.

The combination of the temporary stimulae and long-term growth factors has resulted in an unprecedented demand for air travel. Public acceptance of air travel is close to the greatest it has ever been. Most of the lack of confidence brought about by accidents and bad operations in 1946, 1947 and 1948 has been largely dispelled.

Important long-range growth factors influencing demand are (1) Long-term expansion of National income, (2) Increasing percentage of disposable income which each year is spent for travel, recreation, vacation, etc., (3) Widening community of interest of the general population which will tend to stimulate air travel more than other forms of common carrier travel, (4) Increasing population with the percentage of converted air travelers increasing each year, (5) Continued technological advantages, including flight regularity and safety and, lastly, (6) A probable continuing and improving fare advantage over rail. (We are an expanding business; rail pullman traffic is contracting, giving the airlines a decided advantage in paring increasing costs.)

It appears likely that the combination of temporary and long-term growth factors has created a new level of demand that is not temporary, but which can be maintained and, in time, increased. Examination of the temporary demand factors indicates that many may be with us in some degree for the next decade. Others may largely disappear in 24 to 36 months. With their disappearance, however, demand should not be adversely affected since long-term growth factors will act as a substitute in potential demand. As the temporary factors wash themselves out, the long-range trend should substitute so that demand does not fall.

Depending on how long these temporary factors continue in existence, it is possible that the demand for air travel will continue to increase.

There is always the possibility of a substantial business recession affecting demand to a degree not anticipated. In event of a recession, we believe a major expansion of coach service should be undertaken and that this will tend to prevent total demand from sliding off very far.

With the above considerations in mind, it is concluded that we should

plan on a continuance of present demand and that we should order sufficient airplanes to take care of that demand adequately.

3. Equipment Requirement Based on Present Demand

The Schedule Committee has given serious consideration to additional schedules required to meet existing demand.

a. The following DC6 schedules are believed desirable at present demand level and should be operated profitably:

1 RT New York-Washington-Nashville-Memphis-Dallas
1 RT Dallas-Tucson-Phoenix-San Diego-Los Angeles
4 RT New York-Chicago nonstops
1 RT New York-Detroit
1 RT Boston-Cleveland-St.Louis-Los Angeles
1 RT New York-Cincinnati-Tulsa-Dallas

In making recommendation for additional airplanes, consideration has been given to purchases of additional airplanes by our competitors. The need for the additional airplanes recommended in this report is based principally on demand for service on routings, other than those on which American now has a temporary advantage due to its present equipment position.

A total of ten active DC6 airplanes are required to operate the schedules shown above.

b. DC6's should be substituted for Convairs on nonstops from New York to Detroit and Cincinnati and a round-trip between New York and Dallas. Four DC6's are needed to substitute for Convairs on these trips.

c. The Convairs so freed can perform the work of some of the additional Convair schedules shown below but still others will be needed. Rather than buy Convairs, however, we suggest that DC6's be bought to substitute for Convairs on intermediate range flights and that we do not increase our Convair fleet. For this purpose, five additional DC6's will be needed.

1 RT Newark-Syracuse/Rochester/Buffalo
1 RT Washington-Knoxville-Nashville
3 RT New York-Washington
1 RT Boston-Hartford-Albany-Buffalo-Detroit-Chicago
1 RT Chicago-St.Louis-Tulsa-Oklahoma City-Dallas
1 RT Washington-Knoxville-Nashville-Tulsa-Oklahoma City
1 RT Buffalo-Cleveland-St.Louis

d. We now have four high-density airplanes providing two transcontinental coach schedules, one via Dallas and one via Chicago. Three additional coach airplanes are being converted for a third transcontinental schedule in March. Based on demand for one-stop transcontinental service today, it is believed the third coach schedule should also operate one-stop, otherwise we would leave that market open for the non-scheduled carriers.

There appears to be reason, however, for an extension of coach service into intermediate cities at any early date. For the time being it is believed that a local coach should be operated via Dallas and also via Chicago. Possible stops on the southern flight would be

Washington, Nashville, and/or Memphis, El Paso, Tucson and/or Phoenix. Possible local stops on the flight over Chicago would be Buffalo, Detroit, Tucson and Phoenix.

Four added coach airplanes would be required over those now planned for March 1, 1952 schedules.

At what point we begin to substitute coach schedules for existing schedules cannot be determined accurately now. It can be assumed that, if demand continues at this level, no more than one of the five coach schedules would result in cancellation of existing or planned standard fare service.

It appears reasonable to suggest that two more airplanes be purchased for conversion to coach and that it be contemplated that further expansion of coach service come from converting standard fare flights to coach flights.

e,f,g. With the operation of the additional airplanes recommended for purchase, one additional line maintenance airplane will be required. Depending upon the amount of continuing modification work contemplated, one more airplane may be needed in Tulsa. One is needed in New York which can serve jointly as a system operations spare and a pilot trainer.

