THE ADVANTAGES OF FREE MARKET CONDITIONS OVER ECONOMIC REGULATION IN THE NORTH AMERICAN DOMESTIC AIR TRANSPORT INDUSTRY

BY

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES (CONT'D.)

SECTION 1

INTRODUCTION

A. Scope and Purpose of this Paper

These contents are intended to provide sufficient information to prove the hypothesis that the experience of economic airline regulation in North America has resulted in air fares being higher than if no economic regulation had existed.

B. Date of this Paper

The collection of information required for this research paper began in September, 1973. Substantial completion of this report was made in February, 1974, and was finalized in April, 1974.

C. Organization of this Paper

Section 2, A Summary of Conclusions follows this Introduction. Section 3 is a brief description of the paper's General Intent and Methodology. A discussion of the Regulatory Bodies of Canada and the U.S.A. is presented in Section 4. Commercial Airline Regulation is examined for Canada in Section 5 and for the U.S.A. in Section 6. A Survey of the Literature is presented in Section 7. California's Scheduled Airline Service is discussed in Section 8 and in Section 9 the Boston-New York- Washington Shuttle while in Section 10 a Comparison of these two services is made. Section 11 is a short description of the U.S.

nonscheduled airline industry and the Atlantic charter business. The final section, Section 12, draws from Section 10 to present the Implication for Canada if economic regulation of air carriers was dropped.

SECTION 2

SUMMARY OF CONCLUSIONS

This paper investigates the advantages of airline transportation which is not regulated economically. It compares the intrastate service in California, which until 1965 had free carrier entry and fare levels, and the major Northeast U.S. interstate route between Boston, New York, and Washington, where entry and fare levels are controlled by the federal Civil Aeronautics Board.

Coach service on the 340 mile route between Los Angeles and San Francisco at a fare of $9.99 was introduced by an intrastate carrier in 1949. Other carriers entered the same service that year including Pacific Southwest. United and Western operated their own coach services starting in 1950. By 1956 Pacific Southwest had become the major intrastate carrier. From 1954 to 1958 its fares remained at $9.99 going to $13.50 in 1961 while those of the interstate carriers was $13.50 going to $16.45 in 1961.

The years 1962 - 1963 saw another influx of carriers that had been able to acquire jet-displaced aircraft at bargain prices. The existing fares were cut and again the interstate carriers were forced to react. The most important was the introduction of Boeing 727 jet coaches at a fare of $13.50 in 1964.

In 1965 the California Public Utilities Commission was given additional authority over the entry, exit and service of the intrastate carriers. In 1970 Pacific Southwest made its first attempt to acquire Air California, an intrastate carrier. This is noteworthy since it occurred after the P.U.C. had been given entry powers and the first attempt by one intrastate carrier to acquire another. The fare in 1974 of $16.50; 4.85¢ per mile; is the lowest in the world.

Coach service was introduced in the major Northeast U.S. routes in 1953 and the fares were about 77 percent of first class fares while those in California were about 61 percent. Eastern Air Lines introduced low-cost service in 1961 with some of its older equipment. The original fares from New York to Boston and Washington were $10.91 and $12.73 respectively. By 1973 the fares from New York to Boston and Washington had become $24 and $26 respectively. This was 12.68¢ per mile to Washington and 12.77¢ per mile to Boston while the intra-California was 4.85¢ per mile.

Low fares had originally been associated with older aircraft and their attendant low capital costs. In 1964 United introduced Jet Commuter services in California while Eastern did not use jets on its shuttle service until 1966. Since the P.U.C. before 1965 did not regulate fares and the C.A.B. did, rivalry between interstate carriers could only be expressed in service levels while within California it could be expressed through lower fares.

Aeronautics within Canada is controlled only by the federal government. Trans-Canada Air Lines, operated all of Canada's major domestic and international services from 1937 to 1957. In 1958 Canadian Pacific Air Lines was allowed to enter the transcontinental service and the result was an improvement in meals and other cabin service.

Canada's first low-fare service was introduced by Pacific Western Airlines in 1963 between Calgary and Edmonton. By 1973 when it was the only carrier on the route fares had climbed to $18; 10.47¢ per mile. This rate was higher than that of 9.52¢ per mile between Toronto and Montreal, or $30. Air Canada introduced its Rapidair service between the two centres which only provided a quicker boarding service rather than lower fares. As long as Air Canada is relatively protected from competition it will have little incentive to reduce its fares.

Low coach fares could appear in Canada if airline entry and fare levels were not regulated. This would lead to stable market conditions because operating airlines would keep their fares low enough to avoid attracting potential operators. Selective route deregulation is undesirable since it would allow existing carriers to price below their marginal costs and demonstrate that such a service is unprofitable. If the 1974 California per mile coach rates of 4.85¢ were used in Canada fares from Toronto to Montreal and Vancouver would drop from $34 to $15.29 and from $131 to $100.78 respectively. Such reductions in fares would open up new travel markets.

SECTION 3

GENERAL INTENT OF THIS RESEARCH PAPER AND METHODOLOGY

A. General Intent of this Research Paper

Commercial aviation has become an every-day part of the North American business community. Its importance has increased greatly since the jet age and a greater proportion of the general public have flown in recent years than in any other previous period. Almost without exception the public has accepted, either knowingly or unknowingly, the existence of economic regulation by government over commercial airlines. The hypothesis of this paper is that the existence of such economic regulation has resulted in higher fares to more members of the air travelling public than would be the case if no economic regulation existed.

B. Methodology

Prior to 1965 economic regulation of air carriers did not exist for those intrastate companies that flew only within the borders of California. Interstate air carriers in the U.S. and all private carriers within Canada have been subject to economic regulation since the 1930's. Fares on a per mile basis at comparable periods and for comparable routes over the two types of services, regulated and non-regulated, will be used to test the influence that economic regulation creates. If per mile fares within California are lower for comparable routes then the hypothesis is true. That is, if the hypothesis is true then the economic regulation of commercial airlines results in higher fares than would be the case if such regulation did not exist.

SECTION 4

THE REGULATORY BODIES

In most countries air transportion is regulated economically by government agencies rather than relying on the activities of the market place. This regulation usually takes the form of restricting entry into the industry and the arrangement of routes and fares. It is the proposition of this paper that such governmental action has, among other things, resulted in higher fares and uneconomic activities than would have occurred if such regulation did not exist. To demonstrate this the contents of this paper will compare the intrastate air coach service between San Francisco and Los Angeles, where regulation under the California Public Utility Commission (P.U.C.) prior to 1965 did not restrict entry and rarely exercised control over fares, and the interstate service between Boston, New York and Washington,D.C. which is regulated by the Federal Civil Aeronautics Board (C.A.B.) which has actively restricted entry and effectively controlled fares. Finally, Canadian commercial air transportation will be looked at as well as the probable result of introducing California-level rates.

A. The U.S. Civil Aeronautics Board.

Regulatory bodies are usually set up with laudatory motives and lofty prose. The U.S. Civil Aeronautics Board (C.A.B.) was empowered to promote, encourage and develop an adequate, economical and efficient air transportation system with reasonable charges, without unfair or destructive competitive practices appropriate for the present and future requirements of the commerce of the U.S., its postal service and national defence.

The manner in which the C.A.B. carries out its aims is by exercising supervision and control of entry into the industry through the issuance of certificates of public convenience and necessity, which are required by every interstate air carrier in order to operate, by determining which airline will serve which city, setting rates, giving direct subsidies, setting terms of mail carriage and approving or preventing mergers, acquisitions and transfers of control of air carriers. The actions so approved are immune from antitrust laws.

Airlines operating prior to the passage of the 1938 Civil Aeronautics Act were covered by a "grandfather clause" which granted these carriers permanent certificates for their networks. The route certificates protected existing carriers from potential new outside competitors and resulted in monopolistic or oligopolistic service between cities. Of the sixteen domestic trunk airlines which existed in 1938 only ten remained in 1974, as shown in Figure 1. Merger negotiations were also going on which if completed would eliminate two or three of the remaining carriers. During the entire existence of the C.A.B. there have been special cases, such as the

Figure 1

1974 U.S. Domestic Trunk Air Carriers with Acquisitions since 1938

Major Domestic Trunk Carrier	Year Founded	Acquisition since 1938
American	1930	1971 - Trans Caribbean
Braniff	1930	1952 - Mid-Continent 1967 - Pan American-Grace
Continental	1937	1955 - Pioneer
Delta	1934	1953 - Chicago & Southern 1972 - Northeast
Eastern	1930	1956 - Colonial 1967 - Mackey 1971 - Caribair
National	1934	
Trans World	1925	1941 - Marquette
United	1929	1961 - Capital
Western	1925	1952 - Inland 1967 - Pacific Northern

Source: Moody's Transportation Manual, 1973.

New York - Puerto Rico and Seattle - Alaska routes where carriers which were not in existence prior to 1938 have been allowed to become scheduled trunk carriers.

Trans Caribbean Airways was organized as a non-scheduled airline in 1945 and commenced irregular operations from New York to Puerto Rico in 1946. Pan American had a scheduled monopoly on this route and in a C.A.B. decision in 1950 Eastern was allowed to enter this service. After two more applications, Trans Caribbean was authorized in 1956 to operate a twice-weekly "supplemental" service on this route and in 1957 it won approval for a scheduled certificate between New York and Puerto Rico. In 1971 the company merged with American Airlines.

The Pacific Northwest-Alaska route was another territorial area which had received the benefit of postwar nonscheduled operators. In 1950 Pacific Northern was awarded a Seattle - Anchorage route by the C.A.B. and in 1951 President Truman confirmed this and also gave Alaska Airlines a Seattle - Fairbanks route. Pacific Northern commenced a Seattle - Ketchikan - Juneau - Anchorage route in 1953 and in 1967 merged with Western. Alaska Airlines remains as the only territorial trunk carrier.

In his Barriers to New Competition, Joe S. Bain, points out the three following sources of disadvantages to new firms entering an industry:

(1) the existence of economies of scale,
(2) product differentiation, and
(3) absolute cost advantage.

The phenomenal growth in air passenger traffic has for all intents and purposes meant that most markets are of sufficient size to eliminate the problem of economies of scale with regard to traffic. Concerning the operation of aircraft the President of Northwest, Donald Nyrop, stated that the minimum number of Douglas DC-8 or Boeing 707 jet aircraft which could be used efficiently would be five or six. Referring to medium jets he felt that seven to ten aircraft would be the minimum efficient fleet size. Product differentiation has little importance to the airlines since one jet aircraft does not differ significantly from another and since the outstanding service features of one carrier can easily be copied by another. There is, however, one area of product differentiation where new carriers may suffer a drawback. The new airline, particularly if it seeks business on the basis of low price and relatively spartan service, might well face a disadvantage due to consumer suspicion of its safety, whether objective information warranted this or not.[1] It is apparent that Bain's first two barriers to entry would have little effect on new carriers but absolute costs could. With the cost of a McDonnell - Douglas DC -10 approximately $21 million it is easily seen that capital requirements are large. The experience of the major supplementals and intrastate carriers tend to indicate that the problem of raising capital is not insurmountable where services are economic. The fact remains, however, that no domestic carrier not operating prior to 1938 has developed into a scheduled domestic trunk carrier. The C.A.B. has acted as a club with an exclusive membership.

B. <u>The California Public Utilities Commission</u>.

Prior to September 1965, the California Public Utilities Commission (P.U.C.) had authorization over scheduled air service prices within the state. Since that time, however, the P.U.C. was given further jurisdiction over the entry, exit and service of intrastate air carriers. Since these additional powers decrease, if not eliminate, the effect of

1. Caves, Richard E. <u>Air Transport and Its Regulators</u>,p.88.

the market place this paper covers only the period from 1946, when the first intrastate carrier started operations, to 1965, when the new P.U.C. regulations came into effect.

The P.U.C. took a realistic view of the airline industry by only requiring proof of the financial responsibility of its intrastate applicants. It seemed to take it for granted that an applicant would have carried out its own feasibility studies and found that it could operate its airline service profitably. Since the costly process of petitioning did not exist those costs were not passed on to consumers.

C. A Comparison of the C.A.B. and the California P.U.C.

A comparison of the economic regulatory power of the Federal C.A.B. and the California P.U.C. during this period, shown in Figure 2, shows that the air carriers that were certified by the C.A.B. operated under extensive regulation while those operating under the P.U.C. operated under relatively limited regulation. In this paper carriers will be classed into two groups, that is, C.A.B. regulated and P.U.C. regulated. The hypothesis is that if these two groups of airlines are run under similar operational, technological and economic conditions then any major differences in performance between the two groups can be attributed to the differences in economic regulation.

Figure 2

Comparison of the Economic Regulatory Power of the C.A.B. and the California P.U.C. from 1946 to September 1965

Regulatory Area	Scope of Regulatory Power			
	C.A.B.		California P.U.C.	
	Direct	Indirect	Direct	Indirect
Entry and Exit	Complete	-	None	Very Limited
Service	Limited	Great	Insurance Only	Limited
Price	Complete	-	Complete	-

Source: William A. Jordan, Airline Regulation in America. (Baltimore: The John Hopkins Press, 1970) p.3.

D. The Canadian Transport Commission

The Canadian Transport Commission (C.T.C.) was created in 1967 and a department, the Air Transport Committee, looks after the regulation of commercial aviation. The Government intended that its national objectives would be attained when the different transport modes are able to compete freely consistent with nonrestricting regulation. As the term "nonrestricting regulation" appears to be contradictory it is not surprising that the Air Transport Committee of the C.T.C. has carried on in a manner substantially unchanged from that of its predecessor the Air Transport Board. For all intents and purposes it is Canada's counterpart to the C.A.B. and follows the same procedures. Petitioning by applicants is required and lengthy hearings follow. The C.T.C. stresses competition but fails to recognize that if it ceased to exist that transport competition and efficiency would be maximized.

SECTION 5

COMMERCIAL AIRLINE REGULATION IN CANADA

Legislative authority in Canada over aviation resides with the Federal Government. This is because the British North America Act of 1867 states that certain matters are within the exclusive authority of the Federal Government and that others are within the exclusive jurisdiction of the Provinces and that any subject that is not specifically reserved for provincial control falls to the control of the Federal Government. Interprovincial transportation and transport facilities which lie wholly within one province but which have been declared to be for the general advantage of Canada or for more than one province are directly under Federal jurisdiction. Although the jurisdiction over intra-provincial aviation was in some doubt rulings by the Supreme Court of Canada in 1930 and the Privy Council on appeal in 1931 stated that the Federal Government did have exclusive authority over all aviation within Canada.

A. Early Canadian Regulation

The earliest Canadian aeronautical regulation came with the creation of the Air Board Act of 1919. The Air Board was to license aircraft and pilots, authorize routes and in general be responsible for navigation and safety. Its Air Regulations were principally about flying's technical stages. The Air Board was replaced by the Department of National Defense in 1923 and the Air Board Act became the Aeronautics Act.

A Controller of Civil Aviation in the Department of National Defense was appointed in 1926 and he was given the responsibility for drafting, revising and enforcing air safety regulations, subject to the approval of the Cabinet.

