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AIR TRANSPORTATION MARKETS: DEFINITIONAL CONFUSION

WILLIAM A. JORDAN*

INTRODUCTION

It is common for a word to have more than one meaning. This causes few problems when each definition is reasonably precise, the differences are well known, and the appropriate meaning of the word can be inferred from the context in which it is used. Difficulties arise, however, when significantly different meanings of a word are not recognized. In policy making situations, this can lead to errors when decisions are based on the implications of a theory in which the specific technical definition of a key word differs fundamentally from the meaning policy makers ascribe to that same word.

The word "market" suffers from such confused usage when it is applied to air transportation matters. In an effort to reduce this confusion, this article will identify important definitional differences in this word, demonstrate how a theory based on one definition is applied inappropriately to a situation when an entirely different definition is meant, and give an illustration of how the word "market" can be used consistently in cases in which antitrust policies are applied to air transportation.

DEFINITIONAL DIFFERENCES

Economic definition

In economic theory, a market is simply "a place or device enabling people to negotiate exchange." The important phenomenon

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of exchange can be illustrated by use of the Edgeworth Box where two individuals are both shown possessing some amounts of two different goods. The analysis predicts that if the initial allocation results in these individuals valuing the two goods differently (that is, having different marginal rates of substitution between them), both can achieve more preferred combinations of the goods through exchange. Thus, Mr. A, who values a unit of one good more highly in terms of the second than does Mr. B, gets more of the first good by offering some of the second good to Mr. B (and vice versa). This exchange continues until their marginal rates of substitution between the goods become equal. This technical description of a simple two-person, two-good economy is useful in emphasizing the fundamental exchange characteristic of markets in the more complex situations which usually exist when many individuals and firms exchange many different goods for money which serves as a proxy for other goods.

Transportation Definition

When considering physical goods, it is relatively easy to differentiate between the geographic location of the market (where exchange occurs) and the location(s) of the goods. These locations may be identical as in the case of the ordinary retail store, or they can be quite separate, as in the case of commodity exchanges. When, however, goods are services such as transportation, university education, or medical care, this clear independence of the market (exchange) location and the location of the good itself no longer exists. One can, of course, exchange a claim to airline passenger transportation for money at some remote location, but in order for the purchaser to benefit from such exchange he or an employee or a family member must be physically present at the time and place the service is produced. Contrast this to the situation in which individuals benefit through the exchange of futures contracts when at no time need they be anywhere near the commodities in question.

The necessary presence of the traveler, student, or patient at the time and place of production tends to associate the market (exchange) location of a service with its production location. Furthermore, the inherent geographic factors in transportation reinforce

\*Id. at 47-49.
the confounding of the place of exchange with the place of production. Combined, these circumstances have resulted in customary reference to pairs of cities or pairs of metropolitan areas as transportation “markets”—such as the “Los Angeles-New York market.” Obviously, this transportation definition of the word “market” is quite different from the economic definition with its emphasis on exchange. This inconsistency could be eliminated, however, simply by focusing on the difference between the function of exchange and the function of production. Thus, rather than speaking of the “Los Angeles-New York market,” it would be definitionally consistent and, therefore, analytically more useful, to refer to the “Los Angeles market” (exchange location) for service to New York, or Chicago, or San Francisco, or Toronto (the specific goods being produced). To use an analogy to physical goods, even though automobiles may be assembled in Detroit and then shipped to Los Angeles for sale, one speaks of the Los Angeles market for automobiles rather than the Detroit-Los Angeles market.

To make the dichotomy between transportation exchange and transportation production a bit more concrete, consider the physical facilities that are used in each activity. The facilities for the Los Angeles airline passenger transportation market are comprised of the local telephone network providing the prospective traveler with toll-free access to the airline reservation office, ticket offices located at the airport and in downtown centers, and travel agent offices providing more complete sales coverage throughout the area. In contrast, the facilities used to produce the actual airline passenger service between city pairs are comprised of aircraft, maintenance installations, airport terminals, runways, airways, communication networks, etc.

Department of Justice Definition

The U.S. Department of Justice (DOJ) uses a compound market definition for airline passenger transportation. In its brief to the Civil Aeronautics Board Hearing Examiner in the American-Western Merger case, the Department stated that:

Relevant markets are determined under Section 7 of the Clayton Act according to the line of commerce (product market) and the section of the country (geographic market) affected. The antitrust laws do not focus on rigid definitions of either product or geographic
markets, but rather seek to determine the competitive consequences in as many relevant markets and submarkets as are meaningful, based on the economic facts in the particular industry at hand.³

The DOJ then specified the relevant product market for this case as "scheduled domestic passenger service," and it went on to say that "domestic trunkline passenger transportation is a 'well-defined submarket ... for antitrust purposes.'"⁴ Given the implicit level of aggregation in these definitions, there is little reason to argue about this product market concept. Airline passenger service is indeed an operationally identifiable product market with the emphasis being placed on the adjective rather than the noun. In other words, airline passenger service is a distinct product relative to passenger services provided on buses, railroads and in automobiles, and even more distinct relative to freight and other transportation services, or any of a multitude of other goods.

Turning to the geographic market aspect, the DOJ stated that "(t)he relevant geographic markets for analyzing trunk airline mergers are national, regional and city pair markets."⁵ On an aggregate basis, it is consistent with economic usage to define geographic markets in terms of national, as opposed to international, and regional, as opposed to national, areas for airline passenger service. This is no more aggregative than referring to national or regional markets for the many differentiable goods classified under, say, Motor Vehicles and Parts (Standard Industrial Classification 3717). Furthermore, the national and regional usages are consistent in that they both deal with contiguous geographic areas enclosed by specific borders. In most cases, individuals and firms (the Mr. A's and Mr. B's) within these borders find it less costly to exchange goods with each other than with individuals and firms located elsewhere. Also, various suppliers in the areas provide closer alternatives, and thus greater rivalry, for each other than do suppliers located in other countries or regions.⁶

⁴ Id. at 4.
⁵ Id. at 5, citing Recommended Decision, American-Eastern Merger Case, CAB Docket No. 13355 (1962).
⁶ "The basic empirical problem of market definition is to define the range of
The Justice Department's consistency in geographic definitions breaks down when it adopts the concept of "city-pair markets" as the smallest geographic classification. In the first place, as already mentioned, a city pair actually defines a specific transport product—airline passenger service between Los Angeles and New York, for example. In the second place, a city pair generally pertains to two noncontiguous locations rather than to a contiguous area where consumers and producers find it convenient to carry out exchange. Actually, rather than being a relatively small area, a city pair can cut across and extend beyond regional or national boundaries. Thus, the Los Angeles-Chicago city pair extends between two quite different regions, and the Los Angeles-Toronto city pair includes two different countries, or national markets. Instead of using "city-pair markets," the DOJ's geographic market definition would be conceptually consistent in descending order of geographic market size if it adopted the city (or metropolitan area) as the smallest market designation, as for example, the Los Angeles market for airline passenger service to and from Chicago or Toronto.

