

INTRODUCTION

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The Airline Deregulation Act of 1978 calls for a gradual phaseout of the Civil Aeronautics Board (CAB) by 1984. At that time all functions of the CAB will either be eliminated or transferred to other agencies. Since the Act does not make any reference to the extensive data base currently being maintained by the CAB, it must be presumed that the data base will be eliminated at or before sunset.

Although the data base was originally set up to support the regulatory role of the CAB, it is being used widely to support planning and decision-making in federal, state and local governments as well as in industry. Sophisticated computer systems and models have been developed by these users. Many of these users accept the fact that some data will not be available beyond the sunset of the CAB. However, they believe that a substantial portion of the data will continue to be available in one form or another. Their concern is that the quality of the remaining data might suffer from a lack of transition planning from the CAB data base to a future form of data gathering and from the fact that after sunset data might not be collected in a centralized manner. Specifically, they are concerned that during a transition period some data might only be available with changed definitions, others might not be sufficiently validated and yet others might not be available at all.

The Transportation Research Board Committee on Air Transport Operations and Maintenance has, through its membership and through contacts with the aviation community, become aware of these concerns and decided the issue was of sufficient importance to the air transportation research community to warrant a discussion. For this reason the committee organized a series of conference sessions on this subject at the 1980 and 1981 Annual Meetings of the Transportation Research Board. These sessions brought together a full spectrum of expertise from all segments of the aviation community. A summary of the 1980 conference sessions was published as Transportation Research Circular Number 221. The current circular is a documentation of the conference sessions held at the 1981 Annual Meeting. While the intent at the 1980 meeting was to spell out the importance which the air transportation research community attaches to an orderly transition from the current CAB data base to any post-CAB data gathering system, the 1981 conference and this circular attempt to provide some detail to the discussions. In particular, it gives specific examples of how certain types of data are being used and points to possibilities for improvements where data are actually or potentially being misused.

It should be understood that the TRB or the Committee on Air Transport Operations and Maintenance does not take any position on whether or not to continue any, all or some of the CAB data beyond sunset. The committee believes, however, that any decision regarding the future of the CAB data base should be based on extensive debate with and among all current and potential future data users. This report represents the committee's contribution to this debate. While material has been collected by a number of groups representing special segments of the air transportation and related industries, the intention here in accordance with the charter of the TRB has been to provide an independent forum for a balanced presentation of the varied views on this problem.

The conference sessions held at the 1981 TRB Annual Meeting which provide the basis for this report were organized and very ably chaired by Ms. Peggy Kueffer, Proprietary Computer Systems. The editorial work on this circular was performed by Ms. Kueffer, Raymond L. Grismer, General Electric Aircraft Engine Division, Duane Edmonds, the Boeing Company, and Herbert J. Guth, TRB Staff. Many thanks are due them for the talent and the many hours of labor which they put into this project, and to the speakers for their participation. Since this work is a continuation of an effort begun in 1980, the committee also would like to thank Messrs. Eduardo I. Pina and Duane Edmonds of the Boeing Commercial Airplane Company for their work on the 1980 conference sessions and Messrs. David W. Bluestone and Kenneth Velten of the TRB Committee on Aviation Demand Forecasting for their work in first exploring the CAB data issue at the 1979 TRB Annual Meeting.

This circular concludes the work which the TRB Committee on Air Transport Operations and Maintenance will perform on its own initiative on this issue. Any meaningful continuation will require much more extensive work which could only be justified by a clear mandate from outside the TRB. Given such a mandate, the committee stands ready to resume work on this issue at any time.

THE ROLE OF CAB FORM 41 DATA IN AIRLINE FINANCIAL FORECASTING

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Summary

Security analysts use the Civil Aeronautics Board data base extensively. The prospect of a reduction in the quantity of data available that seems likely to flow from deregulation is therefore a matter of considerable concern. It does not mean that a security analyst could no longer function but rather that he would function with less efficiency and far less knowledge of trends and developments in the airline industry than currently.