Finally, in 1936, the Government created a new Department of Transport with an Air Services Division to which it assigned the administration of civil aviation policy generally.[2] The Board of Transport Commissioners was given regulatory powers over aviation in 1938. Until this time economic regulation did not exist. The B.O.T.C. was given the authority to issue certificates of public convenience and necessity before new routes could be flown, although a "grandfather rights" clause protected existing operators. Tariffs also had to be approved by the B.O.T.C. The Minister of Transport was the Hon. C.D. Howe who was also the Minister responsible for Trans Canada Airlines (T.C.A.) which was created in 1937.

It was not coincidental that T.C.A. should be formed one year and means of protection for it, the B.O.T.C., the following year. The Hon. C.D. Howe was determined that T.C.A. should not be subject to competition but he did not officially inform the B.O.T.C. of his intentions. The B.O.T.C. had only the power to issue licenses to scheduled operators between

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2. Corbett, David, Politics and the Airlines (London: George Allen & Unwin Ltd. 1965) p. 33.

points which had been specified or "named" by the Cabinet, and therefore, presumably the Minister of Transport. The "naming" provision was in any case sterile because should the Board refuse a license between the named points, the applicant was perfectly free to serve adjacent points without a license if they were unnamed.[3] The Cabinet could interfere with the decisions of the B.O.T.C. by naming or unnaming a route. After the Vancouver - Victoria case of 1943, related more fully in Section 12, the B.O.T.C. was instructed by the Hon. C.D. Howe not to issue any more route licenses.

B. The Air Transport Board

After a number of speeches in 1943 and 1944 by Prime Minister Mackenzie King and the Rt. Hon. C.D. Howe in which they stated that mainline aviation would become the sole preserve of T.C.A. the Air Transport Board (A.T.B.) was created by the Aeronautics Act of 1944. Whereas the Board of Transport Commissioners was a quasi-judical body and had embarrassed the Government by impeding its policies, the new Air Transport Board was to be advisory in character, under the authority of the Minister of Transport.[4]

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3. Hughes, William, Public Policy and Airline Competition in Canada (Unpublished D.B.A. dissertation, Indiana University, 1961) p. 106.

4. Corbett, Politics and the Airlines, p. 165.

The Minister was the Rt. Hon. C.D. Howe.

The A.T.B.'s general powers included:

1) carrying out investigations and surveys that related to commercial air service operations and development, as directed by the Minister;

2) advising and making recommendations to the Minister regarding civil aviation; and,

3) the granting of route licenses.

The A.T.B.'s power over route licenses was limited since licenses authorized by the A.T.B. were subject to the approval of the Minister and applicants whose licenses the A.T.B. cancelled or did not approve could appeal the decision to the Minister. The A.T.B. was required to grant T.C.A. a license for any route placed in the T.C.A. route network by the Government. Even the choice of A.T.B. members appeared to be designed to allow the Rt. Hon. C.D. Howe to become the "dictator" of Canadian aviation. It is clear that the Canadian boards and commissions are not the "independent" commissions of the United States.[5]

C.D. Howe made a further pronouncement in 1944. This was the "divestment order" which stated that within one year of the end of World War Two all surface transport companies would have to sell any investment that they had in airlines. This was an obvious attack on the Canadian Pacific Railway which was hoping to expand its airline services throughout the world. Early in 1946 a one year deferment was announced

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5. Hughes, Public Policy and Airline Competition in Canada, p. 84.

and later withdrawn as it affected Canadian Pacific. From this time on all surface transport operators could apply to the A.T.B. for a route license but the Cabinet had to approve it as being in the public interest.

In the immediate postwar period the Government chose C.P.A. as the Canadian carrier in 1948 to represent Canada on the Pacific international routes although T.C.A. had priority over all other international routes. This may not have been altruistic on the Government's behalf but rather because it felt that the losses on those services would be fairly heavy and they did not want T.C.A. to incur any losses. Prime Minister Mackenzie King retired in the same year and it may be that the decision of the Liberal Government may have been prompted by the forthcoming election in the following year. In the next few years members of the new Cabinet made speeches stating that monopoly airline services would not always be preserved. As if to test the veracity of those speeches C.P.A. applied in 1952 to operate an all-cargo scheduled service between Montreal, Toronto and Vancouver via Edmonton. The A.T.B. looked favourably upon the application but since C.P.A. was owned by a surface carrier the final decision had to be made by the Cabinet. In 1953 the Cabinet stated that C.P.A.'s application was not in the public interest at this time. By the end of 1955 the Government had announced that regional competition might be allowed in certain cases but it was obvious that the Liberal Government was protecting T.C.A. from domestic competition and, as far as possible, from losses on international routes.

C. Canadian Aviation Regulation of the 1950's and 1960's

Time was running out for the Liberals and their policy of monopolistic mainline air services operated by T.C.A. The Progressive Conservative party was elected in 1957 and promptly commissioned Stephen Wheatcroft, the noted British aviation economist, to report on the economic viability of airline competition in Canada.

1. The Wheatcroft Report

Wheatcroft reported back to the new Government in 1958 in Airline Competition in Canada which is commonly known as the Wheatcroft Report. Wheatcroft analyzed T.C.A.'s route structure for profits and losses and his findings are shown in Figure 3. Because of the importance of T.C.A.'s transcontinental routes to its overall financial viability the Government airline was adament in its opposition to C.P.A. as a potential competitor. It stressed that its mainline monopoly must remain inviolate if it was to continue serving the Social Routes, which it considered to be one of its obligations. Wheatcroft then calculated that only the following routes could justify competition:

1. Toronto - Montreal
2. Vancouver - Victoria
3. Toronto - Winnipeg

Finally, the A.T.B. recommended and the Government concurred that C.P.A.'s application should be denied because of the lack of traffic potential but that it should be given a once-daily transcontinental flight but only a link between

Figure 3

Profits and Losses of T.C.A.'s Routes, 1957

- millions of dollars -

Profitable Routes:		
Trans-Atlantic and West Indies	$ 3.7	
Transcontinental	5.7	$ 9.4
Potentially Profitable:		
Canada - U.S.A. Routes	(1.5)	
Quebec - Seven Islands	(0.9)	
Newfoundland	(0.2)	(2.6)
Profitable, Long Term:		
Pacific Coast	(1.3)	
Maritimes	(1.7)	(3.0)
Social Routes (routes not likely to be profitable in the foreseeable future)		
Prairies and Foothills	(1.4)	
Great Lakes	(0.1)	
Northern Quebec and Ontario	(1.2)	(2.7)
All Cargo Routes		(0.9)
Overall Route Surplus		0.2

Source: Department of Transport, Airline Competition in Canada 1958, p. 31.

its international services. It was the first time that a Class 1 service had a frequency restriction imposed. This was the very minimum amount of transcontinental competition, sufficient to honour the Government's pledge to introduce competition but small enough, the Government hoped, to avoid the adverse economic effects which Mr. Wheatcroft had forecast would result from even two daily competitive transcontinental flights.[6]

6. Corbett, Politics and the Airlines, p. 174.

2. Other Activities

The Minister of Transport, the Hon. George Hees, announced in July, 1958, that Class 4C carriers, which used light aircraft with a disposable load of less than 1,600 pounds to serve small towns and remote areas with charter or on-demand flights, would cease to be protected from competition and that any qualified applicant would be issued a license. The Government opened Class 4B carriers to competition in December 1959. Class 4B carriers used aircraft on the same types of routes with a disposable load between 1,600 and 6,000 pounds. Although some "old" carriers ceased operating and "new" ones commenced operations overall the operations as a group grew naturally. In 1963 after the Liberals had been reelected as the Government of Canada these "dangers" of laissez-faire competition were eliminated.

D. The Canadian Transport Commission

In 1967 the National Transportation Act was enacted which created the Canadian Transportation Commission (C.T.C.). The C.T.C. acquired the regulatory powers of the Board of Transport Commissioners, the Canadian Maritime Commission and the Air Transport Board and was intended to coordinate the different modes of transport. Each mode of transport was supposed to reach its best economic advantage and as a consequence there was a deemphasis on regulation. The Minister of Transport, the Hon. J.W. Pickersgill, selected the best man available for the position of Chairman, himself. The C.T.C. was established as a court of record. The Air Transport

Committee is the group charged with the responsibility of commercial aviation in Canada. The new Act states that, subject to reservations, the national objectives will most likely be attained when the different modes of transportation are able to compete under those conditions which will ensure that regulation will not restrict the ability of one mode of transport to compete with any other.

SECTION 6

THE REGULATION OF COMMERCIAL AVIATION IN THE U.S.A.

The National Advisory Committee for Aeronautics of 1913 was the first federal body in the U.S.A. directed at aviation. Its aim was to find solutions to the scientific problems of flight. The world's first airline service successfully carried passengers from Tampa to St. Petersburg in 1914.

Shortly after World War One carriers operated between such centres as New York - Atlantic City, Miami - Nassau, Key West - Havana, San Pedro - Santa Catalina and Seattle - Victoria.

One of the major airline services was the Model Airway of the U.S. Army Air Service which commenced flights between the District of Columbia and Dayton, Ohio, in 1922. Later routes were extended from Long Island to San Antonio and Los Angeles. It was to develop airports and navigational aids but also carried a few government passengers. The Model Airway was suspended in 1926 as private operators developed. Two small, but important,carriers commenced services in 1925. Ryan Airlines carried over 5,600 between Los Angeles and San Diego in 1926 and the Ford Motor Company opened up routes between Detroit - Chicago - Cleveland. Despite these varied activities the greatest amount of aeronautical energy was associated with the development of the United States Air Mail Service.

A. COMMERCIAL AVIATION AND REGULATION BEFORE 1938

The Post Office introduced an air mail route in 1918 from New York City to Washington, D.C., via Philadelphia. New York City and Chicago were connected in 1919 and a transcontinental route to San Francisco was completed in the next year.

While this practical service was being developed some legislative activities also occurred. The Uniform Aeronautics Act of 1922 spelled out various matters of state and federal jurisdictions and the Hoover Committee of 1925 made a complete survey of all aspects of commercial aviation including the legislation and regulation of other countries. The major item was the passage of the Air Mail Act of 1925, known also as the Kelly Act.

The Kelly Act provided for the transfer of the air mail service, under competitive bidding, for a period of four years to private operators. The first routes, awarded in 1926, were for branch line services from the main transcontinental route and in 1927 that route was also given up to private carriers. The last Post Office flight was made on August 31, 1927. Other governmental activities affecting aviation at this time were the Morrow Board, which recommended separate civil and military controls over aviation on a national level, and the Air Commerce Act of 1926, which allowed the Secretary of Commerce to license pilots and aircraft, investigate accidents, organize air navigation and to establish air routes.

Despite the prominence given to the carriage of mails some carriers carried passengers. Also, in 1926 the Ford Tri-Motor made its first flight and was the first aeroplane able to carry over twelve passengers. After this commercial aviation expanded rapidly as complete freedom of entry into the industry existed. All operators were free to fly wherever and whenever they wished.

Through a process of mergers, acquisitions and business failures the following five large airlines emerged:

American Airways (Aviation Corp.)
Eastern Air Transport
Transcontinental Air Transport (T.A.T.)
United Aircraft & Transportation Corp.
Western Air Express

However, by the use of political pressure by Postmaster General Walter F. Brown a merger of Western with T.A.T. resulted in a new carrier, Transcontinental & Western Air, Inc. (T.W.A.), leaving only four major airlines.

With few exceptions carriers were dependent upon mail payments to be profitable because aircraft were not efficient enough to cover costs with fares sufficiently low to attract passengers away from surface carriers. Brown designed a plan for air mail routes to improve postal service and to encourage passenger traffic. This plan was presented in the Waters Act of 1930 which subsidized air transportation by basing mail payments on the space available, not the space occupied. The three main features of the Act were:

1. The old system of payment by the weight of mail carried was replaced by paying up to $1.25 per mile by space offered whether or not the space was filled.

2. Air mail contractors with two years of operations could exchange their current contracts for ten year route certificates.

3. The Postmaster General was given the authority to extend or consolidate routes.

The Act gave Brown many discretionary powers and he used it to favour the large carriers in reshaping the air routes of 1930. Early that year he held a conference at which he invited only officials from American, Eastern, T.A.T., United and Western. Brown wanted two more transcontinental routes. These were the "central"New York to Los Angeles via Pittsburgh and Dallas and the "southern" route from Atlanta to Dallas and Los Angeles. After forcing T.A.T. and Western to merge he granted the resulting company, T.W.A., the central transcontinental route. American eventually received the southern transcontinental route and was able to extend its routes from New York to Los Angeles via Nashville and Dallas. United retained the original New York - San Francisco route. The generous payment for the carriage of mail subsidized the few recipient carriers and as a direct result created four powerful carriers.

Much of Brown's work was undone by disclosures of his dictatorial high-handedness uncovered after he was replaced by the Democrats in 1933. The Ludington Line carried passengers profitably between Newark, Philadelphia and Washington in 1930. It applied for an air mail contract on the route at 25¢ per mile but Brown awarded the contract to Eastern at 89¢ per mile. This information was passed to the Senate's Special Committee on Investigation of the Air Mail and Ocean Mail Contracts, the Black Committee, in 1933. As a result of the investigation of this and other cases President Roosevelt cancelled the air mail contracts on February 9, 1934. The Army Air Corps commenced air mail services a few days later and continued until June 1, 1934.

The Black Committee showed that Brown had authorized air mail payments of over $56 million from 1931 to 1933. It found that twenty of the twenty-two air mail contracts had been granted to three airline groups. Since a very few men were able to make spectacular financial gains Brown's wisdom at inviting only a few carriers to participate in the carriage of mail was found to be severely lacking.

Forty-five operators met on April 20, 1934, with the new Postmaster General, James A. Farley, to bid on new contracts. The rate was set at a maximum of forty cents per mile on a space available basis which was less than one-third of the previous basis, as shown in Figure 4.