It is only fair to emphasize that the DOJ should not be held responsible for proposing the "city-pair market" concept. It merely adopted the wide-spread and long-established usage that has developed over time among the airlines, the Civil Aeronautics Board (CAB), and many scholars of air transportation. This writer, for one, is guilty of the extensive misuse of the word "market" to refer to city pairs, and in part this paper is being written to redeem past sins in this regard. A reading of any significant CAB decision or staff study regarding route awards or fares for certain city pairs will reveal the same misuse, and it is similarly commonplace among airline employees. At the same time, however, it should be noted that despite their misuse of the word "market," airlines organize their marketing activities in ways that are consistent with the economic definition. All airlines have national marketing headquarters

alternatives to which a buyer or seller may practicably turn and to identify the sets of transactions whose outcomes are sufficiently interrelated that to subdivide them further invites error. One definition of an industry is as 'a gap in the chain of substitutes'; a parallel definition of a market is as 'a gap in the chain of alternatives.'" Steiner, *Markets and Industries*, 9 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 577 (1968).

and most have decentralized regional structures. They also have local marketing organizations covering contiguous areas around various cities. These local units undertake appropriate local promotional activities and their sales representatives canvass large consumers and travel agents in the area. Thus, an airline may have a Los Angeles sales organization, a Chicago sales organization, and one in New York, but it will not have a Los Angeles-Chicago or a Los Angeles-New York sales organization.

The purpose of this paper is not to say that it is inherently wrong to use the work "market" to mean city-pair service. Any definition is correct providing its meaning can be discerned and used consistently. What is wrong is when theories and concepts based on one usage of the word are unknowingly applied incorrectly to circumstances when some other usage is meant. An example of this is given to the following section.

USE AND MISUSE OF THE MARKET DEFINITION

National and City-Pair Definitions

Over twenty years ago Professor Bain proposed the hypothesis that high concentration ratios for the eight largest firms in a specified industry yield increased market power and above-average accounting rates of return for such large firms. A number of other scholars have endeavored to test this important hypothesis, but have obtained mixed results. Even so, the federal courts and the DOJ have implicitly or explicitly used Bain's hypothesis as one basis for evaluating mergers between firms with large shares of relevant markets under section 7 of the Clayton Act. For example, in its brief to the hearing examiner in the American Western Merger Case, the DOJ made the following statements:

In United States v. Philadelphia National Bank, the Court held that a merger which produced a 30 percent market share for the

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8 See e.g., UAL, INC. ANNUAL REPORT 1973 March 11, 1974, at 5-6.
12 Supra note 3, at 11 and 12-13, respectively.
surviving firm with the four largest firms having 78 percent of the market was well above the market share which would bring illegality under the Clayton Act. The Court based its findings on related cases and scholarly opinion that a 20 percent market share should be prima facie unlawful.

* * * * *

Although largely developed from precedents involving unregulated industries, the Department of Justice merger guidelines under Section 7 of the Clayton Act provide an additional reference point for determining excessive market share. Under those guidelines, mergers are normally challenged if the merging firms have the following market shares:

**MARKET SHARE PERCENTAGE**

<table>
<thead>
<tr>
<th>Acquiring Firm</th>
<th>Acquired Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

The DOJ pointed out that “America's share of total domestic trunkline revenue ton miles for calendar 1970 is 18.2 percent, and Western's is 4.4 percent; combined, they are 22.7 percent.” Since the Big Four trunklines (American, Eastern, TWA and United) then accounted for 68.7 percent of domestic trunk revenue ton miles, the DOJ asserted that “Under the Clayton Act, it is clear that in a market as concentrated as the domestic trunk airline industry, the creating of a market share as large as American-Western's would be illegal.”

This usage of aggregated national market shares and concentration ratios was consistent with the market definition adopted by Bain and, therefore, to whatever extent Bain's hypothesis applies to regulated rather than nonregulated industries, the DOJ could employ it to predict carrier performance. It happened, however, that the DOJ and other parties in this case went one step farther and calculated the “market shares” given in Table I for the four city pairs where both American and Western provide single-plane service.

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13 *Id.* at 10-11. Percentages do not add correctly because of rounding.

14 *Id.* at 11.
### TABLE I

"Market Shares" in the Four City Pairs Served by American and Western
Year Ended June 30, 1970

<table>
<thead>
<tr>
<th>City Pair</th>
<th>Total No. of Carriers</th>
<th>&quot;Market Shares&quot; (Percent of Total On-Line O&amp;D Passengers, Year Ended June 1970)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>American</td>
</tr>
<tr>
<td>Los Angeles-Phoenix</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Los Angeles-San Diego*</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Phoenix-San Diego</td>
<td>3</td>
<td>32</td>
</tr>
<tr>
<td>Phoenix-San Francisco</td>
<td>4</td>
<td>47</td>
</tr>
</tbody>
</table>

* Excludes data for two California intrastate carriers.

b Nonstop service not authorized by the CAB.

Sources:
- Recommended Decision of William J. Madden, Hearing Examiner, American-Western Merger Case, Docket No. 22916 (December 20, 1971), p. 6, mimeographed.

These percentages led the DOJ to assert that this merger would lessen competition in these "significant city-pair markets," implying that "market shares" of 32 to 98 percent would result in undesirable reductions in service quality. This assertion has considerable intuitive appeal, but cannot claim support from Bain’s hypothesis since its city-pair market definition is inconsistent with his definition of a market.

A few studies have indicated that under CAB regulation service quality is improved when a second carrier is authorized to provide nonstop service in a city pair that was previously served by only one carrier. In addition, one recent study asserts that three is the critical number of carriers and that "when there are 1 or 2 airlines, the monopoly solution tends to prevail." This is obviously an empirical

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16 Id. at 7-8. Since the CAB effectively prohibits price rivalry or the entry of new carriers, these aspects of carrier performance in relation to market shares are not relevant in the regulated airline industry.


18 A. De Vany, Is Efficient Regulation of Air Transportation Possible?, PERSPECTIVES IN FEDERAL TRANSPORTATION POLICY (Washington, D.C.: American
question that deserves considerable study. If, however, either two or three is the critical number of carriers, it follows that the American-Western merger would not have significantly reduced service quality in the Los Angeles-Phoenix, Los Angeles-San Diego and Phoenix-San Francisco city pairs. Indeed, only the Phoenix-San Diego city pair would have experienced reduced service quality if the critical number of carriers is two (but not if it is three), since the proposed merger would have left only one carrier available to provide nonstop service. Note that these analyses pertain to the quality of service produced between individual city pairs. Thus, they do not provide insights into whether or not American’s economic power would have increased significantly in the Los Angeles, Phoenix, San Diego or San Francisco markets because of the elimination of Western as a rival carrier in the four city pairs.

City Definition

While it is proper to criticize the DOJ and others for referring to individual city pairs as markets rather than specific airline products, the fact remains that the DOJ was quite correctly endeavoring to identify the effects of mergers on carrier performance in local markets in addition to national markets. National data are useful, but they may obscure relevant details which deserve attention. Surely, there are appropriate ways in which to investigate the effects of merger on local city markets, consistently defined.