This makes a total of three more inactive airplanes than now planned for. In assessing the value of these airplanes it should be remembered that, at present, we are inadequately covered with operating spares and maintenance airplanes, which is resulting in higher unit maintenance expenses than otherwise possible and resulting in more irregular operations than desirable.

These recommendations, when coupled with existing equipment orders, would result in the following planned utilization, seat miles and probable load factors:

Utilization

	DC6 (Incl. Coach)			Convair		
	Hours Scheduled	No.A/C	Daily Util.	Hours Scheduled	No.A/C	Daily Util.
As of July 1951	564:20	60	9:25	587:08	79	7:26
As of August 1951	596:00	60	9:56	595:56	79	7:32
As of July 1952 (1)	630:25	66	9:33	637:50	79	8:04
As of July 1953 (2)	800:45	90	8:54	641:40	79	8:07

Estimated Monthly Seat Miles

	Seat Miles	Percent Increase over 7-1-51
As of July 1951	332.5 Mil.	-
As of August 1951	345.8 "	4.0%
As of July 1952 (1)	366.9 "	10.3
As of July 1953 (2)	434.4 "	30.7

Estimated Load Factor
(with average 7.5% increase in passenger miles over July 1951)

		Passenger Miles	Load Factor
As of July 1951	(estimated actual)	238 Mil.	71.6%
As of July 1952 (1)	(7.5% above 1951)	256 "	69.7
As of July 1953 (2)	(7.5% above 1952)	275 "	63.3

(1) Includes 6 aircraft delivered in fourth quarter 1951.
(2) If 26 additional airplanes were delivered by this date.

4. The Question of Equipment Type

There is a shortage at present of both DC6's and Convairs. It is felt strongly, however, that any expansion should come through purchase of DC6 type airplanes to meet all requirements.

There are four basic reasons for this recommendation:

a. The DC6 offers a more saleable service than the Convairs for intermediate range operation.

b. With present payload availability of the Convair, the operating cost per seat mile of the DC6 and the Convair are the same for flights of 300 to 400 mile range and the DC6 has additional payload available for cargo. Operating cost per available ton mile is lower for the DC6 than the Convair for flights of 300 mile range.

c. Airway and airport congestion on the eastern seaboard is restricting the number of schedules which can be operated between Boston-New York-Washington. LaGuardia Airport is scheduled to near capacity at all hours of peak passenger demand. Either American must go to less acceptable hours, less acceptable metropolitan area airports, or substitute larger aircraft on high-density routes, in order to expand volume of service on longer haul routes at proper hours. It is likely that we may be forced to convert to 70-passenger DC6 operations on those flights in order to expand service above the present level.

d. The greatest unexplored market for air transport expansion is coach service. We can operate coach service only with the high-density DC6 type airplane. An expansion of coach service may result in some cancellation of Convair services on many route segments.

As a result of these factors, we may find that we have more Convairs than will be useful to us in the long run.

5. The Question of Over-Purchase

The recommendations in this report are based on the assumption of demand continuing at the present level with some possibility of further growth in demand. In an equipment program of this magnitude, there is the possibility of over-purchase. This would result in lower utilization of equipment than estimated.

Following are many of the indirect benefits (both revenue and expense) derived from lower utilization. Eastern Air Lines has consistently operated with much higher utilization than American, but their total operating costs per revenue ton mile have consistently been the highest of the Big Four. Scheduling policy is a major contributing cause.

a. If there should be some decrease in demand, the whole question of desirable departure times and operational flexibility becomes most important. As a whole, the schedules which would be cancelled are the fringe schedules which would not reduce the number of airplanes required to perform the service. By scheduling at the times the passenger wants to fly, American will be able to cushion the drop in traffic by maintaining the load factor at a comparatively high level. By maintaining an aggressive, hard-hitting schedule policy, American can hold or improve its position in the industry during the declining demand period.

b. Also during a period of declining traffic, regularity and dependability of service become even more important factors in determining the passenger's selection of a carrier. A greater number of airplanes in relation to demand will help our performance.

c. By having a lower utilization more economical maintenance and traffic handling procedures can be placed in effect. More maintenance can be done in the daytime, overtime is reduced, smaller, more efficient shifts can take longer elapsed time in completing checks, resulting in substantial savings. Longer times can be used to load traffic on originating flights; greater regularity of operation reduces the expense of unplanned dual operations; connecting schedules can be tied together more economically.

d. A further problem is that over the next decade labor costs, in terms of direct salary, related payroll expenses, sick and vacation benefits, a shorter work week, etc., might well increase labor costs 50 to 100% above today. However, capital expenditures, to save labor costs, will remain fixed as of the date of purchase.