Figure 4

U.S. AIRLINE ROUTES in 1934

A. Air Mail Contract Routes in 1934

	Route No.	Routes	Mileage	Previous Rate Per Mile ¢	New Rate Per Mile ¢
1. The Big Four Carriers (still existing in 1974)					
American	4	Fort Worth - Los Angeles	1,328	45.00	39.50
	7	Newark - Chicago	794	44.00	39.50
	18	Boston - Newark	201	44.00	33.33
	21	Boston - Cleveland	612	43.00	24.50

American	22	Cleveland - Nashville	470	43.00	14.87
	23	Newark - Fort Worth	1,460	43.00	13.00
	25	Washington - Chicago	679	-	29.00
	30	Chicago - Fort Worth	914	41.50	8.00
Eastern	5	Newark - New Orleans	1,305	44.33	19.00
	6	Newark - Miami	1,195	44.00	29.00
	10	Chicago - Jacksonville	928	45.00	19.00
T.W.A.	2	Newark - Los Angeles	2,609	44.00	24.00
United	1	Newark - Oakland	2,720	42.65	38.00
	11	Seattle - San Diego	1,224	44.00	39.50
	12	Salt Lake City - Seattle	1,029	44.33	39.50

2. <u>Other Carriers Still Existing in 1974</u>

Braniff	9	Chicago - Dallas	955	45.00	22.50
Delta	24	Charleston - Fort Worth	1,087	43.00	24.80
General	13	Salt Lake City - Los Angeles	778	45.00	24.00
(renamed Western Air Lines in 1941)					
National	31	Daytona - St.Petersburg	158	43.00	17.00
Northwest	3	Fargo - Seattle	1,286	45.00	28.80
Varney	29	Pueblo - El Paso	530	41.00	24.00
(renamed Continental Air Lines in 1937)					

3. <u>Other Carriers</u>

Central	14	Washington - Detroit	457	44.00	23.80
(merged with Pennsylvania in 1936 forming Pennsylvania-Central; renamed Capital in 1948 and acquired by United in 1961)					
Hanford's Tri-State	16	Chicago - Pembina	772	44.33	19.60
	26	St.Paul - Omaha	902	-	18.90
(renamed Mid-Continent in 1938 and merged with Braniff in 1952)					
Long & Harman	15	Amarillo - Brownsville	1,125	45.00	19.75
(merged with Braniff in 1935)					

National Airways	27	Boston - Burlington/ Bangor	410	-	29.50
(acquired by Boston-Maine Airways in 1937; renamed Northeast in 1940 and merged with Delta in 1972)					
National Park	19	Salt Lake City - Great Falls	517	45.00	39.00
(acquired by Western in 1937)					
Pacific Seaboard	8	Chicago - New Orleans	903	45.00	17.50
(renamed Chicago & Southern in 1934 and merged with Delta in 1953)					
Pennsylvania	32	Detroit - Milwaukee	265	38.00	38.90
(merged with Central in 1936 forming Pennsylvania-Central; renamed Capital in 1948 and acquired by United in 1961)					
Robertson	30	New Orleans - Houston	337	45.00	16.70
(sold the route to Wedell-Williams in 1934 which was acquired by Eastern in 1937)					
Wyoming	17	Cheyenne - Pueblo	201	44.33	35.00
	28	Billings - Cheyenne	405	-	28.50
(renamed Inland in 1938 and absorbed by Western in 1952)					

B. Carriers Without Air Mail Contracts

Boston - Maine Airways routes into Maine
(acquired National Airways in 1937; renamed Northeast in 1940 and merged with Delta in 1972)

Bowen Air Lines Oklahoma City-Tulsa-Fort Worth-Dallas-Houston
(acquired by Braniff in 1935)

Canadian Colonial Airways New York City - Montreal
(renamed Colonial in 1942 and acquired by Eastern in 1956)

Gorst Air Transport local Washington State routes
(ceased operations in 1935)

Kohler Aviation Corp. Milwaukee-Grand Rapids-Detroit
(acquired by Pennsylvania in 1934; merged with Central in 1936 forming Pennsylvania-Central; renamed Capital in 1948 and acquired by United in 1961)

Reed Airlines Oklahoma City - Wichita Falls
(ceased operations in 1934)

U.S. Airways — Denver - Salina - Kansas City
(ceased operations in 1934)

Wedell-Williams Air Service Corp. — New Orleans - Fort Worth
(acquired New Orleans - Houston air mail route from Robertson in 1934 and acquired by Eastern in 1937)

Wilmington - Catalina Airline — Wilmington - Catalina, California.
(renamed Catalina Air Transport in 1941; ceased operations in 1955)

Sources: R.E.G. Davies, A History of the World's Airlines, pp. 130-3.

R.E.G. Davies, Airlines of the U.S. Since 1914, pp. 603-5

Although the air mail routes awarded were to be temporary they were later made permanent and the U.S. airline routes of today are based on those awards. The harsh reality of early airline economics allowed only a few other carriers to operate other than the fortunate eighteen which received air mail contracts. Although the "Big Four" carriers received 61.2 percent of the 28,556 miles of air mail routes a number of other carriers had been allowed to share in the awards, which in most cases went to the lowest bidder.

During this same period the development continued of commercial aircraft as shown in Figure 5. Because the

Figure 5

The Early Development of Modern U.S. Airliners

First Year of Service	Aircraft	Passengers	Cruising Speed
1933	Boeing 247	10	160 mph
1934	Douglas DC-2	14	180 mph
1936	Douglas DC-3	21	180 mph

Source: R.E.G. Davies, Airlines of the United States Since 1914, p.658

Douglas DC-3 had a fifty percent increase in payload and only a ten percent increase in operating costs over the DC-2, the DC-3 was the first airliner that offered carriers the opportunity to make air transportation profitable without being dependent upon air mail payments.

The conclusions of the Black Committee resulted in the Air Mail Act of 1934, the Black-McKellar Bill, which prohibited the use of holding companies in air transport, separated airlines from aircraft manufacturers, confirmed the air mail contracts of 1934 and made the following three bodies responsible for the conduct of the air mail carriers:

The Post Office	-	awarded air mail contracts.
Interstate Commerce Commission	-	regulated rates
Bureau of Commerce	-	set safety standards and was responsible for the operation of the airways.

Finally the new act created the Federal Aviation Commission to study aviation policy.

The Federal Aviation Commission in 1935 recommended that a separate government body should be created to manage the nation's airline system and that the Post Office should be free to use any existing service. In 1935 the Mead Amendment to the 1934 Post Office Act allowed moderate increases to the basic air mail system. From 1935 to 1938 a number of new small airlines entered the industry but only one, Marquette, received an air mail contract. Few of the other independent carriers survived into the 1940's.

Like other business the airlines found the depression of the 1930's difficult to operate in and there was a demand by some operators for protection. Small companies without the benefit of air mail contracts were going out of business and the larger firms were flying larger and faster aircraft. As well the difficulties of having the responsibility for air mail aeronautics divided between three departments and a loophole in the competitive bidding system required rectification. Bids were usually won by the lowest bidder and the winning carrier had to accept that winning rate for a maximum of one year. After that the Interstate Commerce Commission could adjust that winning rate to a reasonable level. In one example, Eastern submitted the winning bid of zero cents per mile on a route from San Antonio to Houston. In order to bring order to the industry politicians worked toward some bureaucratic controls over commercial aviation.

President Roosevelt signed the McCarran - Lea Bill in 1938 which became the Civil Aeronautics Act. In the years 1918 through 1937, prior to the passage of the Civil Aeronautics Act, there had been, by one count, fifteen major and several minor congressional investigations in the field of aeronautics.[7] All previous legislation had applied to air mail carriers only and the new act was the

7. Caves, Air Transport and Its Regulators, p.123.

first step in introducing regulation to all commercial interstate air carriers.

B. THE CIVIL AERONAUTICS BOARD

The Civil Aeronautics Act of 1938 created the Civil Aeronautics Authority (C.A.A.). The C.A.A. was given regulatory powers over air mail rates, airline tariffs and airline business practices, which included overseeing competition and mergers, and remains as the basic law governing public control of U.S. civil aviation today. The passage of the Act also meant that for the first time any operator in the U.S. wishing to fly any route had to receive a non-exclusive certificate from the C.A.A. before starting the service. All existing carriers were given "grandfather rights" for their routes, which were permanent certificates, after they had satisfied the C.A.A. with their qualifications. In 1940, President Roosevelt reorganized the C.A.A. as the Civil Aeronautics Board (C.A.B.).

During World War Two the U.S.A.'s three major airliner manufacturers each developed a four-engine long range aeroplane, as shown in Figure 6. All were used by

Figure 6

War Time Four Engine Transport Aircraft

First Year of Service	Aircraft	Maximum Seats*	Cruising Speeds	Range
1940	Boeing 307 Stratoliner	33	200 mph	1,200 miles
1942	Douglas DC-4	40	205 mph	2,500
1944	Lockheed C-69 Constellation	54	310 mph	3,000

* Seats are presented for first class only.

Source: R.E.G. Davies, Airlines of the United States Since 1914, pp. 658-9.

the military for the duration of the war. Both manufacturers and airlines received invaluable experience as a result of the war's demands. Manufacturers added to their knowledge of the requirements of fast, high altitude, long distance multi-engined aircraft and the airlines were called upon to operate flights to all parts of the world.

1. The Domestic Trunk Carriers

During World War Two the three major transcontinental airlines, American, T.W.A. and United, were given access to the major northeast U.S.A. cities of Boston, Philadelphia and Washington, as well as New York City. T.W.A. was allowed into San Francisco from Los Angeles and Western a little later. Pennsylvania-Central was given a New York City - Chicago route.

The end of the war saw commercial aviation come of age. T.W.A. introduced its fast pressurized Lockheed Constellations on February 15, 1946, between Los Angeles and New York City. American was only able to respond with slower unpressurized Douglas DC-4's on March 7, 1946, as did United a little later. United quickly ordered Douglas DC-6's which were larger and faster pressurized versions of the DC-4. United introduced these planes on April 27, 1947, and American followed on May 20, 1947. That same year American and T.W.A. started serving San Francisco and United entered Los Angeles via Chicago, Northwest opened a northern transcontinental route from Seattle to New York City and Western entered Portland and Seattle from California.

The development of modern medium range aircraft, such as the Convairliner, and the use of surplus transports by the enterprising nonscheduled operators (see Section 11) in coach services brought a great expansion in air traffic.

Pennsylvania-Central was renamed Capital in 1948 and on November 8, 1948, introduced the first sustained coach class service, the Nighthawk between Chicago and New York City. As a small weak carrier in a competitive market Capital was forced to find unique ways to survive. On September 7, 1949, the C.A.B. made its first public pronouncement on coach service and stated that it generated additional traffic and could be offered by the scheduled carriers under special conditions. Some of the conditions were that the routes had to have high density traffic, schedules had to be arranged so that they would minimize the diversion of traffic from the regular schedules, aircraft had to be fitted with high density seating and a number of passenger services, such as meals, full reservation services and extra stewardesses, had to be dropped. A minor change made on December 2, 1949, removed the requirement of off-hour schedules on trans-continental flights and allowed the use of Douglas DC-6's. By 1950 most of the scheduled trunk carriers offered a significant number of coach flights. Emphasis was placed on the carrier's welfare rather than the benefits of low cost fares to the public.[8] It was not until 1951 that the C.A.B. focused its attention on the public interest and actively encouraged the extension of coach services.

United had been reluctant to introduce coach flights but after the success of its services in California became an aggressive coach operator. Competition forced the rapid growth of coach services and the carriers were allowed to operate coach flights at any hour and the standard of service was upgraded so that eventually more coach than first class traffic was carried. Improved airliners and the coach services brought about the second traffic boom of the postwar period. The Douglas DC-6B, an improved DC-6 and considered the world's most economic piston engined airliner, entered service with United and American in April 1951. T.W.A. introduced the Lockheed L. 1049 Super Constellation in September 1952. Further refinements were made to these aircraft designs so that nonstop transcontinental flights were possible with the Lockheed L. 1049 C Super C Constellation (eastbound only) introduced by T.W.A. on October 19, 1953, and the Douglas DC-7, introduced by American on November 29, 1953, followed by United on June 1, 1954. With the introduction of the Lockheed L.1049 G Super G Constellation soon after T.W.A. was able to operate nonstop transcontinental

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8. Warren Rose, "The Air Coach Policies of the Civil Aeronautics Board," (<u>Transportation Journal</u>: Spring 1963) 17.

flights in both directions.

There were a number of significant changes in the airline route picture in the 1950's and 1960's. In 1952 Western absorbed Inland while Braniff merged with Mid Continent. Delta and Chicago & Southern merged in 1953 and Continental merged with Pioneer in 1955. In 1955 the C.A.B. made three important series of route awards. In the first case Northwest was given a route between New York and Chicago, T.W.A. was granted a New York - Detroit - Chicago service and Capital was awarded a number of nonstop routes from New York including one to Chicago. In another case that year, T.W.A. was allowed to serve Denver, United granted rights into Kansas City, American a Chicago - San Francisco route, Continental a Chicago - Kansas City - Denver - Los Angeles service and Western a route between San Francisco and Denver via Reno and Salt Lake City. In the third important case that year Braniff and Delta were granted routes from Texas through to Washington, D.C., and New York City. The next important route award went to Northeast in 1956 for a route between New York City and points in Florida. This followed the merger of Eastern and Colonial. In 1961 United and Capital merged and routes between Florida and California were granted to Delta and National. Braniff in 1966 received a route from Seattle to Texas and in 1967 Eastern was given a Seattle - St. Louis service and Continental a Seattle - Texas route. Also in that year

Western merged with Pacific Northern, the major Alaskan carrier. An interesting route award was made to Continental in 1969 for a service between Seattle and California, since the points in California were satellite towns for the larger centres; San Jose for San Francisco and Ontario and Burbank for Los Angeles. In 1971 Western received a route from Seattle to Minneapolis and Eastern a route from Minneapolis to Miami. The latest merger was between Delta and Northeast in 1972.

The Southern Tier Competitive Nonstop Investigation of 1969 was the last of the major domestic postwar route awards. Figure 7 presents those awards along with the incumbent carriers.

Figure 7.

Southern Tier Awards by Market

Market	Carriers Selected:	Incumbent Carriers:
Atlanta - Los Angeles	Eastern	Delta
Atlanta - San Francisco	National	Delta
Miami - Los Angeles	Northeast	National
Miami - San Francisco	Delta	National
Memphis/Birmingham - Los Angeles	United	American
Huntsville - Los Angeles	United	None
Dallas - New Orleans - Tampa - Miami	Braniff,Eastern	Eastern[1]
Dallas - Atlanta	Eastern	Delta
Houston - Miami	Delta	National
Houston - San Francisco	American	National
Dallas - Los Angeles	Continental	American, Delta
Dallas - Phoenix	Delta	American
Los Angeles - Albuquerque - Dallas	Texas International	T.W.A.Continental

1. Eastern operated under an exemption

Las Vegas - Albuquerque - Dallas	Frontier	Continental (Albuquerque-Dallas)
Chicago - Albuquerque and Albuquerque - San Francisco	Continental	T.W.A.
Miami - Houston and New Orleans Dallas (all-cargo)	Airlift	None

Source: Aviation Week and Space Technology, August 4, 1969, p.32.

Mergers and proposed mergers were popular topics during the 1960's and the 1970's. The major ones are shown in Figure 8.

Figure 8

U.S. DOMESTIC TRUNK AIRLINE MERGERS AND PROPOSED MERGERS OF THE SIXTIES AND SEVENTIES

Year	Airlines	
1961	United - Capital	Merger
1962	American - Eastern	Proposal
	Pan American - T.W.A.	Proposal
1967	Braniff - Pan American - Grace	Merger
	Eastern - Mackey	Merger
	Western - Pacific Northern	Merger
1969	Northwest - Northeast	Proposal
1970	American - Western	Proposal
1971	American - Trans - Caribbean	Merger
	Eastern - Caribair	Merger
	Northwest - National	Proposal
	Pan American - Eastern	Proposal
1972	Delta - Northeast	Merger

Source: Moody's Transportation Manual 1973.