The “market-share” data for the four city pairs do demonstrate that had Western been allowed to merge with American, the local Los Angeles market would have lost one supplier of two products (Western, providing service to Phoenix and San Diego), the local Phoenix market would have lost a supplier of three products (Western’s service to Los Angeles, San Diego and San Francisco) and the local San Diego and San Francisco markets experienced similar results. Had the only single-plane airline service available at Los Angeles, for example, been that operated to Phoenix and San Diego, the proposed merger could have had a major impact on overall air service available at Los Angeles. Actually, however, at the time the case was being prosecuted in the CAB, Los Angeles had single-
plane service by one or more carriers to approximately 135 cities in the U.S., Canada and Mexico. Given this, just how important would it have been to Los Angeles to lose one carrier providing rival service with several other carriers to just two of those 135 cities?

An answer to this question would not be easy to obtain, but information regarding the following factors would be relevant:

(i) What percentage of all passengers originating in Los Angeles customarily fly to and from Phoenix or San Diego rather than other North American cities?

(ii) Would the surviving carrier reduce the combined service between Los Angeles and Phoenix or San Diego and, if so, would the three or more other carriers make up for any reductions by increasing their schedules?

(iii) Assuming the service in the two city pairs was significantly reduced because of the merger, to what extent would people fly to other places instead of to Phoenix or San Diego? For example, vacation travelers might find it easy to substitute a trip to Tucson, Las Vegas or San Francisco for one to Phoenix. Business travelers would be more constrained in the short-run, but long-run adjustments such as office or plant relocations could be feasible.

Origin and destination passenger surveys provide ample data regarding the first factor. The second factor would be more difficult to estimate, but a series of studies of past carrier performance should provide useful evidence on this matter. Accurate information pertaining to the third factor would be quite difficult to obtain, but community of interest data (such as tour destinations, hotel registration surveys in resort areas, telephone call surveys, branch plant/headquarters location data) could be useful here. Indeed, by requesting this kind of information in merger proceedings the CAB may obtain useful evidence that would not otherwise be forthcoming.

Another useful way to investigate the impact of a merger on carrier performance in a local city market would be to compare each

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carrier’s overall share of total originating or enplaning passengers at each city served by both of the prospective merger partners. It happened that American and Western were authorized to serve fourteen airports in common (out of 48 on American’s system and 42 on Western’s system). Thus, there was a relatively large amount of overlap in the local markets they served even though they provided identical city-pair services (products) in only four of these markets. Conceivably, it would be possible for the surviving carrier to achieve a significantly stronger position in these local markets by offering a broader range of city-pair services, by enjoying more flexible and effective aircraft scheduling, and by combining advertising and other local sales activities. Such would be especially likely if only a few other carriers provided alternative service in various markets. In the case of Salt Lake City, for instance, the merger of Western into American would have left only one other trunk carrier (United) and three local service carriers providing service to that city. During the twelve months ending June 30, 1971, American and Western together accounted for 42.6 percent of total enplaned passengers at Salt Lake City. Would a combined American-Western have been able to garner even larger traffic shares in that market?

Finally, useful information might be obtained by calculating percentages of passengers originating in individual local markets destined to various major regions in the U.S., Canada or Mexico. It could be that the two carriers (in conjunction with other carriers) provide rival connecting services to smaller communities in such regions through different gateways (and thus non-duplicated city pairs). The deletion of such rival services could result in a deterioration of the surviving carrier’s performance. This factor would not be important in all mergers, but its possible relevance needs to be determined and should not be dismissed out-of-hand.

In all the above examples the focus would be on individual city markets and the effects changes in local market shares would have on carrier performance and domination in those markets. Obviously, much research needs to be done to provide useful evidence

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19 Recommended Decision of William J. Madden, Hearing Examiner, American-Western Merger Case, Docket No. 22916 (December 20, 1971), at 3-4.

20 Civil Aeronautics Board/Department of Transportation (Federal Aviation Administration), Airport Activity Statistics of Certificated Route Air Carriers (12 Months Ended June 30, 1971), at 114.
regarding these matters, but fundamental to effective research is asking the right questions. Hopefully the above analysis has indicated some of these questions and, as a result, information will be forthcoming in future merger proceedings that will assist the CAB in evaluating various proposals on a local as well as a national basis.

AN ILLUSTRATION OF CONSISTENT USAGE

It is proper to criticize the CAB, the DOJ and others for inconsistently defining city pairs as “markets” and then incorrectly applying certain economic theory to analyses involving such “markets.” Having done this, however, it is appropriate to indicate how a market definition properly based on the local city (or metropolitan) area may be helpful in evaluating the effects of a proposed merger.

On July 6, 1972, Pacific Southwest Airlines (PSA) agreed to purchase Westgate-California Corporation’s 79 percent share of the outstanding stock of Air California (ACL), to be followed by the eventual merger of the two airlines. Since PSA and ACL are California intrastate carriers, they are not subject to CAB regulation. Therefore, the antitrust exemption provided by Section 414 of the Federal Aviation Act of 1958 does not apply to these carriers. This meant that for the first time since 1938, two airlines of significant size proposed a merger that would be subject to the section 7 provisions of the Clayton Act if it could be established that they had sufficient interstate involvement to warrant federal intervention under the Act. The DOJ filed a complaint against the proposed acquisition on December 5, 1972, and the subsequent legal actions served to delay the consummation of the acquisition until the agreement was terminated by the two parties on July 2, 1973.

Aggregate Market

An important question in this case was the composition of the relevant markets. An aggregate national market definition was cer-
tainly inappropriate since the two carriers were prohibited from operating outside the State boundaries. A state-wide definition was possible, but neither carrier operated north of San Francisco and Sacramento, and they were legally prohibited from filing joint fares with connecting CAB-regulated interstate carriers operating beyond these cities. Also, both carriers emphasized service in the densely populated centers extending 500 miles along the Pacific Coast from San Diego to San Francisco and Sacramento. Therefore, it was concluded that the relevant aggregate regional market was airline passenger service (the product) operated in this "California Corridor" the geographic region.

The obvious way to define sales in this aggregate market would have been to count all passengers utilizing the city-pair services (individual products) offered between the thirteen airports then served by Air California and/or PSA. There were five such airports in the Los Angeles area (Los Angeles International, Burbank, Long Beach, Ontario and Santa Ana-Orange County), three serving the San Francisco area (San Francisco International, Oakland and San Jose), and one each in San Diego, Palm Springs, Sacramento, Fresno and Stockton. Operationally, Fresno and Stockton were deleted from anti-trust consideration for two reasons. First, because they were served by PSA, rather than Air California, the merger would not change the intrastate carrier providing their service. Secondly because the California Public Utilities Commission (PUC) had only authorized PSA's service on April 25, 1972, and there were no traffic data publicly available regarding these local markets at the time of the merger proceedings. The remaining eleven airports yielded potential combinations of 55 city pairs, but as of the end of 1972, Air California and PSA were authorized to operate single-plane service between only thirty-six of these city pairs. Due to the lag in publishing passenger data for the CAB-regulated carriers,

25 PUC Decision No. 79985 (1973). See Jordan, supra note 7, at 2-4 for information regarding the PUC's regulatory authority.