In event there is moderate recession at about the time these planes are delivered, we can protect ourselves somewhat against a decline by the following use of the airplanes:

a. Conversion of DC6's to high-density seating for an expansion of coach service on transcontinental routes. A vigorous promotion of this lower fare service can be counted on to offset the decline in total demand, to some extent, and should cause a diversion of more traffic from long-haul rail pullman and coach.

b. To help cure the congestion problem on the eastern seaboard, additional DC6's could be converted to high-density-type and operated on the high-frequency nonstop flights Boston-New York-Washington. This service by aircraft with high-density seating capacity might be inaugurated at standard fare or at some slight reduction from standard fare.

c. In addition, there are many Convair flights throughout the system which could be operated profitably with DC6 type airplanes. The

flights operating New York-Buffalo-Detroit-Chicago-St.Louis-Tulsa-Oklahoma City-Dallas could be operated with DC6 equipment at only a small increase in cost. Yet, a significant improvement in service would be offered the public. This would result in the retirement of a substantial number of Convairs which, by 1954, will be practically written off the books.

6. The Question of Obsolescence

Buying airplanes for delivery in 1953 and 1954 presents a major problem in obsolescence due to possible introduction of jet or turbo-prop airplanes in the latter half of the 1950's.

A DC6B valued at $1,150,000 retired in as little as three years with 10% residual has a depreciation cost of $29,000 per month. At 8 hours daily utilization, this averages 50¢ per mile, equivalent to the revenue of 9.0 passengers at present fare level, or 1.1 tons of mail.

Depreciation on a seven year basis, however, would result in an average cost per mile of 21¢, equivalent in revenue to 3.7 passengers per mile, or one-half a ton of mail.

To recover the added depreciation cost of retirement of the airplane after three years service, only 5.3 added passengers per mile need be developed, or a little more than one-half a ton of mail.

If there is a requirement for the airplanes, there is no doubt that they can be operated profitably with only a three-year depreciation base.

There is a further consideration in obsolescence. It is conceivable that the jet type airplane may develop a level of additional traffic equal to the additional capacity provided by the jet for the first year or two of its operation. To a certain extent this will depend on the rate at which the jet airplane will be manufactured for the industry and the number of airplanes available to American for the first couple of years. It is doubted that many, if any, airplanes will be retired within the first twelve to eighteen months after introduction of the jet or turbo-prop powered airplane.

It is also doubtful if the industry will retire the DC6 as rapidly as American. If not, there probably would be a market for some airplanes at something higher than 10% residual, for at least the first several years after introduction of the jet.

Throughout this period of time there will probably be a gradual conversion to high-density services throughout the system. As pointed out earlier, this will tend to obsolete the Convair. The reduction of Convair airplanes is a cushion against large scale retirement of the DC6 type with introduction of the jet.

7. Equipment Purchases of Other Carriers

Our competitive ability is influenced to a marked degree by the number of modern, four-engine type aircraft available for scheduling relative to our competitors. The following table shows the percent of total industry modern, four-engine airplanes and seats, by carriers. Both present and future fleets are shown.

Percent of Industry
New Type Four-Engine Aircraft and Seats
On Hand and With Future Deliveries
(Standard Seating Arrangement)

Carrier	Modern ——Four-Engine Aircraft—— Present Fleet	Future Fleet	Modern ——Four-Engine Seats—— Present Fleet	Future Fleet
American	26.3%	21.3%	25.3%	20.2%
United	26.3	22.9	25.5	22.4
TWA	18.8	18.7	20.2	19.7
Eastern	9.4	16.1	10.4	17.6
Others	19.2	21.0	18.6	20.1
Total	100.0%	100.0%	100.0%	100.0%

To maintain its present percent of modern four-engine airplanes after all deliveries of aircraft are completed, American must order twenty additional four-engine airplanes. This would merely preserve the existing relationship as of the current period.

Total aircraft and four-engine aircraft available to the airlines, including those on order, are set forth below:

Percent of Industry Aircraft Available for Service
Including Aircraft on Order

Carrier	——All Aircraft—— Number	% of Total	Four-Engine Aircraft Number	% of Total
American	145	14.6%	66	16.2%
United	173	17.4	81	19.9
TWA	158	15.9	65	15.9
Eastern	178	17.9	71	17.4
Others	341	34.2	125	30.6
Total	995	100.0%	408	100.0%

Note: This table assumes no retirement of obsolete aircraft.

The existence of the old type aircraft (DC4, DC3, etc.) gives our competitors a margin to fall back upon if traffic continues its expansion. By providing service on non-competitive routes with older type aircraft they could throw the entire weight of new type airplanes into competitive schedules. Such action would tend to further reduce American's share of the travel market.