2. The Local Service Carriers

There was one area which saw an increase in the number of scheduled domestic carriers. Many smaller

American communities desired airline service and the C.A.B. made a far-reaching decision in 1943 to allow a small carrier, Pioneer, to initiate a route from Houston to Amarillo via Abilene and service commenced in 1945. Politicians were quick to find the feeder air service a popular cause and Figure 9 shows the number of local carriers

Figure 9

Commencement of Local Carrier Services

Year	No. of Local Carriers Commencing Operation
1945	1
1946	4
1947	3
1948	3
1949	8
1950	2

Source: R.E.G. Davies, Airlines of the United States Since 1914, p. 619 - 623

that began service by year. The feeder airlines were issued permanent certificates and designated as Local Service Carriers in 1955.

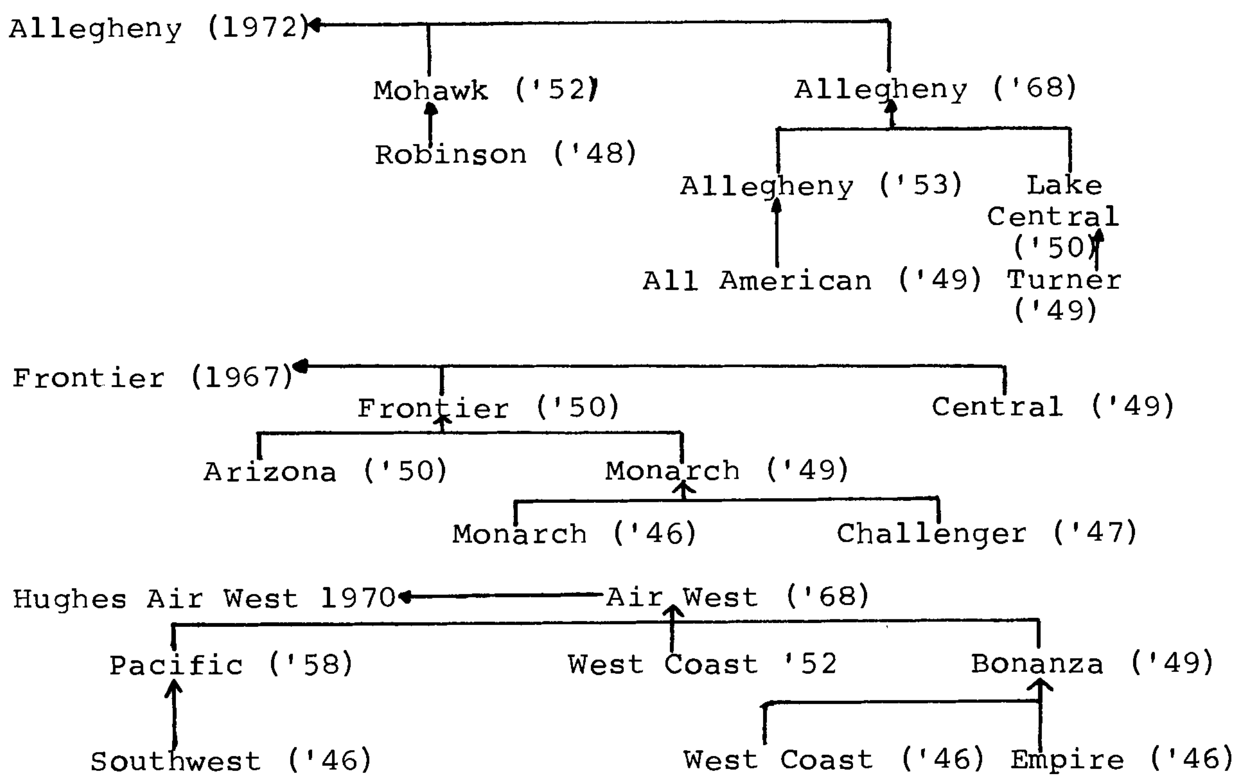
Further expansion was granted to the local service carriers and by 1957 some were directly competing with the Trunk Carriers. The locals were having a difficult time making money so in 1959 the C.A.B. instituted its "Use It or Lose It" policy. This meant that cities which generated less than 1,800 passengers annually would lose their airline service. In the 1960's the C.A.B. allowed the transfer of aircraft and routes to smaller centres from the trunk carriers to the local service carriers. In order to be competitive with the trunks' jets were added to the locals' fleets in 1965 and at the same time they pressed their demands for more and better routes. New routes were granted since it appeared to be one way to reduce the local carriers' subsidies. By 1968 their rapid growth compounded by the acquisition of expensive jet equipment and competitive routes brought many of the local service carriers into financial difficulties.

As one consequence a number of mergers occurred as shown in Figure 10:

Figure 10

The Fate of the Original Local Service Carriers

1. Local Service Carriers Merged with Other Local Service Carriers



North Central (1952) ← Wisconsin Central (1948)

Ozark (1950)

Piedmont (1948)

Southern (1949)

Texas International (1968) ← Trans - Texas (1947)

2. <u>Local Service Carriers Acquired by Trunk Carriers</u>
<u>Trunk Carrier, 1974</u>

Braniff (1952) ← (Braniff (1930)
(Mid Continent (1950)

Continental (1955) ← (Continental (1937) ← Varney (1931)
(Pioneer (1945)

3. <u>Local Service Carriers Which Did Not Survive</u>

Carrier	Service Commenced	Service Ended
Florida Airways	1947	1949
Purdue Aeronautics	1949	1950
E.W. Wiggins Airways	1949	1953
Mid-West Airlines	1949	1952

Source: R.E.G. Davies, <u>Airlines of the United States Since 1914.</u> pp. 619 - 623.

The remarkable feature was that for all intents and purposes almost all the Local Service Carriers went through the same type of experiences, principally expansion and mergers, as did the trunk carriers before.

The change in the nature of the local service airlines led to the emergence of the Third Level Carriers. Under Part 298 of the C.A.B. economic regulations these carriers were allowed to operate scheduled services without the Board's permission as long as the aircraft were not heavier than 12,500 pounds, all up weight. The number of carriers in this group grew from twelve in 1964 to over 200 in 1968. These unsubsidized carriers filled much of the void left when the Locals grew out of their traditional role of serving smaller communities. In 1967 the Post Office initiated the Air Taxi Mail Programme which has served to provide these carriers with a basis of support. The introduction of the de Havilland Canada Twin Otter by these carriers in 1966 gave them an economic 18 seat aircraft within the weight limitations set by the C.A.B. The C.A.B. renamed them Commuter Air Carriers in 1969.

3. The Jet Age

It was the introduction of jet aircraft that made commercial air transport the principal passenger mode of transport. Although trans-Atlantic carriers commenced sustained jet operations first in October 1958 the domestic operators were not far behind as shown in Figure 11.

Figure 11

Date of First Jet Service by U.S. Domestic Trunk Airlines

Date	Airline	Route	Aircraft
Dec.10. 1958	National	New York - Miami	Boeing 707 (leased)
Jan.25, 1959	American	New York - Los Angeles	Boeing 707
Mar.20, 1959	T.W.A.	New York - San Francisco	Boeing 707
June 8, 1959	Continental	Los Angeles - Chicago	Boeing 707
Sept.18,1959	United	New York - San Francisco	Douglas DC-8
Sept.18,1959	Delta	New York - Atlanta	Douglas DC-8
Dec. 17,1959	Northeast	New York - Miami	Boeing 707 (leased)
Dec. 20,1959	Braniff	Dallas - New York	Boeing 707
Jan. 24,1960	Eastern	New York - Miami	Douglas DC-8
Feb. 18,1960	National	N.A.	Douglas DC-8
June 1, 1960	Western	Los Angeles - Seattle	Boeing 707

Sept. 16, 1960	Northwest	New York - Seattle	Douglas DC-8
Dec. 15, 1960	Northeast	N.A.	Convair 880
Jan. 8, 1961	Capital	New York - Chicago	Boeing 720 (leased)

Source: R.E.G. Davies, Airlines of the United States Since 1914, p.648.

Short-haul jets were quickly developed and were able to turn profits on routes which had been uneconomic with propeller aircraft. The principal short-haul jets are presented in Figure 12.

FIGURE 12

FIRST U.S. SHORT-HAUL JET SERVICES

Date	Airline	Aircraft	Max. Seats	Cruising Speed	Range (Miles)
July 5, 1960	United	Boeing 720	167	600	3,000
July 14,1961	United	S.E. 210 Caravelle	70	488	1,450
Feb. 1, 1964	Eastern	Boeing 727	131	600	2,500
Apl.25, 1965	Braniff	BAC One-Eleven	79	507	1,767
Dec. 8, 1965	Delta	Douglas DC-9	80	557	1,700
Apl.28, 1968	United	Boeing 737	119	575	1,760

Source: R.E.G. Davies, Airlines of the United States Since 1965, 661.

As traffic continued to grow there was a self-feeding caused by the introduction of ever-larger and more economic jet aircraft. The first big jets were improved versions of the original jet airliners but on February 24, 1967, United introduced the stretched DC-8-61, which increased potential seating capacity forty percent over the standard DC-8 to a maximum of 252 seats. The jets termed as "jumbo" or "wide-bodied" greatly added capacity to the airlines. The Boeing 747 was the first one introduced and the other U.S. manufacturers followed as shown in Figure 13.

FIGURE 13

FIRST U.S. WIDE-BODIED JET SERVICES

Date	Airline	Aircraft	Max. Seats	Cruising Speed	Range (Miles)
Jan.22, 1970	Pan American (International)	Boeing 747	490	625	5,800
Feb.25, 1970	T.W.A.	Boeing 747	490	625	5,800
Aug.5, 1971	American	McDonnell-Douglas DC-10	345	600	2,760
Apl.26, 1972	Eastern	Lockheed L-1011-1	345	600	3,280

Source: R.E.G. Davies, Airlines of the United States Since 1965, p.661.

Postwar traffic had grown at a remarkable rate, as shown in Figure 14. From 1956 to 1972 passenger-miles increased

FIGURE 14

REVENUE PASSENGER MILES FLOWN BY U.S. TRUNK CARRIERS.

Year	Total Revenue Passenger Miles '000,000	Average Annual Increase Over Previous 5 Years %	Coach Revenue Passenger Miles '000,000	Coach as a % of Total
1946	6,056		n.a.	n.a.
		17.0		
1951	11,218		n.a.	n.a.
		18.6		
1956	21,643		8,066	37.3
		7.3		
1961	29,535		17,081	57.8
		18.5		
1966	56,803		43,425	76.4
		14.4		
1971	97,612		85,507	87.6
		10.8		
1972	108,190		95,056	87.9

Source: Moody's Transportation Manual 1973, p. a57.

at an average of twenty-five percent annually. Despite the great growth of traffic and the number of new route awards no new domestic trunk carrier was allowed to enter the industry.

SECTION 7

A SURVEY OF THE LITERATURE

Since economic regulation has many supporters and probably as many critics it is not surprising that a considerable amount of research and writings have been written about the subject as it affects commercial aviation. Almost all of it appeared only in the last twenty-five years.

A. Early Works

The earliest major work on airline economics was Airline Competition by Frederick W. Gill and Gilbert L. Bates in 1949. The data for this report was collected in 1947 and 1948 and presented in five sections. The first part recounted the growth and extent of U.S. domestic airline competition, the second detailed the service features the public usually receives as a result of competition (eg. improved aircraft and greater flight frequencies), the third presents some routes where competition was present, the fourth discussed how competition affected airline fares and determined that competition had been responsible to a significant extent for a relatively low level of fares and the final section examined how competition affected carrier self-sufficiency. The main conclusion was that competition is in the public interest and had been responsible to a large extent for the rapid development of air transport but they pointed out that in certain instances competition could lead to uneconomic circumstances, especially in those cases where a third or fourth carrier might be introduced on a particular route. The report went on to consider the difficulty in determining which carrier should be removed from a route if it was the proper procedure. It is a fully documented work full of tables and statistics but failed to grasp the simple notion that if there was no regulatory body then each carrier would have to determine for itself whether or not it was profitable to fly any particular route.

Two other papers of interest appeared at about the same time in university law journals. The first of these was the "Sale of Airline Certificates of Convenience and Necessity" in the 1948 issue of the Columbia Law Review. This report pointed out examples of prices paid for the acquisition of one airline by another that were greater than the investment in physical plant and noted that carriers placed a cash value on the certificates of public convenience and necessity. The other paper of 1948 was "Civil Aeronautics Board Policy: An Evaluation" in the Yale Law Journal stated that the C.A.B.'s most important role is to make air transportation cost conscious and should encourage new entrants to keep the older carriers efficient.

Another major work, Federal Control of Entry into Air Transportation by Lucile Sheppard Keyes, followed in 1951. It was presented in three sections. The first section was a basic theory of airline economics and the second described the role of the Civil Aeronautics Act in regulating entry into the airline industry. The regulatory policy was evaluated in the third part and the author concluded that optimum efficiency could not be achieved under this kind of regulation since it protected the revenues of current carriers and was biased against potential operators. Another paper in 1951 was presented in the Yale Law Journal, "Public Regulation of Domestic Airlines." It was commenting on the C.A.B.'s route freeze in effect at that time and reasoned that only by expanding the route networks of the smaller trunk carriers could they reduce their dependence on subsidies and contribute to a sound industry.

Jon Magnusson authored "Observation on the Economic Regulations of the Civil Aeronautics Board" in the 1951 issue of the Journal of Air Law and Commerce. Magnusson found that the C.A.B. developed its economic regulations from general rather than specific authorizations in the Civil Aeronautics Act. As a result the Board's Economic Regulations are productive of difficulties of understanding, uncertainty as to required conduct and costly challenges to the Board's authority.[9] In this way the C.A.B. has been able to extend its authority. This investigation was noteworthy since it demonstrated the manner in which a regulatory body has been able to expand its area of influence without actually directed into the new area.

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9. Jon Magnusson, "Observations on the Economic Regulations of the Civil Aeronautics Board," Journal of Air Law and Commerce,XVlll(Spring, 1951) 181-2.

"Legislative History of the Right of Entry in Air Transportation Under the Civil Aeronautics Act of 1938" by Joseph G. O'Mahoney in the Summer 1953 issue of the Journal of Air Law and Commerce. He pointed out the railroads were more than one hundred years before they became regulated but that the airline industry was really only about five or six years before regulation was applied to the airlines. The main point of his article is that the original intent of the backers of the Civil Aeronautics Act was to create an environment that would encourage the development of the air transport industry and not restrict it. He maintained that nobody involved in this legislation planned to restrict the entry of new operators into the airline industry.

The Fall 1953 issue of the California Law Review contained an article by Marvel M. Taylor, "Economic Regulation Of Intrastate Air Carriers in California." Marvel pointed out that California lead in the development intrastate commercial aviation but that for this to continue he argued for a clarification of state laws. His article contained a good background of the law affecting intrastate aeronautics in California.

David Bluestone presented a two part article in the Autumn 1953 and Winter 1954 issues of the Journal of Air Law and Commerce entitled, "Problem of Competition Among Domestic Trunk Airlines." After a long discussion of activities by the airlines and the C.A.B. related to competition Bluestone made a number of recommendations designed to mitigate the "bad" effects of competition. The most interesting of his ideas was that the principal method to reduce competition would be for the C.A.B. to purchase route certificates from carriers. He did not explain why he was attaching a capital value to the route certificate or that without regulation he would not have to concern himself about competition.