26 Of the remaining 19 city pairs, nine were comprised of very short-haul segments among the Los Angeles area airports and such segments among the San Francisco area airports accounted for three more. Five consisted of the city pairs encompassing Palm Springs, on the one hand, and Los Angeles/Burbank/Long Beach/Ontario/San Diego on the other, and the last two were Long Beach-Oakland and Long Beach-San Jose. PUC, Present and Proposed Route Structures of California Certificated Air Carriers and Routes Operated by C.A.B. Certificated Air Carriers as of March 1, 1973, at 1, 1A, 11, 11A.
the most recent data available at that time were for the year ending June 30, 1971. The on-line origin and destination (O&D) passenger traffic carried by all airlines in these thirty-six city pairs for that year is given in Table II.

### Table II

On-Line Origin and Destination Passengers Carried by All Airlines in the 36 City Pairs Comprising the "California Corridor" Year Ended June 30, 1971

<table>
<thead>
<tr>
<th>Carrier</th>
<th>On-Line O&amp;D Passengers</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrastate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air California</td>
<td>810,957</td>
<td>9.9%</td>
</tr>
<tr>
<td>PSA</td>
<td>5,334,926</td>
<td>65.0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>6,145,883</td>
<td>74.9</td>
</tr>
<tr>
<td>Interstate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air West</td>
<td>87,140</td>
<td>1.1</td>
</tr>
<tr>
<td>American</td>
<td>94,330</td>
<td>1.1</td>
</tr>
<tr>
<td>Continental</td>
<td>13,720</td>
<td>0.2</td>
</tr>
<tr>
<td>Delta</td>
<td>43,660</td>
<td>0.5</td>
</tr>
<tr>
<td>National</td>
<td>27,880</td>
<td>0.3</td>
</tr>
<tr>
<td>TWA</td>
<td>162,800</td>
<td>2.0</td>
</tr>
<tr>
<td>United</td>
<td>887,500</td>
<td>10.8</td>
</tr>
<tr>
<td>Western</td>
<td>656,550</td>
<td>8.0</td>
</tr>
<tr>
<td>Unknown</td>
<td>89,100</td>
<td>1.1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2,062,770</td>
<td>25.1</td>
</tr>
<tr>
<td>Total</td>
<td>8,208,653</td>
<td>100.0</td>
</tr>
</tbody>
</table>


Looking at the percentages of total traffic for this regional market, one can see why DOJ might be concerned about Air California being merged with PSA. Alone, PSA carried 65 percent of total traffic for this fiscal year, while Air California was the third largest carrier with 9.9 percent of total traffic. A merger of these two carriers could well mean that PSA's share would increase to 74.9 per-
cent of the total regional market. Indeed, since one or the other of the two provided service for the entire year in only twenty-six of the thirty-six city pairs, and for just part of the year in five more (intrastate carrier service was inaugurated in the remaining five city pairs after June 30, 1971), it could reasonably be predicted that following the merger their full share of the California Corridor market would exceed 75 percent.

Local Markets

Impressive as the regional market data are, they do obscure an important consideration. Even though both Air California and PSA served the four largest population centers in the State, it happened that the PUC issued their route authorizations in such a way that, out of the thirty-six city pairs, there were only four in which both carriers provided service and thus produced the identical good. Furthermore, these four city pairs accounted for relatively small traffic flows—389,378 O&D passengers during fiscal year 1971, or less than five percent of total regional traffic. Surely it could be argued that, with these four minor exceptions, the merger would merely result in Air California being replaced by PSA, thereby leaving essentially unchanged the intrastate carrier share of each city-pair “market.” Given this, what difference would it make if PSA, rather than Air California, provided service in the former Air California “markets,” especially since PSA had a long-established reputation of providing excellent coach service at low fares?

On the face of it, this argument could claim support from economic theory since the theory emphasizes the number of suppliers of a product rather than the identity of individual firms in predicting market performance. But such support requires consistency in

27 PUC, Present and Proposed Route Structures of California Certificated Air Carriers Routes Operated by C.A.B. Certificated Air Carriers as of July 1, 1970, at 1, 1A, 12, 12A; as of July 1, 1971, at 1, 1A, 10, 10A; and as of March 1, 1973, at 1, 1A, 11, 11A.

28 Id. The four city pairs were Sacramento-Ontario, Sacramento-San Diego, San Diego-Oakland and San Diego-San Jose. Rival service had also been authorized between Burbank-Oakland and Burbank-San Jose. However, following thirteen month of operations, Air California terminated its service in those two city pairs on January 14, 1970. Air California, Notice of Special Meeting of Shareholders to be Held on April 7, 1970 (March 14, 1970), at 21. This general lack of direct rivalry in the 36 city pairs was mainly due to the PUC’s practice of authorizing the two carriers to serve different airports in the Los Angeles area. Also, Air California served Palm Springs while PSA did not.

29 Obtained from the sources specified for Table No. 2.
the market definitions and the fact is that the city-pair definition is inconsistent with the economic definition. The relevance of this difference is indicated by the following illustration. Consider the San Francisco market. While it is certainly true that San Francisco-Santa Ana (served by ACL) and San Francisco-Los Angeles/Burbank/Long Beach/Ontario (served by PSA) comprise five separate city-pair services, these services are provided through adjacent airports in the Los Angeles area. Thus, if there is evidence that services to these five airports are close substitutes for each other, it follows that PSA's replacing Air California in the San Francisco-Santa Ana city pair would not merely be a case of a product being supplied by one carrier instead of another. Rather, it would mean that PSA's share of the local San Francisco market for services to the Los Angeles area would have been increased by the merger. Furthermore, if services to Oakland and San Jose are also close substitutes for services to San Francisco International Airport, it can be seen that all services among the thirteen city pairs connecting the two areas would be substitutes for each other, both in the local Los Angeles market and in the local San Francisco market. Because eight of these services were provided by PSA and five by Air California, it would follow that the merger would have substantially increased PSA's shares in the two markets for these close substitutes as a group, regardless of there being only one intrastate carrier operating between each of the thirteen city pairs after the merger as well as before.

Because fares were either identical in the various city pairs or all changed proportionally, it is necessary to rely upon indirect evidence to determine whether or not individual city-pair services in the Los Angeles and San Francisco areas are close substitutes. Three kinds of evidence are helpful in this regard. First, the distances between the airports in each area provide an intuitive feel for their substitutability. Secondly, airline scheduling practices indicate whether or not the suppliers consider these products to be close substitutes. Finally, the responses of passengers to new services at the various airports indicate how users of airline services view their substitutability.