Security analysis is a peculiar blend of science and art. It is science because it attempts to measure as precisely as possible the monetary and physical flow of goods and services through a corporation to gain a better understanding of the economic success or failure of the business. It is an art because it must blend these quantitative elements with general economic conditions, investor psychology, the political climate and other factors to form a judgment about the relative investment attraction of the equity securities under consideration. For those who follow the fortunes of the airline business, the amount of quantitative data is unusually large because of the industry's Form 41 reports that cover virtually all aspects of the business operation. Whether this wealth of data actually produces improved investment decisions is a subject best left for another forum. The fact is that it is available, and security analysts use it extensively. While we are insatiable in that we always want to know more about both the past and present operating conditions of the subject we are examining, at the same time we are pragmatic in that while we can never have enough, we always make

do with what we have. Therefore the very real prospect of a reduction in quantity of data that seems to me likely to flow from the deregulation process is a matter of considerable concern, but does not mean that security analysts will be faced with a condition in which they cannot function in an effective manner.

In the area of prices we are already faced with an almost total impossibility of projecting near term results. At one time tracking Civil Aeronautics Board fare increases was a reasonable path of determining the average yield or price of the product. With the amount of fare flexibility now available, and the degree to which companies have utilized it, both upward and downward, projecting the average price of the product has been almost impossible even for the company involved, much less for an outside party such as a security analyst.

The following three examples show how certain pieces of Form 41 data are in fact employed in the analysis process.

Table 1 displays the actual revenue passenger miles for the appropriate month, with the percent change. The data were drawn from the CAB T-1 report. The seasonally adjusted factor is computed by the Civil Aeronautics Board in a separate report and using historical traffic along with the seasonals. Projected revenue passenger miles have been developed at the beginning of each year. This becomes our annual traffic forecast, but as the year progresses, the projections can be compared to the actual results to show the over and short.

Table 1. Trunks - Domestic.

	Revenue Passenger Miles (Mil)	Seasonally Adjusted Factor	Seasonally Adjusted (Mil)	Projected Revenue Passenger Miles (Mil)
1979				
January	13,630.4	0.953	14,303	13,622
February	13,023.4	0.850	15,322	12,255
March	16,528.7	1.016	16,268	15,705
1st Qtr	43,182.6			
April	14,208.9	1.007	14,110	14,327
May	13,640.8	0.963	14,165	14,623
June	16,191.6	1.087	14,896	16,500
2nd Qtr	44,041.3			
6 Months	87,223.2			

Table 2 shows our methodology for building a forecast of total labor using, from the data base, total employees (drawn from the P-1.2 report) and the total pay (from the P-5.2 through P-8). This is manipulated in a way that produces an average pay per employee. It is this number that is forecast along with the total employment level to produce a projection of total wages. Benefits and taxes are also drawn from the P schedules.

Table 2. Delta Air Lines Earnings Model Expense (millions).

	History	Forecast	
	1979	1980	1981
Total employees	35,913	36,802	36,800
Average pay/employee(\$)	24,835	27,451	30,197
Percent change	9.3	10.5	10.0
Labor totals(\$)	891.9	1,010.3	1,111.2
Benefits + taxes(\$)	167.1	197.7	233.3
Percent change	20.9	18.3	18.0
Total labor + related(\$)	1,059.0	1,207.9	1,344.5
Percent change	19.8	14.1	11.3

In Table 3 a similar process is followed for generating a forecast for fuel cost; in this case using gallons consumed from the T-2CAB report and the total fuel cost from P-5.2. With this data the cost per gallon is calculated which is the forecasting tool along with volume of consumption. For this purpose the data from the P-12 monthly fuel cost report is not used directly although this certainly supplements other information on this subject.

Table 3. Delta Air Lines Earnings Model Expense (millions).

	History	Forecast	
	1979	1980	1981
Total gallons consumed	1,155.7	1,132.1	1,174.4
Percent change	6.1	2.0	3.7
Cost/gallon(cents)	55.5	87.4	106.6
Percent change	45.2	57.5	22.0
Total fuel cost(\$)	641.3	989.3	1,251.9
Percent change	54.1	54.3	26.5

Clearly should there be any impairment of the data base as a result of deregulation, the security analysts' ability to develop detailed projections of various cost elements in this way, as well as several revenue items, would diminish. This does not mean that a security analyst could no longer function, but it does mean that he would function with less efficiency and far less knowledge of trends and developments in the industry than presently.