"The Effect of Regulated Competition on the Air Transport Industry" by Stewart G. Tipton and Stanley Gewirtz was presented in the Spring 1955 issue of the Journal of Air Law and Commerce. Both were members of the "regulated club" and attempted to assure readers that the original intent of the Civil Aeronautics Act of 1938 was to regulate air transportation as a public utility. As might be supposed they did not report the remarks of the earlier supporters of the Act which appeared to deny Tipton's and Gewirtz's contentions. This paper can be considered an apology for the regulation of airlines.

Lucile Sheppard Keyes presented an interesting contrast in the same issue of Journal of Air Law and Commerce when she revised her earlier work in "A Reconsideration of Federal Control of Entry into Air Transportation" in the Spring 1955 issue of the Journal of Air Law and Commerce. In her new report she stated that while current arguments in favour of regulatory protection were less impressive than when they were being discussed in the late 1940's the arguments in favour of free competition had not lost any of their authority. She concluded that since the protection of airlines cannot be defended as a method of reducing carrier subsidies the U.S. Congress should abolish entry control aimed at the protection of airline revenues.

"Entry of New Carriers Into Domestic Trunkline Air Transportation" by Hardy K. Maclay and William C. Burt writing in the Spring 1955 issue of the Journal of Air Law and Commerce presented an reasoned view of economic and legal principles surrounding the problem of regulating airlines. They determined that the development of air transportation has suffered because it has been protected from the competition of new carriers.

Another two part article in the Journal of Air Law and Commerce, (Autumn 1957 and Spring 1958 issues) was "The Regulation of Competition in United States Domestic Air Transportation: A Judicial Survey and Analysis" by A.J. Gellman. This paper was another general approval of the operations of the C.A.B. and even went so far as to state that it was largely the existence and actions of the C.A.B. that air transportation had developed to the point where it was as he wrote the article. It is an important article to the extent that the author pointed out that the C.A.B. usually failed to be explicit when it took actions so that the public and the industry often did not understand the C.A.B.'s actions and also because it made it difficult to predict future actions of the C.A.B.

The next major work was a book by Paul W. Cherington in 1958, Airline Price Policy: A Study of Domestic Airline Passenger Fares. This was a detailed investigation of the structure of U.S. air fares with a very complete description of the development of air coach services by the trunk carriers. His most important contribution was a number of correlation coefficients which showed that a carrier's costs were greatly affected by its average airplane hop, its average passenger's trip length, the amount of traffic by terminal and its volume of coach traffic but it was not affected by its scale of operations, such as total revenue passenger miles.

B. Recent Works

Louis J. Hector wrote "Problems of the C.A.B. and the Independent Regulatory Commissions" in the May, 1960 issue of the Yale Law Journal. His paper recommended four revisions to the system of economic regulation:

1. Economic regulatory policy should be designed, within the broad limits established by the Congress, on a rational and unified basis by the Executive branch of the Government under the President's direction;

2. A delegation within the Executive branch would handle the routine administration of economic regulation;

3. An administrative court, free from policymaking or administrative detail should adjudicate major litigated cases and appeals from administrative actions; and,

4. Investigation and prosecution duties should be transferred to an Executive agency or department, such as the Department of Justice.

Hector stated that the regulatory bodies were not doing their jobs properly and that nothing short of a complete overhaul could correct that situation.

Regulation and Competition in Air Transportation by Samuel B. Richmond, published in 1961, was a thorough investigation of the effects of the introduction of competition on 514 city pairs from September 1955, to just prior to publication. His conclusion was that the public and the airlines will benefit most when competition is a blend, that is, he believes that the optimum lies somewhere between a monopoly carrier and unrestricted competition.

The sixth major work of the postwar period on airline regulation was Air Transport and Its Regulators by Richard E. Caves in 1962. The book is made up of four parts which are the airline industry's market structure, an analysis of the C.A.B.'s policies, market performance of the airlines and finally, he assesses this performance. It was a basic study of airline economics and he recognized that sacrifices must be made in order to reach certain goals under regulation. He pointed out that the C.A.B.'s control of entry and exit of carriers raised the cost of air travel by protecting inefficient firms.

Another paper that year was "Airline Mergers, Monopoly, and the C.A.B." by Richard J. Barber in the 1962 issue of the Journal of Air Law and Commerce. He noted that every time that an industry experiences financial problems a search is initiated to find the cause. At the time of this writing most carriers were in financial difficulties because of the large outlays made for the purchases of new jet aircraft. The industry observed the cause of their losses as being excessive competition. As a result mergers were seen by those in the industry as the solution. Barber states that mergers offer little real benefit and that the first step in solving the problem should be reduced air fares. Pooling of airport facilities and maintenance facilities and the dropping of trunk line service to smaller centres should follow. A study by the C.A.B. of route awards to determine the number of carriers on routes based on traffic levels was another of his recommendations.

William K.Jones presented "Licensing of Domestic Air Transportation" in the Spring 1964 and Spring 1965 issues of the Journal of Air Law and Commerce. He stated that most of the reforms adopted by the C.A.B. bore little relation to its needs. He argued for a change in substantive policy so that actions of the C.A.B. could become predictable. This article was based on a similar theme in an earlier article by Gellman.

Politics and the Airlines by David Corbett, published in 1965, was a case study of airline regulation in the U.S.A., Canada, India, Australia and Great Britain. It presented an excellent history of the development of aviation and the subsequent intervention of politics and government in those countries it covers. More important to the study of airline regulation was the article by Michael E. Levine, "Is Regulation Necessary? California Air Transportation and National Regulatory Policy" in the July 1965 issue of the Yale Law Journal. This complete paper discusses the history of airline regulation in the U.S.A., the economic theory of airline regulation, a detailed examination of aviation within California and concluded with a proposal to allow any qualified applicant to operate services on any route. Such a novel approach would lead to the development of a new air travel market.

"Interstate Carrier - Competitive Impact - Pacific Southwest Airlines" by James R. Atwood in the Autumn 1966 issue of the Journal of Air Law and Commerce. was a clear demonstration of the advantages of the absence of economic regulations in the air transport industry. He presented a short resume of the California service and concluded that it would be possible to operate the same types of low fare services in other areas.

Grant H. Nerbas authored "Canadian Transportation Policy, Regulation, and Major Problems" in the 1967 issue of the Journal of Air Law and Commerce was a review of regulation leading up to and including the new Canadian Transport Commission of 1967.

In 1969 K.G.J. Pillai wrote The Air Net: The Case Against the World Aviation Cartel in which he criticises the International Air Transport Association (I.A.T.A.) for pursuing policies which are opposed to the interests of consumers. He pointed out that I.A.T.A. is not responsible to any government but that if it does not reform itself then it is possible that consumers will force change.

The best presentation on the advantages of free market conditions in the airline industry was Airline Regulation in

America by William A. Jordan in 1970. He produced a most complete history of the California intrastate carriers and concluded that if entry control was eliminated and rates could be freely set on all routes the result would be lower fares. It was an excellent report and served as a landmark for a number of earlier papers on the merits of airline deregulation.

William E. O'Conner was the author of the 1971 book, Economic Regulation of the World's Airlines - A Political Analysis. This book describes the events leading up to the signing of a multilateral treaty by a number of countries. He criticised the resulting system for not providing low cost air transportation on international routes. The most recent study was in a new magazine, Airliners International's Winter 1974 issue George W. Hilton wrote "Why We Have Full Airports and Empty Airplanes." The subtitle was "The Case for Scrapping the C.A.B." He went on from Jordan's work primarily on California to comment on how regulation affected the national picture.

It is a good presentation of the case for deregulation especially when he concludes that the cost to society in the U.S.A. is about two billion dollars annually.

SECTION 8

CALIFORNIA'S SCHEDULED AIRLINE SERVICE

The political system of the U.S.A. allows states to regulate intrastate commercial aviation. Tennessee, Texas and California, by virtue of the intrastate carriers between some of their centres, have had airlines of considerable importance flying wholly within the borders of their respective states but the most important have been those carriers flying wholly within the state of California.

A. The Early Years, 1946 - 1957

Prior to 1946 airline service had been provided between Los Angeles and San Francisco by United, Western and Transcontinental and Western, which became Trans World in 1950. All were interstate carriers regulated by the C.A.B. Transcontinental and Western was at a distinct disadvantage because its flights between the two major California centres were required to be continuations of flights that stopped at Albuquerque, New Mexico. Only first class service was provided at $16.55 fare.

In the greater Los Angeles area there were three major airports and their distances from San Francisco were:

Los Angeles	340 miles
Burbank	327 miles
Long Beach	355 miles

Oakland was one mile closer and San Jose was 31 miles closer to the three Los Angeles area airports. For the purposes of this paper, except where otherwise noted, Los Angeles will include Burbank and Long Beach and San Francisco will include Oakland and San Jose.

The first intrastate carrier to enter the California market was Pacific which began DC-3 service between Burbank and Sacramento on March 6, 1946, extended service to San Francisco on June 1 of that year, and then on October 22,1946, inaugurated service to Fresno, Modesto and Stockton.[10] The fare between San Francisco and Los Angeles was $15.15. Traffic for all carriers on the route in 1946 was 436,000 and dropped to 412,000 in 1947. Since the fare differential between Pacific and the interstate carriers was not sufficiently large enough over any length of time and its resources too small California's first intrastate carrier ceased operations on June 4, 1947.

During 1947 and 1948 the interstate carriers increased their fares in the following manner:

1947 -	April 1	$16.70
	September 5:	17.40
	December 12:	19.15
1948 -	September 1:	$21.05

Traffic dropped to 335,000 passengers in 1948. The granting of four fare increases in less than three years, resulting in a total increase of 27.2 percent or an average annual increase of 9.1 percent, did not go unnoticed by operators who felt that they could undercut the established fares and stay in business.

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10. William A. Jordan, Airline Regulation in America. (Baltimore: The John Hopkins Press, 1970) p.18.

As there were no intrastate regulatory restrictions to entry costly and lengthy petitioning did not exist. The first of the low-fare intrastate coach carriers, California Central, filed a tariff of $9.99, 47.5 percent of the interstate carriers' first class fare, with the P.U.C. on December 1, 1948, and on January 2, 1949, commenced the service. It carried 71,000 passengers during that first year. Another seven intrastate carriers commenced service over the next twelve months but only California Central and Pacific Southwest, which started service on May 6, 1949, and carried 7,200 passengers that year, survived into 1951. Three of those carriers transferred their aircraft to transcontinental non-scheduled flights not because profits were lacking in the California service but because larger profits were obtainable in the other service. One of the other intrastate carriers, Western Air Lines of California (W.A.L.C.) had only been formed by Western because the C.A.B. had refused it permission to match the intrastate carriers' fares. W.A.L.C. started coach service on the route on August 19, 1949, at a fare of $9.95. At this time United showed no interest in operating coach services on any of its routes.

When United Air Lines finally abandoned its holdout position against coach service seven months later, its first coach flights were in this market.[11]

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11. Caves, Air Transport and Its Regulators, p.371.

W.A.L.C. ceased operations on May 31, 1950, when the C.A.B. changed its attitude toward coach service and Western began operating an identical coach service the next day. The other two intrastate carriers' operations were so small that they failed to develop sufficient business to continue operating. Traffic on the route finally exceeded the 1946 peak as 461,000 passengers in 1949 and 553,000 in 1950 were carried.

Coach fares went up to $11.70 in March 1951, and California Central increased its fares to $13.50 on June 15, 1952. but the interstate carriers, United and Western, did not increase their fares until February 1, 1953. Because of competitive pressure from the other intrastate carrier, Pacific Southwest, which did not increase its fare California Central reintroduced the $11.70 fare for its DC-3 service but maintained the higher fare for its Martin M. 202 flights. Pacific Southwest reacted erratically for a short time and then on April 8, 1954, reintroduced the $9.99 fare, which was not matched by California Central, and retained it until 1958.

In 1952 traffic was 733,000 passengers and by 1956 more than a million passengers were carried, actually 1,022,000 and by 1957 there were 1,156,000 passengers.

California Central operated a large intrastate service for more than six years until it went bankrupt in February, 1955. It had an interesting history as it was the first intrastate carrier to operate post-war, although unpressurized, aircraft, the Martin M. 202 and since the company's owners also owned a large transcontinental non-scheduled carrier. With this nonsked dependent upon C.A.B. pronouncements there was some degree of reticence of how the airline responded to P.U.C. as opposed to C.A.B. rulings. After California Central ceased operations the same owners started service over the same routes in March as California Coastal and lasted more than two years until August 9, 1957.

Pacific Southwest emerged in 1956 as the major intrastate carrier after introducing DC-4 aircraft in November 1955. The interstate carriers introduced newer aircraft as they became available but operated them in first class service only until 1954 when United introduced its coach DC-6's and DC-6B's in 1956. From 1954 to 1958 the coach fares remained at $9.99 for Pacific Southwest and $13.50 for the interstate carriers.

B. The Jet Age, 1958 - 1965

Fare increases on the major California route came on April 14, 1958, after four years of no change, when Pacific Southwest increased their fare to $11.81. The interstate carriers raised their fares to $15.05 on July 7,1958. Pacific Southwest further increased fares to $13.50 on December 12, 1960 and the scheduled airlines followed on January 9, 1961 with a $16.45 fare.

The second major period of the entry of intrastate carriers, like the first, occurred when large numbers of older aircraft were available at low prices. This was because the world's major airlines were introducing jet aircraft and they were disposing of their propeller aircraft at bargain prices. In May and June of 1962 two new intrastate carriers started flying to Lake Tahoe. In August, Trans California started service between Oakland and Los Angeles with 98 seat Lockheed L-749 Constellation aircraft at a $10.99 fare which it maintained until it ended its service in October 1964, shortly after Western introduced DC-6B Thriftair service on the same route in June. Three other intrastate carriers also entered various California markets during 1963 and 1964.

These new airlines were short-lived enterprises and all were gone by February 1965, but patronage was not lacking. It became the largest route in the U.S. in 1961 when traffic reached 1,527,000 passengers. In 1964 it became the busiest airline route in the world when 2,648,000 passengers were carried and it has maintained this premier condition to the present.

Western was the first airline to react to the new intrastate carriers and placed 92 seat DC-6B Thriftair flights on the route on June 1, 1962. The fare was $12.95 which compared to Pacific Southwest's $13.50 and was possible because Western was reflecting the fact that it's DC-6B aircraft were fully depreciated. It was a successful service from the start. Western dropped its fare to $11.43 on February 25, 1963, while jet fares were boosted for the third time since they had been introduced at $17.05 in 1959 to $23.70 on April 7, 1962. Thriftair was one result of the complete change over to turboprop Lockheed Electras by February 1960 by Pacific Southwest. Western's share of the market went from 15 percent in 1961 to 32 percent by the end of 1963. mostly at United's expense.[12]

United finally reacted, after seeing its market share drop from 59 percent in 1958 to 18 percent in 1963, when it introduced its Jet Commuter four daily flights which used two new 114 seat Boeing 727 jets especially designed for the service on September 27, 1964. The fare was $14.50 which was only one dollar higher than Pacific Southwest's turboprop Electra fare. It was immediately successful and within six months two more jets were added to the service and twenty daily flights were operated each way. Western suffered most from United's new service and Pacific Southwest started Boeing 727 jet service on April 9, 1965, eight days after United had reduced its fare to $13.50 and Pacific Southwest accepted the United jet fare. Western placed its less economic 146 seat 720B fan jets on the route in April 1965.