Airport distances are quite simple to determine. In the case of San Francisco, the three airports are located within twenty-nine to thirty-five freeway/highway miles of each other, while the distances
from downtown San Francisco to the Oakland airport is nineteen miles, and it is around twenty-three miles from downtown Oakland to San Francisco International. It is over forty miles from the San Jose airport to downtown San Francisco or Oakland, so service at this airport would be much less desirable to passengers traveling to or from these downtown locations. At the same time, however, the San Jose airport is very conveniently located for the large and affluent population located between the San Jose and San Francisco airports on the west side of San Francisco Bay, as well as the somewhat smaller population living on the east side of the Bay between San Jose and Oakland. With the possible exception of peak rush-hour periods, the driving times between any of these three airports and the major population centers in this area do not exceed one hour, and are generally much less. This is hardly an intolerable barrier to air travelers.

The Los Angeles market area is somewhat more complicated. The distances from downtown Los Angeles to the five surrounding airports range from fourteen miles (Burbank) to forty miles (Ontario and Santa Ana). Of course, given the dispersion of population in Los Angeles, the downtown area has less significance than is the case in most cities. Looking at the airport locations, it turns out that Santa Ana (on the south) is just nineteen miles from Long Beach, which is twenty miles from Los Angeles International, which is about twenty-eight miles from Burbank (on the north), which is fifty-two miles from Ontario (in the extreme east), which, finally, is forty-one miles from Anta Ana. Certainly, with the possible exception of Ontario, all these airports are located close enough to another airport so that the transfer of service from one to the other would not prevent large numbers of passengers from actually traveling by air.

The airlines' belief regarding the degree to which services at the various airports in each local market may be substituted for one another is demonstrated by the relative numbers of scheduled departures they perform at these airports. Each airport in these two areas is surrounded by large numbers of people and enterprises.

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32 Id.
A dispersion of flights among the airports would indicate a perceived need to provide specific services to each population group and thus a low substitutability of service among the various airports. In contrast, a concentration of flights at one major airport in each market would be evidence that the airlines believe service at one airport provides a close substitute for service at the other "satellite" airports. The relevant information for the CAB-regulated airlines is given in Table III.

**Table III**

Number of Scheduled Domestic Aircraft Departures Performed With Fixed-Wing Aircraft by CAB-Regulated Airlines at Each Airport in the Los Angeles and San Francisco Markets

<table>
<thead>
<tr>
<th>Market and Airport</th>
<th>Scheduled Domestic Departures Performed</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12/31/64 6/30/71 12/31/72 1964 1971 1972</td>
<td></td>
</tr>
<tr>
<td>Los Angeles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hollywood-Burbank</td>
<td>3,032 3,848 3,687 2.8 2.3 2.4</td>
<td></td>
</tr>
<tr>
<td>Long Beach Municipal</td>
<td>1,770 1,194 1,180 1.7 0.7 0.8</td>
<td></td>
</tr>
<tr>
<td>L. A. International</td>
<td>94,424 151,146 139,148 88.4 90.2 88.7</td>
<td></td>
</tr>
<tr>
<td>Ontario International</td>
<td>4,668 8,796 9,574 4.4 5.2 6.1</td>
<td></td>
</tr>
<tr>
<td>Orange County (Santa Ana)</td>
<td>2,873 2,642 3,230 2.7 1.6 2.0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>106,767 167,626 156,819 100.0 100.0 100.0</td>
<td></td>
</tr>
<tr>
<td>San Francisco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan Oakland</td>
<td>7,327 7,047 6,994 9.6 6.0 6.3</td>
<td></td>
</tr>
<tr>
<td>S. F. International</td>
<td>63,378 103,565 97,691 83.1 88.9 87.8</td>
<td></td>
</tr>
<tr>
<td>San Jose Municipal</td>
<td>5,526 5,939 6,578 7.3 5.1 5.9</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>76,231 116,551 111,263 100.0 100.0 100.0</td>
<td></td>
</tr>
</tbody>
</table>


These data show that the CAB-regulated airlines have consistently provided about 88 percent of all their scheduled departures through one major airport in each local market. This demonstrates that they do indeed consider service at one airport to be a close substitute for that provided through adjacent airports.

The response of passengers to the inauguration of services at satellite airports provides additional evidence of the degree to which such services are substitutes for that offered at major airports. A rapid and large passenger response to new service (at comparable
prices) at an airport would indicate that much of this is existing traffic diverted from adjacent airports. A relatively slow development of traffic in response to new service would indicate that the traffic is comprised of newly generated passengers from the local area who had not heretofore utilized air service when traveling, or who had not traveled at all because of the lack of such service. In other words, people who are already traveling by air will respond quickly to new, rival services which are close substitutes for existing services, but newly generated traffic will be relatively slow to appear since it entails a greater change in purchase patterns.

Starting in 1966 and 1967, PSA and Air California inaugurated low-fare coach service at satellite airports around Los Angeles and San Francisco. Initially these services connected a satellite airport in one area with the major airport in the other area (for example, Los Angeles-San Jose and Santa Ana-San Francisco), but by late 1967 new services were being inaugurated between two satellite airports (such as between Santa Ana, Burbank or Ontario on the one hand, and San Jose or Oakland on the other). Table IV compares the passenger traffic moving between all possible city pairs on all single-plane or connecting services existing prior to 1966, with that moving on the new single-plane services of PSA and Air California starting in 1966.

It can be seen from Table IV that traffic growth in the existing services essentially stopped following the inauguration of new services by PSA and Air California at the satellite airports despite the fact that total traffic moving between the Los Angeles and San Francisco areas showed a remarkably constant annual increase of about 600,000 passengers for 1966-68 on top of the roughly 450,000 annual increase for the three prior years. Actually, 1966 was the last year of significant traffic growth in the existing services, and much of this was probably due to the fact that the first of the new services was not inaugurated until May 18 of that year, and then only in the Los Angeles-San Jose city pair. The industry-wide recession of 1969-71 saw a reduction in traffic carried on the existing services while the new services continued to register gains. By 1971, the first year in which all the new services were available for the entire period, they accounted for 41.4 percent of total O&D passengers flying between Los Angeles and San Francisco. Then, in 1972, when there were no new service inaugu-
### Table IV

Passenger Response to New Services Inaugurated Between Los Angeles and San Francisco Through Satellite Airports

<table>
<thead>
<tr>
<th>Year</th>
<th>Existing Services</th>
<th>New Services</th>
<th>Total</th>
<th>Annual Increase in Total</th>
<th>Existing Services Total</th>
<th>New Services Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O&amp;D Passengers</td>
<td>LAX/BUR/LGB/ONT/SNA</td>
<td>SFO/OAK/SJC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td>1,601,933</td>
<td>—</td>
<td>1,601,933</td>
<td>—</td>
<td>48.3</td>
<td>44.8</td>
</tr>
<tr>
<td>1963</td>
<td>2,051,585</td>
<td>—</td>
<td>2,051,585</td>
<td>449,652</td>
<td>61.8</td>
<td>57.4</td>
</tr>
<tr>
<td>1964</td>
<td>2,483,788</td>
<td>—</td>
<td>2,483,788</td>
<td>432,320</td>
<td>74.8</td>
<td>69.5</td>
</tr>
<tr>
<td>1965</td>
<td>2,971,070</td>
<td>1,976b</td>
<td>3,947,136</td>
<td>1,375,158</td>
<td>89.5</td>
<td>83.2</td>
</tr>
<tr>
<td>1966</td>
<td>3,318,473</td>
<td>254,630c</td>
<td>3,573,103</td>
<td>600,057</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1967</td>
<td>3,328,468</td>
<td>850,523</td>
<td>4,178,991</td>
<td>605,888</td>
<td>103.3</td>
<td>116.9</td>
</tr>
<tr>
<td>1968</td>
<td>3,408,083</td>
<td>1,397,620</td>
<td>4,805,703</td>
<td>626,712</td>
<td>102.4</td>
<td>134.5</td>
</tr>
<tr>
<td>1969</td>
<td>3,278,498</td>
<td>1,921,724</td>
<td>5,200,222</td>
<td>394,519</td>
<td>98.8</td>
<td>145.5</td>
</tr>
<tr>
<td>1970</td>
<td>3,127,765</td>
<td>1,998,358d</td>
<td>5,126,123</td>
<td>— 74,099</td>
<td>94.3</td>
<td>143.5</td>
</tr>
<tr>
<td>1971</td>
<td>3,081,514</td>
<td>2,175,173a</td>
<td>5,256,687</td>
<td>130,564</td>
<td>92.9</td>
<td>147.1</td>
</tr>
<tr>
<td>1972</td>
<td>3,263,446</td>
<td>2,328,297a</td>
<td>5,591,743</td>
<td>335,056</td>
<td>98.3</td>
<td>156.5</td>
</tr>
</tbody>
</table>

| Year | Index Number | 1966 = 100 | |
|------|--------------|-------------|
| 1962 | 48.3         | 44.8        |
| 1963 | 61.8         | 57.4        |
| 1964 | 74.8         | 69.5        |
| 1965 | 89.5         | 83.2        |
| 1966 | 100.0        | 100.0       |
| 1967 | 103.3        | 116.9       |
| 1968 | 102.4        | 134.5       |
| 1969 | 98.8         | 145.5       |
| 1970 | 94.3         | 143.5       |
| 1971 | 92.9         | 147.1       |
| 1972 | 98.3         | 156.5       |

*a True O&D passengers for the CAB-regulated carriers, on-line O&D passengers for the California intrastate carriers.

*b PSA temporarily service between Los Angeles and San Jose from October 8 through October 11, 1965.

*c PSA inaugurated permanent service between Los Angeles and San Jose on May 18, 1966. These data are for that city pair from May 18 to December 31, 1966.

*d Includes 3,840, 19,650 and 15,240 true O&D passengers carried by Continental between San Jose and Burbank/Ontario during 1970, 1971 and 1972, respectively.

Sources: California Public Utilities Commission:


rations, the traffic growth for both groups of services was similar (5.9 vs. 7.0 percent). Clearly, passengers quickly switched their patronage to the new services as they were introduced.\(^{33}\) This rapid acceptance could only have happened had most of the passengers already been air travelers between the two areas, and thus one can conclude that these passengers considered the new services through

\(^{33}\) This conclusion is supported by detailed analyses of the ten city pairs receiving new services between 1967 and 1970.
the satellite airports to be close substitutes for the existing services.

The above analyses combine to demonstrate that flights provided at the five airports in the Los Angeles area all provide services which are close substitutes for services at one or more adjacent airports. The same conclusion applies to the three airports in the San Francisco area. Therefore, the relevant local geographic market in each of these two instances is indeed comprised of the entire area encompassing all airports rather than separate areas surrounding each individual airport. It follows that there were five relevant local geographic markets for the PSA-Air California acquisition—Los Angeles (served through five airports), Palm Springs, Sacramento, San Diego (each served through one airport), and San Francisco (served through three airports). Furthermore, it can be seen that PSA and Air California could not correctly argue that, with the exception of the four city pairs they both served, the acquisition would simply result in Air California being replaced by PSA so that there would be no change in intrastate carrier market share in each city-pair “market” following the merger. To the contrary, as shown in Table V, PSA’s shares of each of the five local markets would be increased by the merger.

Given the federal courts’ concern regarding post-merger market shares in excess of 20 percent it seems reasonable for the DOJ to have challenged a merger which yields local market shares for regional traffic of 35 to over 80 percent. Whether or not the federal courts would have prohibited the proposed merger will not be known due to the voluntary termination of the acquisition agreement. Of course, the question could be answered should Air California and PSA again propose to merge. If this occurs, and if the above local market definition is adopted in that proceeding, one might expect ACL and PSA to seek to calculate their market shares in the local California markets on the basis of total national passenger traffic rather than regional traffic. This would be based on the argument that various interstate services provide substitute airline products to the intrastate services operated by the two carriers. A rough idea of how market shares might look in such a situation

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34 The PUC, PSA, and a representative of the Los Angeles Department of Airports have come to the same conclusion in this matter. See, e.g., PUC Decisions No. 74114 (1968); PUC Decision No. 75297 (1969).
### Table V

Market Shares of Total Regional Traffic
For the Markets Served by Air California and PSA
12 Months Ended June 30, 1971

<table>
<thead>
<tr>
<th>Market</th>
<th>Number of Originating Passengers*</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACL</td>
<td>PSA</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>519,182</td>
<td>3,417,056</td>
</tr>
<tr>
<td>Palm Springs</td>
<td>876</td>
<td>—</td>
</tr>
<tr>
<td>Sacramento</td>
<td>—b</td>
<td>80,693</td>
</tr>
<tr>
<td>San Diego</td>
<td>6,894c</td>
<td>271,289</td>
</tr>
<tr>
<td>San Francisco</td>
<td>284,005</td>
<td>1,565,888</td>
</tr>
<tr>
<td>Total</td>
<td>810,957</td>
<td>5,334,926</td>
</tr>
</tbody>
</table>

*Since the actual origins of on-line passengers traveling between individual city pairs is not published, the number of passengers originating in each local market was estimated by allocating city-pair O&D passengers on the basis of the following 1970 population data: Los Angeles = 9.1 million, Palm Springs = 0.1 million, Sacramento = 1.0 million, San Diego = 1.4 million, and San Francisco = 4.2 million.

b ACL inaugurated service at Sacramento in September 1971. Therefore, there will be a reallocation of market shares from PSA and the CAB-regulated carriers to ACL for periods subsequent to June 30, 1971.

c ACL inaugurated service at San Diego in November 1970. Therefore, these data are for an eight-month period and will doubtless be larger for periods subsequent to June 30, 1971.

d Total is larger than in Table No. 2 due to the inclusion of six city pairs which becomes appropriate due to the adoption of the local market definition. The city pairs are: LGB-OAK/SJC and PSP-LAX/BUR/LGB/ONT.