Trans World was authorized to fly unrestricted service between the two centres in January 1962, but decided to continue to operate the service as only part of its normal interstate services. It charges the normal low-fare because it is based on marginal costs. Although

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12. Michael E. Levine, "Is Regulation Necessary? California Air Transportation and National Regulatory Policy." (Yale Law Journal: July 1965) p.1436.

Trans World was not prepared to fully enter the California market it still held attractions for other operators.

C. Postscript, 1965 and After

The year 1965 was important to commercial aviation within California because on September 17, 1965, the P.U.C. was given additional authority over the entry, exit and service of the intrastate carriers. During that year 3,174,000 passengers were carried on the route. Traffic problems in the Los Angeles area and the growing popularity of Disneyland prompted an application to the P.U.C. for a Certificate of Public Convenience and Necessity. It is noteworthy to find that after arranging their financing the application was made in April, the hearing was held in June and the certificate granted in September. A total of seven months was spent just in getting permission to fly.

As a result of the favourable decision Air California started flying turboprop Lockheed Electras from San Jose to Santa Ana (Orange County) on January 16, 1967. DC-9 jets were added in April of the same year. The next year, 1968, all aircraft were replaced with Boeing 737 jets and 650,000 passengers were carried. By March 1970 Pacific Southwest made its first bid to acquire Air California. This was important, falling as it did after the P.U.C. had acquired power over airline entry, because it was the first merger proposal ever between intrastate carriers. It was an obvious attempt to reduce competition and the U.S. Justice Department threatened Pacific Southwest with an antitrust suit.

The route between San Francisco and Los Angeles remains the world's busiest service and competition is strong. It still is profitable for the airlines, though, as Pacific Southwest has ordered Lockheed L-1011's for the run. They are capable of seating 345 passengers. The coach fare remains in 1974 as the lowest in the world at $16.50, 4.85¢ per mile. This is a bargain for travellers but if competition was reduced it is likely that fares would creep up to the standard interstate fare levels. The coincidence of innovation in service plus fare reductions and spectacular market growth suggests that innovation and low fares have in large part caused the market growth.[13]

13. Levine. "Is Regulation Necessary?", p.1442.

SECTION 9

THE BOSTON - NEW YORK - WASHINGTON SHUTTLE

The most highly populated area of the U.S.A., the region between Boston and Washington, D.C. which includes New York City and its environs, did not get low-cost air service like California's until 1961. This was not because there was no operator interested in such a service but rather because no certificated carrier was interested. One of the major nonscheduled carriers, North American Airlines, applied to the C.A.B. in 1954 to run shuttle flights between New York and Washington. The proposed fare was $10 one way which was $2.77 less, or 21.7 percent, than that of American and Eastern, the two certificated carriers on the route. It planned to use D.C.-4 aircraft and feature no reservations. Tickets were to be sold on board the planes which would be equipped with carry-on baggage racks. The C.A.B. turned the request down.

A. Coach Service Before the Shuttle Service

One reason why North American may have applied to operate its shuttle service may have been the reluctance of the certificated carriers to operate coach flights between the three centres. Eastern revised its schedules to extend coach service from Washington to New York and Boston in the spring of 1953 and American followed quickly. The key feature of the new service was that the coach tariffs were filed only for extensions of flights that also served these cities but were not available for passengers flying between Boston -

New York and New York - Washington. The carriers only offered first class fares on those route sectors. The fares were suspended in April and May 1953 by the C.A.B. and consolidated for inquiry in the Short-Haul Coach Fare Case. Neither Eastern nor American was anxious to offer coach fares between Boston and New York or between New York and Washington.[14]

The C.A.B. decided that coach fares should be no more than 75 percent of the first class fare levels. American then filed revised fares significantly above the C.A.B.'s recommendations, as shown in Figure 15 and were suspended

Figure 15

American Airlines Proposed Coach Fares in the U.S. Northeast

Route	Proposed Coach Fare	First Class Fare	Proposed Coach Fare As a Percentage of First Class Fares
Boston - New York	11.00	12.15	90.5%
New York - Washington	13.00	14.40	90.3%
Boston - Washington	22.00	25.55	86.1%

Source: Paul W. Cherington, Airline Price Policy: A Study of Domestic Airline Passenger Fares, p.433.

and a hearing ordered by the C.A.B. American shaved its coach fare proposals just before the hearing but upon realizing that they would not be acceptable to the C.A.B. finally, along with Eastern, filed fares at the 75 percent level. The certificated carriers finally introduced coach fares on this major route in the fall of 1953.

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14. Paul W. Cherington, Airline Price Policy: A study of Domestic Airline Passenger Fares, (Cambridge, Mann,: Boston Div. of Research, Graduate School of Business Administration, Harvard University, 1958) p.433.

B. Eastern's Shuttle Service

Because this interstate route was regulated by the C.A.B. the introduction of the low fares, eleven years after the scheduled interstate carriers introduced them in California, was not a reaction to low-fare competition but a response to utilizing older equipment which had been displaced by the introduction of jet aircraft but because this had occurred later than in most airlines there was no market for them.

Eastern introduced its Air-Shuttle between New York and Boston (188 miles) and Washington (205 miles) on April 30, 1961. The Boston - New York fare was $10.91; 5.80¢ per mile; and the New York - Washington fare was $12.73; 6.21¢ per mile. Increases to $11.82; 6.29¢ per mile; and $13.64; 6.56¢ per mile; respectively were made on December 2, 1961. Passengers did not need reservations, purchased their tickets aboard the aircraft and were guaranteed a seat. Older 95 seat Lockheed Constellations originally operated the service every two hours but on August 1, 1961, hourly service was introduced between New York and Boston and between New York and Washington on September 15, 1961. By June 11, 1962, only 13½ months after the inaugural Air-Shuttle flight, one million passengers had been carried.[15]

15. R.E.G. Davies, Airlines of the United States Since 1914 (London: Putman & Co.Ltd., 1972) p.543.

The service lost money for the first few years but this was principally a result of guaranteeing every passenger a seat, which required some single passenger trips and many empty aircraft repositioning flights.

Faster aircraft were introduced by Eastern as they became available. Turboprop Lockheed Electras began service on August 1,1965 between New York and Boston, 118 seat Boeing 727 Jets entered service on April 24, 1966 and were followed by Douglas DC9 Jets on February 1, 1967. The popular shuttle service allowed Eastern to displace American as the major carrier on the two routes. American reacted on February 12, 1967, by establishing its Jet Express service using BAC One-Eleven Jets. Northeast, the weaker carrier on the Boston - New York route, also entered the competition until its merger with Delta in 1972.

The fares continued to climb upward, probably as a result of restricted competition, until the fares in 1973 from New York were:

To Boston	-	\$24.00 (12.77¢ per mile)
To Washington	-	\$26.00 (12.68¢ per mile)

It must be remembered that at the same time the intra-California fare was 4.85¢ per mile which if in effect on this route would have provided fares of \$9.12 between New York and Boston and \$9.94 between New York and Washington.

SECTION 10

A COMPARISON OF THE CALIFORNIA INTRASTATE AND THE NORTHEAST U.S. INTERSTATE SERVICES.

Probably as one result of the attitudes easterners and westerners held about each other many articles appeared in periodicals comparing the respective regional air services. This section compares the two services by looking at the types of aircraft used and the fare levels.

A. Aircraft Types Used

One criticism of the California intrastate service was that aircraft used on those routes were often older than other aircraft used on other routes. The intrastate carriers of California used nonpressurized Martin 202's and old DC-3's and DC-4's until the early 1960's when the prices of used pressurized aircraft dropped. This was a result of new jet aircraft displacing pressurized aircraft. In contrast the carriers on the Northeastern interstate routes introduced new aircraft on their regular flights as they became available. But Eastern's Shuttle also originally used older propeller aircraft. This would appear to explain why the intrastate carriers only used older aircraft because their capital costs were lower which resulted in lower costs to each carrier and enabled them to offer lower fares. It is important to point out that Pacific Southwest, the California intrastate carrier, operated all of its flights with turboprop Electras by February, 1960, and Eastern did not introduce turboprop aircraft until August 1965.

Jet aircraft were first introduced by the interstate carriers in both services. They were used only for their standard services until United offered its Boeing 727 Jet Commuter in September 1964. Pacific Southwest followed with Boeing 727 jet service in April 1966. Eastern did not introduce jets on its Shuttle service until April 1966. Today all major services in both areas are operated with jet aircraft.

Originally the interstate carriers offered better aircraft when they were in competitive services than their intrastate counterparts. Since the 1960's when both regions of the U.S. offered a commuter-type air service the intrastate carriers have followed the lead of their California interstate counterparts but have been well ahead of the Northeast interstate carriers in introducing modern aircraft.

B. Fare Levels

Federal regulatory bodies do not control standards of service. Ordinarily airlines would provide those standards of service that would result in the maximization of airline industry profits, that is, the airlines would provide the service standards where the industry's marginal revenues from the improved service levels equalled the marginal costs of their service improvements. But the federal regulatory bodies established fares which could not be undercut so that U.S. scheduled interstate offered high levels of service in order to attract patrons where routes were competitive. But, since the California Public

Utilities Commission did not restrict price decreases,this rivalry could be expressed through lower fares as well as through service improvements.[16]

Scheduled coach service was first introduced for a permanent period in California in 1949 but the Northeast U.S. routes did not receive that type of service until the end of 1953. Figure 16 shows that even when coach service appeared in the Northeast U.S. the lowest per mile rates there were 25.9 percent greater than those within California.

Figure 16

A Comparison of Coach Class Per Mileage Rates Between the California and the Northeast U.S.Services for Selected Years

	California Service		Northeast U.S. Service	
Selected Years	Major Intrastate Carrier	Major Interstate Carrier	New York - Boston	New York - Washington
1949	2.94¢	-----	----	------
1950	2.94¢	2.93¢	----	------
1951	3.44¢	3.44¢	----	------
1952	3.97¢	3.44¢	----	------
1954	3.97¢	3.44¢	5.00¢	5.41¢
1955	2.94¢	3.44¢	5.00¢	5.41¢
1958	3.97¢	4.43¢	5.74¢	6.12¢
1959	3.97¢	4.43¢	6.28¢	6.61¢
1960	3.97¢	5.01¢ (jet)	6.97¢	7.27¢
1961	3.97¢	5.01¢ (jet)	5.80¢	6.21¢
1962	3.97¢	6.97¢ (jet)	6.77¢	7.10¢
1964	3.97¢	4.26¢ (jet)	7.09¢	7.43¢
1965	3.97¢ (jet)	3.97¢ (jet)	8.11¢	8.36¢
1973	4.97¢ (jet)	4.97¢ (jet)	12.77¢ (jet)	12.68¢ (jet)

Source: William A. Jordan. Airline Regulation in America, pp.279-93, and current airline timetables.

Over time the disparity of rates has become greater

16. Jordan, Airline Regulation in America, p.35.

so that by 1965 the per mile rates in the Northeast U.S. are 104.3 percent greater than the California rates. At this time the California service was being flown with jets and the U.S. Northeast service was using turboprop aircraft.

Fare levels derived from the per mileage rates are listed in Figure 17 for the California and Northeast U.S.

Figure 17

A Comparison of Coach Class Fares Between the California and the Northeast U.S.Services for Selected Years

	California Service		Northeast U.S. Service	
Selected Years	Major Intrastate Carrier	Major Interstate Carrier	New York - Boston	New York - Washington
1949	$9.99	------	------	------
1950	$9.99	$9.95	------	------
1951	$11.70	$11.70	------	------
1952	$13.50	$11.70	------	------
1954	$13.50	$11.70	$9.40	$11.10
1955	$9.99	$11.70	$9.40	$11.10
1958	$13.50	$15.05	$10.80	$12.55
1959	$13.50	$15.05	$11.80	$13.55
1960	$13.50	$17.05 (jet)	$13.10	$14.90
1961.	$13.50	$17.05 (jet)	$10.91	$12.73
1962	$13.50	$23.70 (jet)	$12.73	$14.55
1964	$13.50	$14.60 (jet)	$13.33	$15.24
1965	$13.50 (jet)	$13.50 (jet)	$15.24	$17.14
1973	$16.50 (jet)	$16.50 (jet)	$24.00	$26.00

Source: William A. Jordan, Airline Regulation in America, pp. 279-93, and current airline timetables.

routes. These two tables taken together show why the California service was by far the better travel bargain. It is likely that a commuter type service would have been operated in California had there been no intrastate carriers but the situation in the Northeast U.S. routes indicates that the fares would have been higher.

C. <u>CONCLUSIONS</u>

The major regulatory difference between the carriers of the two routes was the difference between the obstacles to entry of the industry. In California prior to 1965 an operator had only to prove his financial responsibility, have his rates checked by the California P.U.C. and start operating his aircraft on the routes he wished. To operate on the interstate routes a new carrier would have to apply to the C.A.B. for a Certificate of Public Convenience and Necessity. It would have to prove that there was capacity on the route for its proposed services and other carriers could oppose the application. The same procedure is required if any additions or changes to the route are wanted later.

Restriction of entry to the airline industry has often been said to be necessary to assume that a stable airline system will be developed and preserved. It has of course never been found that protective regulation is essential to assure continued provision of an adequate supply of air transport services, any more than it is necessary to secure an adequate supply of soap, doorknobs, or automobiles.[17] The airline industry is such that small numbers of similar aircraft can create economic units so that the acquisition of more aircraft can lead to

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17. Lucile Sheppard Keyes, "A Reconsideration of Federal Control of Entry into Air Transportation," (<u>Journal of Air Law and Commerce: 1955</u>.) p. 197.

diseconomies of scale. Further, aircraft are easily transferred to other routes or carriers or otherwise disposed.

Normally in an industry the acquisition of a company involves the purchase of physical property and perhaps some patented process. The acquisition of an interstate air carrier involves the purchase of "route licences". In two striking decisions however, the Board has authorized transfers in which a substantial sum was paid for the Certificate of Convenience and Necessity itself.[18] The purchase of Marquette Airline by T.W.A. is a noted case where basically all that T.W.A..was acquiring was Marquette's operating privileges. These costs can only be placed on the fares to be paid by the travelling public. It is unfortunate that the actions of politicians in regulating the airline industry has resulted in higher fares.

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18. "Sale of Airline Certificates of Convenience and Necessity." Columbia Law Review, (January 1948) pp.88-9 .