Sources: Same as Table II.


It would seem that, given existing federal court decisions, local market shares for total domestic traffic of between thirty-three to forty-six percent offer Air California and PSA little relief from the provisions of the Clayton Act. This, however, is not the key point of this article. The important factor here is that a consistent definition of markets yields data that can be properly evaluated in terms of existing economic theory and court precedents.

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25 The low traffic growth during 1970 and 1971 (see Table No. 4) should result in only small errors due to this combining of data from overlapping periods. Note that there has been no effort made to allocate O&D passenger totals between points of origin and destination. Therefore, there is double counting in these data.
### Table VI

Market Shares of Total National Traffic in the Major Markets Served by Air California and PSA
Composite Year 1970/71

<table>
<thead>
<tr>
<th>Market</th>
<th>Number of Passengers Originating/Terminating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>749,277</td>
</tr>
<tr>
<td>Sacramento</td>
<td>—a</td>
</tr>
<tr>
<td>San Diego</td>
<td>33,149b</td>
</tr>
<tr>
<td>San Francisco</td>
<td>794,500</td>
</tr>
</tbody>
</table>

* ACL inaugurated service at Sacramento in September 1971. Therefore, there will be a reallocation of market shares from PSA and CAB-regulated carriers to ACL for periods subsequent to June 30, 1971.

* ACL inaugurated service at San Diego in November 1970. Therefore, these data are for an eight-month period and will doubtless be larger for periods subsequent to June 30, 1971.

Sources: Same as Table I.


### Conclusion

It is unfortunate that confusion over the meaning of the word "market" serves to reduce the usefulness of economic theory in the formulation of transportation policies and, subsequently, in the making of decisions that are consistent with these policies. It is especially unfortunate because the confusion is easy to eliminate. One simply has to recognize that service between a particular city pair is a specific transport product, not a "market," which one or more carriers offer in exchange for other goods, represented by money, in various national, regional and local markets. Given this, it becomes perfectly feasible to collect information pertaining to the relevant contiguous geographic market areas, consistent with the established structure of economic theory and supportive empirical findings. The analysis of such information in terms of the existing fund of economic knowledge provides the basis for formulating more accurate and reliable predictions regarding the results of alternative decisions.

The cases discussed in this article are examples of how definitional confusion can mislead decision makers concerning antitrust implications of airline mergers. The same confusion affects de-
cisions in still other areas of transport activity. Hopefully, the recognition of this fundamental problem will help in the more effective achievement of desired policy goals.

APPENDIX A

STATUTORY OUTLINE

AVIATION CORPORATE ENTERPRISE

Subchapter I. General Provisions

Sec. 1. Policy and Purpose

(a) The Congress declares that it is the policy of the United States to establish, as expeditiously as practicable, an air traffic control system, which will be responsive to public safety and needs and national objectives, and will serve the aviation needs of the United States public, and postal service, and the national defense.

(b) The new and expanded Aviation Control System services are to be made available as promptly as possible to all users of the air space of the United States. In implementing this program, care and attention will be directed toward providing services on an economically equitable basis, and toward the full implementation of new technology concerning both quality and quantity of avigation related services.

(c) In order to facilitate this development and to provide for the widest possible participation by private enterprise, United States participation in this system shall be in the form of a private corporation, subject to appropriate government fiscal regulations. It is the specific intent of Congress that all users have nondiscriminatory access to this system, that maximum competition be maintained in the provision of equipment and services utilized by this system, that the corporation created by this statute be so organized and operated as to maintain and strengthen development of avigational technology, in that the activities of the corporation created under this statute and of the persons or companies participating in the ownership of the corporation shall be consistent with the Federal Anti-Trust Laws.

(d) This statute may be cited as “Avigation Control Act of 1975.”
Sec. 2. Definitions

(1) The term 'aviation control system' refers to a system of radio, radar, computers and associated technological machinery and methods whose purpose is to facilitate the movement of vehicles, people and cargo by air for profit or pleasure.

(2) The term 'aviation travel' refers to the movement of persons or cargo by air, or the operation of any vehicle or instrumentality free of any connection with the ground and in the air space above the United States.

(3) The term 'research and development' refers to the conception, design, and first creation of experimental or prototype operational devices for the control and/or regulation of aviation.

(4) The term 'aviation common carrier' has the same meaning as the term 'common carrier' as when used in the Federal Aviation Act of 1958, as amended.

(5) The term 'corporation' refers to the Aviation Corporate Enterprise (ACE) as by subchapter III of this statute.

(6) The term 'administration' means the Federal Aviation Administration.

(7) The term 'department' means the Department of Transportation.

Subchapter II. Functions and Planning

Sec. 3. Executive Functions

In order to achieve the objectives and to carry out the purposes of this statute the President of the United States shall:

(1) Aid in the planning and development and foster as expeditiously as possible, the implementation of a national program for an avigational system which is to be established and operated for the least capital outlay consistent with safety;

(2) Provide for continuous review of all phases of the development and operation of such a system, including the activities of an avigational control system authorized under subchapter III of this statute;

(3) Coordinate the activities of governmental agencies with responsibilities in the field of aviation, so as to insure that there is full and effective compliance at all times with the policies set forth in this statute;
(4) Exercise such supervision over the corporation's relationships with foreign governments or entities or with international bodies as may be appropriate to assure that such relationships shall be consistent with the national interest and foreign policy of the United States;

(5) So exercise his authority as to attain coordinated and efficient maximum utilization of the air space of the United States.

Sec. 4. Administrative Functions

The Federal Aviation Administration shall:

(1) Advise the Department of Transportation concerning the desirable technical objectives of an avigational control system;

(2) Cooperate with the corporation in research and development to the extent deemed appropriate to the public interest;

(3) Assist the corporation in the conduct of its research and development program by furnishing to the corporation such testing facilities and associated services as the corporation deems necessary for the most expeditious and economical development of the avigational control system;

(4) Consult with the corporation with respect to the technical characteristics of the avigational control system;

(5) To the extent feasible, furnish such other services, on a reimbursable basis, to the corporation in connection with the establishment and operation of the system, as the corporation requests.

Sec. 5. Department Functions

The Department of Transportation shall:

(1) Insure that all present and future licensed personnel shall have nondiscriminatory use of, and equitable access to, the avigational control system;

(2) Insure that the facilities of the avigational control system are technically compatible and operationally interconnected with each other and with existing air control facilities, including airport control services, as necessary;

(3) Prescribe such accounting regulations and systems and engage in such rate making procedures as will insure that any economies made possible by an avigational control system are appropriately reflected in user taxes, fares and rates;

(4) Grant appropriate authorizations for the construction and
operation of each station in the avigational control system, either to the corporation or to one or more of the authorized carriers or the corporation and one or more such carriers jointly as will best serve the public interest, convenience and necessity;

(5) Authorize the corporation to issue shares of capital stock or to borrow any monies, or to assume any obligation in respect of the securities of any other person upon a finding that such issuance, borrowing, or assumption is compatible with the public interest, convenience and necessity, and is necessary or appropriate for or consistent with carrying out the purposes and objectives of this statute by the corporation;

(6) Insure that no additions are made by the corporations or carriers with respect to the facilities of the system unless such additions are required by the public interest, convenience and necessity as determined by open public hearings at the location of the proposed addition;

(7) Draft and enforce such rules and regulations as are necessary to carry out the provisions and intent of this chapter.