SECTION 11

OTHER NON-REGULATED AIR SERVICES

There are two other major instances of passenger carriers operating successfully outside economic regulatory controls in the postwar era. In both of these cases, however, governments have tried to force the carriers that operated these services to raise their fares, restrict their flight frequencies, restrict their patronage to members of certain groups and to enforce other impractical regulations. The two services are the non-scheduled carriers that operated in the U.S.A. in the late 1940's and the early 1950's and the trans-Atlantic charter flights of the 1960's and 1970's.

A. The Non-Scheduled Airlines of the U.S.A.

The non-scheduled airlines, also known as nonskeds, irregular, charter and supplemental carriers, came into prominence after World War Two. Under the fixed base operator clause of the Civil Aeronautics Act of 1938 certain carriers were granted an exemption from requiring a certificate of public convenience and necessity if they made only irregular trips, charter and taxi flights and other similar flights not related to a fixed route. At first these operators were unimportant but immediately after the war they grew tremendously when the U.S. Government sold large numbers of surplus aircraft. Thousands of pilots discharged from the U.S. Air Force were able to finance the purchase of those aircraft with the aid of the Government.

For example, a C-47, the military version of the DC-3, could be bought for $25,000 and paid off at the rate of $4,000 per year. Few of these aeroplanes were particularly suited for crop dusting or short taxi flights. If the C.A.B. did not see that in the normal course of things some of those entrepreneurs hoped legitimately to develop into regular airlines, it was singularly lacking in imagination.[19] In 1945, the C.A.B. estimated that 2,730 'airlines' were founded with 5,500 aircraft.[20]

The new non-scheduled airlines quickly developed specialized services such as cargo and contract operations but their most important and greatest impact was in the provision of low-cost passenger flights. Since the scheduled carriers did not offer coach class the nonskeds used the established first class fares as an 'umbrella' and undercut them significantly. Those services, called air coach, skycoach and coach-type flights, were operated extensively between such points as New York and Miami, Puerto Rico, California and Hawaii.

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19. Robert Bendiner, "The Rise and Fall of the Nonskeds," The Reporter, (May 30, 1957) 30.

20. R.E.G. Davies, A History of the U.S. Airlines Since 1914. (London: Putnam & Co. Ltd., 1972) 448.

It was natural that the scheduled carriers and the C.A.B. viewed with alarm the inroads that the nonskeds made. The C.A.B. amended its regulations on May 17, 1946, to require carriers to receive a Letter of Registration to operate large aircraft in interstate and overseas transportation between any two points on an infrequent and irregular basis. This new class of airline were called Large Irregular Carriers and comprised those nonskeds which operated a single aeroplane of more than 10,000 pounds, or three or more aeroplanes of greater than 6,000 pounds with a total weight of more than 25,000 pounds, gross take-off weight. This was the C.A.B.'s first attempt to measure and control the nonskeds.

With studied disregard for the slump in domestic first class plane and rail travel, transcontinental irregular operators more than doubled their 1947 passenger volumes.[21] A typical large irregular carrier was Trans Atlantic which offered a $99 Los Angeles - New York fare while the minimum fare of the scheduled carriers was $143.15. In 1947 this carrier flew over 30 million passenger miles but in the Spring of 1948 the C.A.B. had suspended its Letter of Registration. In 1948 the four largest transcontinental nonskeds had flown over 109.3 million passenger miles, as shown in Figure 18.

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21. Charles Adams, "1948: Biggest Year for Nonskeds." (Aviation Week: January 3, 1949) 32.

Figure 18

Passenger Statistics of the Four Largest

Transcontinental Non-Scheduled Airlines in 1948

Airline	Base	Revenue Passengers	Revenue Passenger Miles -'000 -
Viking Airliners	Burbank, Cal.	17,792	31,293
Standard Air Lines, Inc.	Long Beach,Cal.	16,398	32,720
Airline Transport Carriers Inc. (A.T.C.)	Burbank, Cal.	10,689	18,665
Air America,Inc.	Burbank, Cal.	10,865	26,670
	Total	55,744	109,348

Source: Aviation Week. "Scheduled Lines Take Coach Leadership." November 7, 1949, p. 12.

These four carriers accounted for between fifty and seventy percent of the New York - California traffic carried by the nonskeds. There were a number of other $99 transcontinental nonskeds and even some which offered an $88 fare.

Since by 1949 only Capital among the scheduled carriers had more coach passenger miles than any of the largest nonskeds the threat of those beyond regulatory controls had to be dealt with. The C.A.B. announced on August 6, 1948, that it would not issue any more than the 142 Letters of Registration that were listed at that date and in December stated that all nonskeds were to be limited to eight to twelve flights between the same two points each month. Also in December the C.A.B. proposed to withdraw the blanket exemption under which the irregular carriers operated. It was obvious that the nonskeds had threatened the exclusive bureaucratic airline network it had built. It was also obvious to some observers that such definitive regulation was unnecessary. C.A.B.'s contemplated revision of the non-scheduled exemption is tantamount to an admission that it is losing the legal game of tag it is playing with the irregular lines, making new and drastic rules necessary.[22]

The C.A.B. continued its tightening up of regulations on May 20, 1949, by replacing the blanket exemption of the nonskeds with individual exemptions. Nonskeds operating on June 19, 1949, were allowed to continue until their Letters of Registration were cancelled or revoked. Early in 1948, Standard, Viking, A.T.C. and twelve other nonskeds applied to the C.A.B. to operate scheduled transcontinental flights but by the Summer of that year Standard and Viking had been ordered to show cause why their Letters of Registration should not be revoked. Standard's Letters of Registration were revoked in July, 1949, which forced the carrier out of business; A.T.C. was ordered by the C.A.B. in September 1949, to stop leading the public to believe that it operated regular flights between any two points and was only allowed to make eight round trips between any two centres during any four week period; in January 1949 Air America was given a show cause order why its Letter of Registration should not be

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22. Charles Adams, "C.A.B. Should Order a Skycoach Investigation," (Aviation Week: December 20, 1948) 50.

revoked; and in July 1950, Viking's Letter of Registration was revoked. Not content with the actions of the C.A.B. many of the larger scheduled airlines laid complaints with the C.A.B. against most of the nonskeds.

On May 25, 1950, the C.A.B. announced that it would deny applications from those carriers which had operated quasi-scheduled services but would grant individual exemptions to those airlines which had operated truly irregular flights. Those nonskeds which had not operated during the preceding year lost their Letters of Registration.

By the time the C.A.B. was ready to investigate the nonskeds' applications for transcontinental scheduled services, only four carriers, Air America, California Eastern, Great Lakes and Trans American had filed applications. Figure 19 presents the cities that each applicant proposed to serve. The list shows that the nonskeds were not prepared to serve marginal traffic centres. The C.A.B. examiner stated that the C.A.B. should reject the four nonsked's applications basically because he felt that the diversion of traffic from the scheduled carriers to the proposed services of the four applicants would endanger the whole industry's financial health. While this may appear to be somewhat of an exaggeration he was backed to the hilt by spokesmen for the scheduled airlines.

The C.A.B. initiated the Large Irregular Carrier Investigation in September 1951. Unfortunately for the nonskeds this investigation dragged on for more than ten years.

Figure 19

Proposed Cities to be Served by The Nonskeds

If Granted Scheduled Status, 1950

Airline	Cities
Air America, Inc.	New York, Washington, Pittsburg, Cleveland, Detroit, Cincinnati, Chicago, St. Louis, Kansas City, Denver, Albuquerque, Salt Lake City, Los Angeles, San Francisco
California Eastern Airways	New York, Philadelphia, Washington, Cleveland, Detroit, Chicago, St. Louis, Kansas City, Denver, Phoenix, Los Angeles, San Francisco
Great Lakes Airlines	New York, Philadelphia, Chicago, Los Angeles, San Francisco
Trans American Airways	New York, Philadelphia, Chicago, Los Angeles, San Francisco

Source: "No Additional Coach Operators Needed?" Aviation Week. December 4, 1950, p. 44.

At the same time in 1951 it turned down the four nonsked applications without regard for the individual merits of each applicant. The C.A.B. ruled that supplemental coach services were not in the public interest and would be destructive to the existing transcontinental scheduled carriers. Nonskeds carried about 317,800 passengers in 1950 and 424,000 in 1951 and passenger miles increased 27.2 percent from 569,925 in 1950 to 725,123 in 1951.

No discussion of the U.S. non-scheduled airline industry would be complete without referring to North American Airlines. Stanley Weiss and James Fishgrund formed Fireball Air Express in November 1945, and operated DC-3's from Long Beach to New York via Kansas City and Chicago. In 1946 they changed the name to Standard Air Lines. Viking Air Lines was formed by Jack Lewin and Ross Hart about the same time. By 1949, Standard and Viking had become two of the largest transcontinental nonskeds and in January 1950, the owners of both companies formed North American Airlines Agency which in turn acquired the control of a number of other large irregular carriers, including Trans National, Trans American, Hemisphere and Twentieth Century. It started its Los Angeles - New York flights via Albuquerque, Kansas City and Chicago at $99 one way and $160 round trip fares using a combined fleet of fourteen DC-3's. By an ingenious method of using its subsidiary carriers to fly no more than eight to twelve times per month between any two points was able to provide a regular and frequent service. In 1951 they introduced 79 seat DC-4's and in 1952 North American applied to the C.A.B. to merge its subsidiary companies into North American Airlines. Its gross revenues in 1951 were about $7 million. In 1953, North American applied to the C.A.B. for a number of scheduled routes, including a Chicago-Kansas City-Denver-Los Angeles service at three cents per mile plus two dollars per ticket. The application was turned down.

North American carried over 194,000 passengers and flew more than 329 million passenger miles. It acquired two 102 seat DC-6B's in December 1954 and eventually operated seven of those modern propeller aircraft. They were quickly placed on the New York-Chicago-Los Angeles service at $88 one way and $160 round trip. The C.A.B. revoked the various

Letters of Registration held by North American's subsidiaries on July 1, 1955, but the carrier continued to operate until its appeal was heard in the courts. In 1955 it had carried over 272,000 passengers and had gross revenues of $15 million. North American also applied to operate two daily round trips from New York to Shannon and London at $125 and $140 respectively which were 43 percent below the scheduled carriers coach fares. Because of the charges made by American Airlines that its name was being confused with North American's, the nonsked changed its name to Trans American in 1956. Trans American amended its application on June 11, 1956, by offering to discontinue its proposed service if the C.A.B. could prove that any competitor was harmed by its service. Even though this seemed to answer the C.A.B.'s denial for every other nonsked application the Board reject this application in July. Trans American's C.A.B. authorization ended on January 19, 1957, and was upheld by the U.S. Supreme Court April 23, 1957, to take effect at 12:01 a.m., June 7, 1957. With the end of the North American-Trans American system the scheduled carriers were rid of a competitive outsider who had forced the scheduled carriers and the C.A.B. to live up to some of their responsibilities to the public.

On November 15, 1955, the C.A.B. concluded that since the Large Irregular Carriers provided a useful public service their authority was to be enlarged and that they should be called Supplemental Air Carriers. Congress enacted Public Law 87-528 which confirmed the supplemental airlines' role to charter and contract flights. In 1966, a number of awards were granted to the supplementals to provide international and domestic charter and contract flights. A large share of the growing trans-Atlantic charter business is now carried by the U.S. supplemental air carriers.

B. The Trans-Atlantic Charter Market

The rate of growth on the North Atlantic route has seldom been less than twenty percent a year, with particularly steep rises in the years when a new lower fare level was introduced, that is, in 1952 (tourist fares) and in 1958 (economy fares).[23] Scheduled international fares are set by the airline members of the International Air Transport Association (I.A.T.A.) which was formed in 1945. Because the route is highly seasonal fares are adjusted to be highest during the summer peak period. Most of the carriers are owned by governments and operate marginal routes elsewhere so the I.A.T.A. carriers usually want to keep trans-Atlantic fares at a high level in order to reap profits from that route. Fortunately for the consumer, I.A.T.A. had not succeeded in establishing minimum charter rates.[24]

Trans-Atlantic charters commenced in the period after World War 11 coincident with the appearance of the U.S.

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23. R.E.G. Davies, A History of the World's Airlines, (London: Oxford University Press, 1964) 470.

24. K.G.J. Pillai, The Air Net (New York: Grossman Publishers, 1969) 157.

nonscheduled carriers. I.A.T.A. realized that the charter airlines could have become a threat to its members and as a result created an associate membership class for the charter companies. Since few charter carriers joined, I.A.T.A. developed a two-fold method to deal with the growing charter business. First it made a set of rules for its own members when operating charter flights and then it prescribed minimum international charter rates.

Resolution 045, the infamous affinity group clause, was adopted by the airline members of I.A.T.A. at a traffic conference in Honolulu in November 1953. This clause allowed the airline members of I.A.T.A. to sell charter flights to groups whose chief purpose was something other than travel. Not surprisingly, governments approved Resolution 045 and required their charter airlines to abide by it. In addition the C.A.B. of the U.S.A. limited charter airlines to flights which the scheduled carriers were unwilling or unable to fly and to those charters which were necessary to the successful movement of traffic. Resolution 045 left the impression that the scheduled carriers were doing their best in providing charter flights and that the charter carriers were unnecessary.

The I.A.T.A. members have held conferences where they tried to establish minimum charter rates. They have not yet succeeded but it would appear that the purpose of established charter rates would be to eliminate charter competition. Since charter carriers' rates are set freely according to each charter flight' cost-revenue relationship they have been considerably lower than scheduled flights. An established charter rate for I.A.T.A. carriers could be used to prove that the charter airlines' rate are too low and then governments would be forced to react to protect their national carriers' interests.

The rapid growth in charter traffic, despite restrictive regulations, has forced both governments and I.A.T.A. to take a reasonable approach to the charter business. Few governments could risk upsetting their many voters who have enjoyed charter flights to Europe. As a result since 1962 U.S. supplemental carriers have been allowed to carry inclusive tours and more than one group per flight. For every thrust of external competition from supplementals and non-I.A.T.A. scheduled airlines, there has been a corresponding reaction within the I.A.T.A. - often marked by initial, internal disorders and disagreements and always leading ultimately to appreciable price reductions.[25]

There is a bright note concerning scheduled Trans-Atlantic air services. In the Spring of 1973, Laker Airways, a British company, proposed a $90 one-way peak fare between London and New York, ($78 in winter) and was proposing to operate two 345 seat McDonnell-Douglas DC-10's in its "Skytrain" service. A variant of Eastern's shuttle, Skytrain would have no reserved seats and tickets would only be sold

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25. Pillai, The Air Net, p. 174.

within six hours of departure at the airport. In 1973 the standard I.A.T.A. economy fare for this route was $590 round trip. While the British Civil Aviation Authority has approved Skytrain the C.A.B. has reserved judgement. Not surprisingly, the Laker Skytrain proposal was opposed by British and American scheduled international carriers.

SECTION 12

IMPLICATIONS FOR CANADA

The Canadian Provinces do not have any authority over aviation unlike the dispersion of regulatory powers in the U.S.A. All aeronautical regulation is embodied in the Canadian Federal Government as has been outlined in Section 5.