Subchapter III. Avigation Control Enterprise

Sec. 6. Creation and Reservations

There is created an avigation control corporation for profit which will not be an agency or establishment of the United States government. The corporations shall be subject to the provisions of this statute and, to the extent consistent with this statute, to the District of Columbia Business Corporation Act. The right to repeal, alter, or amend this statute at any time is expressly reserved. The corporation is to be known as the 'Avigation Control Enterprise'.

Sec. 7.

The President of the United States shall appoint incorporators who shall serve as the initial Board of Directors, for a period not to exceed nine months, until the first annual meeting of stockholders. Such incorporators shall arrange for an initial stock offering and take whatever other actions are necessary to establish the corporation, including the filing of Articles of Incorporation as approved by the President.
Sec. 8. Corporate Structure

(a) The corporation shall have a Board of Directors consisting of individuals who are citizens of the United States, of whom one shall be selected annually by the President to serve as Chairman. Two members of the Board shall be appointed by the President of the United States, by and with the advice and consent of the Senate, effective the date on which the other members are elected and for terms of three years or until their successors have been appointed and qualify. The first two members of the Board so appointed shall continue in office for terms of one and two years respectively, and any member so appointed to fill a vacancy shall be appointed only for the unexpired term of the director whom he succeeds. Two members of the Board shall be elected annually by those stockholders who are aviation common carriers and three shall be elected annually by public stockholders of the corporation.

No stockholder who is an aviation common carrier and no trustee for such a stockholder shall vote, either directly or indirectly, through the votes of subsidiaries or affiliated companies, nominees or any persons subject to their direction, control, or employment for more than two candidates for membership to the Board. Subject to such limitation, the Articles of Incorporation to be filed by the incorporators, designated under Section VI of this statute shall provide for cumulative voting under the relevant portions of the District of Columbia Business Corporation Act.

(b) The corporation shall have a president, and such other officers as may be named and appointed by the Board, at rates of compensation fixed by the Board, and serving at the pleasure of the Board. No individual other than a citizen of the United States may be an officer of the corporation. No officer of the corporation shall receive any salary from any source other than the corporation during the period of his employment by the corporation. No officer of the corporation shall be employed by any Aviation common carrier, manufacturer or subsidiary for a period of six months prior to, or 24 months subsequent to appointment or separation from the corporation.

Sec. 9 Corporate Powers

In order to achieve the objectives and to carry out the purposes of this statute, the corporation is authorized to fully utilize all the
natural powers conferred upon a stock corporation by the District of Columbia Business Corporation Act.

Sec. 10. Financing

(a) The corporation is authorized to issue and have outstanding, and in such amounts as it shall determine, shares of capital stock, without par value, which shall carry voting rights and be eligible for dividends. The shares of such stock initially offered to the public shall be sold at a price not in excess of twenty dollars ($20) for each share and in a manner to encourage the widest distribution to the American public. All other shares offered shall be offered at a price of not less than two thousand ($2,000) dollars. Subject to the provisions below, shares of stock offered under this sub-section may be issued to and held by any person.

(b) For the purposes of this section the term 'common carrier' shall mean a domestic or foreign common carrier which is specifically authorized, or which is a member of a class of carrier authorized, to own stock in the corporation upon a finding by the administration that such ownership will not be inconsistent with the public interest, convenience and necessity. Only those common carriers which are so authorized shall own shares of stock in the corporation at any time.

(c) At no time shall the aggregate of the shares of the voting stock of the corporation owned by authorized domestic and foreign carriers directly or indirectly exceed 50 percent of such shares issued and outstanding. At no time shall any individual stockholder who is not an authorized carrier or any syndicate or affiliated group of such stockholders, own more than 10 percent of the shares of voting stock of the corporation issued and outstanding.

(d) All proceeds for the user charge system developed by the corporation pursuant to Section IV of the statute shall be utilized by the corporation to further the goals outlined in this statute.

Subchapter IV. Miscellaneous Provisions

Sec. 11. Corporate Status

The corporation shall be deemed to be a common carrier within the meaning of the Federal Aviation Act of 1958, as amended, and as such shall be fully subject to the provisions of that act. Whenever
the application of the provisions of this statute shall be inconsistent with the application of the Federal Aviation Act, the provisions of this statute will govern.

Sec. 12. International Activities

Wherever the corporation shall enter into business negotiations with respect to facilities, operations, or services authorized by this statute with any international or foreign entity it shall notify the Department of State of the negotiations, and the Department of State shall advise the corporation of relevant foreign policy considerations. Throughout such negotiations the corporation shall keep the Department of State informed with respect to such considerations. The corporation may request the Department of State to assist in the negotiations, and that Department shall render such assistance as may be appropriate.

Sec. 13. Penalties and Sanctions

(a) If the corporation created pursuant to the statute shall engage in any action or practice or policy inconsistent with the policies and purposes of this statute the district court of the United States for any district in which this corporation resides or may be found shall have jurisdiction upon petition of the Attorney General of the United States to grant such equitable relief as may be necessary or appropriate to prevent or terminate such conduct.

(b) The corporation shall not be liable for damages in any civil action of any kind in any court of jurisdiction in any action related to or concerning the provision of services to users. In all other respects, however, the corporation is to be liable as an individual.

(c) It shall be the duty of the corporation and all aviation common carriers, to comply with all provisions of this chapter and all rules and regulations promulgated thereunder.

Sec. 14. Reports

(a) The President shall transmit to the Congress in January of each year a report which shall include a comprehensive description of the activities and accomplishments of the corporation during the preceding calendar year. In addition, the report shall include an evaluation of such activities and accomplishments in terms of the attainment of the objectives of this statute and any recommenda-
tions for additional legislative or other action which the President may consider necessary or desirable for the attainment of such objectives.

(b) The corporation shall transmit to the President and the Congress, annually and at such other times as it deems desirable, a comprehensive and detailed report of its operations, activities, and accomplishments under this chapter.

(c) The Federal Aviation Administration shall transmit to the Congress annually and at such other times as it deems desirable, a report on its actions, activities and practices as they may apply to the avigation control system incorporation, an evaluation of such activities and actions with a view to recommending additional legislation which the Federal Aviation Administration may consider necessary or in the public interest.

Sec. 15. User Charges

The corporation shall formulate and submit to the Congress for comment a schedule of charges to levy on all users of the Air Traffic Control System herein established. Such system shall be reasonable in nature and scope and shall not increase the current costs incurred by the operator of any general aviation aircraft. Such system of charges shall foster the growth of general aviation operations as essential to the national defense and postal needs of the United States of America.