A. The Early Period

An air mail service was operated in 1918 between Montreal and Toronto by the Canadian section of the Royal Air Force but true commercial aviation had its origin in 1919 over the St. Maurice Valley in the Province of Quebec, where survey and forestry protection flights were successfully made. The year 1920 saw a number of commercial services commence including the first official international air mail route in North America by the American Eddie Hubbard between Seattle and Victoria. As a result of the mining developments in northern Quebec, Canada's first scheduled airline service was started on September 11, 1924, by Laurentide Air Services between Haileybury, Ontario, and the Rouyn goldfields. This bush type of operation was typical of services made with float planes from the ends of rail lines and roads to mining areas which followed soon after in many other parts of Canada.

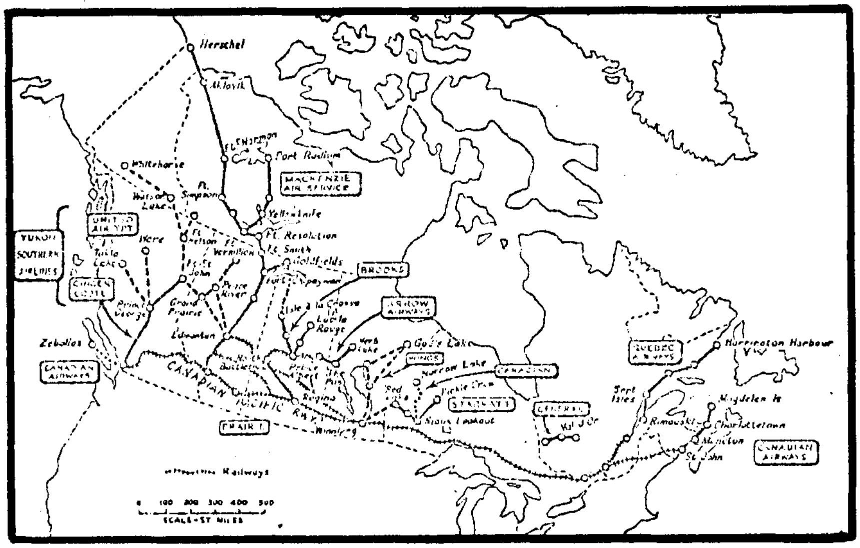
The first commercial air mail contract was awarded in 1927 by the Federal Government to Canadian Transcontinental Airways, later Canadian Airways, for a 330 mile route from Ottawa and Montreal to Rimouski to speed the Trans-Atlantic mail service. Ten other contracts were let in 1927 and 1928 including one to Canadian Airways for a route between Toronto and Montreal. Fairchild Aviation acquired that route and on October 1, 1928, started a daily except Sunday service. After 1928 the carriage of airmail under authorization or contract was extended widely so that service was available even in the Yukon and Northwest Territories. In 1929 Western Canada Airways became the western division of Canadian Airways Ltd. That Company's operation of the Prairie Air Mail from 1930 to 1932 was an important step in the advancement of Canadian aviation. This was an overnight service from Winnipeg to Regina and Calgary with a branch from Regina to Edmonton via Saskatoon and North Battleford. With the exception of Nova Scotia, by the end of 1930 every province and territory was receiving commercial air service.

The revaluation of gold by the U.S.A. in 1933 sparked prospecting activities in the northern areas of Canada easing some of the difficulties for the bush pilots caused by the depression. Two of the largest of these were Mackenzie Air Service owned by the World War 1 flying ace Wop May which ran from Edmonton to Aklavik in the Northwest Territories, and Yukon Southern Airlines, owned by Grant McConachie, who was to gain greater fame later as the President of Canadian Pacific Airlines, which ran from Vancouver to Edmonton to Whitehorse in the Yukon Territory. Between 1939 and 1942 the Canadian Pacific Railway bought these two major bush operators and eight others adding them to its own Canadian

Airways and started to weld them into some semblance of a national company, see Figure 20, and called it Canadian

Figure 20

Airlines Acquired by the Canadian Pacific Railway 1939-1942



Source: Davies R.E.G. A History of the World's Airlines, p. 212.

Pacific Airlines (C.P.A.). This was no less than a response to the Federal Government's formation of Trans Canada Air Lines (T.C.A.) in 1937.

B. Canada Enters the Modern Aviation Age

For most of Canada's modern aviation history, that is since 1936, the Federal Government used its own airline as its chosen instrument on major domestic and international routes. This airline is now called Air Canada but was known as Trans-Canada when it was formed in 1937.

The Federal Government wanted a transcontinental air service and tried to interest two private companies early in 1937 into a joint operation but these firms requested considerable government assistance. Next the Government approached Canadian Airways, Canadian Pacific Railway and its own Canadian National Railways suggesting that they form a non-profit airline but guaranteed against loss by the government. In this proposed airline each company would have two members on the Board of Directors and the government would have three members. As this meant that the two private companies would provide two-thirds of the capital and have only four directors and the government would provide only one-third of the capital and have five directors the two private firms turned the proposal down. The government reacted quickly by forming Trans Canada Airlines (T.C.A.) on April 10, 1937. T.C.A. was principally the creation of the Hon. C.D. Howe, the Minister of Transport in the 1935 Liberal Federal Government. A strong-willed American immigrant who was successful in business he was brought into politics by Prime Minister Mackenzie King. His prominence in Canadian aviation has been recounted in his role in developing the country's regulations in Section 5. But it should be noted here that he remained the Minister responsible for T.C.A. and the regulation of aviation until the Liberals were finally defeated in 1957.

The Company's first route was from Vancouver to Seattle in 1937, taken over from Canadian Airways Ltd., a transcontinental cargo route followed in 1938. Transcontinental passenger service commenced on April 1, 1939, on a route from Montreal to Seattle via Ottawa, Toronto, North Bay, Kapuskasing, Kenora, Winnipeg,Regina, Lethbridge and Vancouver. Edmonton and Calgary were added to the service by a connection at Lethbridge on August 1, 1939. As a result of the demands caused by World War Two, Canada's two largest carriers T.C.A. and C.P.A. achieved significant advances. T.C.A. opened Trans-Atlantic service in 1943 and C.P.A. served the American Army on its route to Whitehorse and the power and aluminum projects in Quebec. There were a few areas during the war where conflicts between these two major Canadian carriers occurred. The principal clash was on the Vancouver-Victoria route.

C.P.A. was the licenced carrier on the Vancouver-Victoria route. As Victoria did not have a large airfield the aircraft used were seaplanes. In 1942 a new airfield was built at Patricia Bay, about 15 miles north of Victoria, and T.C.A. applied to the Board of Transport Commissioners (B.O.T.C.) in 1943 for a licence between Vancouver and Victoria. The B.O.T.C. allowed T.C.A. a licence for that route but only for carrying airmail and passengers to and from points east of Vancouver while C.P.A. was allowed to retain its normal airline rights. The Minister responsible for T.C.A., the Hon. C.D. Howe, responded by instructing the B.O.T.C. to not issue any more route licences. By various speeches in the House of Commons in 1943 it became very clear that competition between carriers over the same route, such as Vancouver-Victoria, would not be permitted again and that the mainline services, as derived from the major centres served by the two major transcontinental railways, would only be served by T.C.A. This was further reinforced when in 1945 the Air Transport Board (A.T.B.), formed in 1944, gave T.C.A. the right to carry local passengers between Vancouver and Victoria.

As in the U.S.A. the postwar period brought further growth to Canada's commercial airlines, especially the T.C.A. and C.P.A. T.C.A. expanded its routes within Canada, also adding a few routes to the U.S.A. and officially commenced its TransAtlantic services in 1947. It added other international routes to the West Indies in 1948, Montreal - New York in 1950 and European points in 1951 and 1952. C.P.A. grew to some international stature with the acquisition of routes from Vancouver to Australasia and the Orient in 1948. It added a South American service in 1953 and a polar route from Vancouver to Amsterdam in 1955. By the time the Liberals were replaced by the Progressive Conservatives as the Government of Canada in 1957 the nation had two very prominent airlines.

C. The Canadian Situation

Like most monopolistic concerns Trans-Canada was subject to much criticism as being insensitive to the public. Trans-Canada was guilty of most of the complaints. It could preempt another carrier's routes at will. It operated older aircraft longer than did the other major North American scheduled carriers. All of its tourist class services until 1958 were operated with the 1947-built North Star 62 seat airliner. The airline, in fact, did not introduce tourist class on domestic services until February, 1954, five years after coach class was introduced in the U.S.A. by certificated carriers, and two years after it had been introduced on the North Atlantic.[26]

With succeeding Liberal administrations since 1935 Trans-Canada was able to retain its monopolistic position despite a number of applications to operate trans-continental services by other carriers. A change was imminent when the Progressive Conservatives were elected in 1957. Among their campaign promises had been a call for transcontinental airline competition. Canadian Pacific and Pacific Western filed applications in November but Pacific Western later withdrew their bid. On December 31, 1958, the Air Transport Board recommended that Canadian Pacific's application for several transcontinental schedules be denied because public convenience and necessity had not been proved but that it should be given a once-daily flight between Vancouver and Montreal via Winnipeg and Toronto in order to strengthen the company's international services.

The Federal Government concurred and Canadian Pacific commenced this service with the turboprop Bristol Britannia on May 4, 1959. This 400 m.p.h. aircraft, which was fitted

26. Hughes, Public Policy and Airline Competition in Canada p. 189.

with 38 first-class and 51 tourist class seats, was used because it gave Canadian Pacific a competitive edge over Trans-Canada which was using the 335 m.p.h.Lockheed Super Constellation and resulted in a faster service. It was also the first turboprop service that a tourist passenger could fly within Canada. Both carriers introduced D.C.-8 jet aircraft as they became available. Some regulatory modifications were made and in 1967 the Government announced that Canadian Pacific would be allowed up to 25 percent of the transcontinental traffic by 1970 while the balance would be allocated to Air Canada. By 1973 this policy allowed Canadian Pacific to operate seven daily transcontinental flights.

In Canada, since there has been competition on transcontinental routes, the quality of meals and reservations facilities has been improved considerably.[27] This was the logical result of trying to attract passengers under conditions of competition when fares are identical. This is not necessarily the case, however, when fares are not identical if sufficient service is given for one fare and better service for a higher fare.

The only route in Canada that has experienced low-cost fares is the Calgary-Edmonton service. When the new Edmonton International Airport was opened 30 miles south of the City, Air Canada transferred its service from the down-town Industrial Airport. Edmonton's residents demanded that

27. Hughes, Public Policy and Airline Competition in Canada, p. 198.

services be maintained at the downtown airport. The Government allowed Pacific Western to provide this service and the first flight started on May 22, 1963. The one-way fare for the Chieftain Air Bus service was $11.00; 6.40¢ per mile; which compared to Air Canada's $13.00 fare; 9.15¢ per mile. At this time rates in California were 3.97¢ per mile and in the Northeast U.S. they ranged from 6.77¢ to 7.10¢ per mile. The Chieftain Air Bus offered travellers a fare that compared favourably with other routes. Air Canada's terminal in Edmonton necessitated a further hour of ground transportation. Unpressurized 66 seat D.C.-4's covered the 172 mile route in one hour and made three trips daily from Monday to Friday only. About 46,000 passengers were carried in the service's first twelve months. It has been a profitable service almost from the start. The frequency was increased to four daily flights, except for weekends, in 1964 and the fare was upped to $12.00 in October. More modern D.C.-6 aircraft replaced the D.C.-4's in 1965 and were scheduled at 50 minutes on four daily flights. By 1967 traffic levels had reached 134,500 passengers annually. In 1968 Boeing 737 jet aircraft were introduced on this route. In 1973 the company offered eight daily flights and charged $18.00; 10.47¢ per mile; hardly a low fare. By this time,however, it was the only carrier on the route. The traffic level for 1972 reached 348,000 passengers. The basic features of the service are no reservations, guaranteed seats, no check-in and fares are collected en route. This service, introduced by a private carrier, is the only example of low fares being brought to the Canadian public. The government carrier, Air Canada, despite having the densest routes of any Canadian carrier has not introduced any low fares on a regular basis.

It was not until May 1972 that Air Canada introduced commuter-style innovations in Canada. It chose Canada's largest airline market, Montreal - Toronto, to operate its Rapidair flights. In 1971, 685,000 passengers were flown between the two centres. With Rapidair, Air Canada scheduled more than five times as many flights on this 315 mile route as Canadian Pacific, its lone competitor, which was restricted by Government regulations. The advantages of Rapidair were no reservations, special check-in areas and hourly flights increasing to half-hourly during the peak periods. Traffic for the two months May-June 1972 period was 199,600 passengers, up 44.6 percent from 138,000 passengers during the same two months in 1971. Notably absent was the introduction of lower fares. Rapidair retained the standard $30.00 economy class fare, 9.52¢ per mile,probably because of its overwhelming dominance on the route. Air Canada had only reacted to competition. Rapidair's principal purpose was intended to reduce city centre to city centre travelling time. This had become necessary ever since Canadian National Railways had introduced their popular five hour Rapido express passenger trains between the two centres on October 31, 1965. More important in 1972 was the approaching introduction of trains capable of making the run in four hours and eventually three hours.

In February 1974 Air Canada announced that it was acquiring one class Boeing 727 jet aircraft to place on the Rapidair service this fall.

D. Possibilities:

It is unfortunate that Air Canada has failed to recognize that it could profitably operate at least the Montreal-Toronto service at considerably lower fares. It is not likely to introduce competitive pricing when it is by far the major carrier on a route with only two carriers. It is also interesting to note that in the first month of 1974 while the scheduled airlines of Canada were asking for a 10.5 percent increase in their fares, effective February 25, 1974, Statistics Canada reported that the combined net incomes of Canada's seven major domestic airlines was up 33.8 percent in the first eight months of 1973, including profits of $7.8 million for Air Canada and $154,000 for CPA. If the Canadian Government were to cease regulating economic affairs of airlines, other than requiring proof of their financial responsibility, one of the first benefits to air travellers on some routes would be lower fares.

The generally lower air coach fares available within California was due to a relative lack of regulation carried out by the California P.U.C. prior to 1965. This loose form of regulation has been proved since:

1. the P.U.C. had no control over airline entry;

2. the low fares were a result of those introduced by the intrastate carriers and the P.U.C. accepted their initial fares;

3. the P.U.C. eventually approved every fare increase asked for by the carriers; and,

4. the P.U.C. did not have control over fare decreases and this allowed carriers to reduce fares if they wished.

Clearly, it was the independent fare policies and actions of the intrastate carriers and, eventually, the certificated carriers - working in an environment of limited regulation - that determined the low coach fares in the major California markets.[28]

The elimination of economic controls over domestic airlines would mean a substantial readjustment in air services. The important features of any change in economic regulation would be to allow free entry and exit by carriers and to let each carrier set its own fares. It is clear that both competition and regulation can, in the appropriate circumstances, be substituted one for the other, as mechanisms for seeking to serve the public good in the economic phases of the air transportation industry.[29]

Critics point out that the success of the California intrastate carriers is unique and could not be copied elsewhere. The criticisms, as noted by James R. Atwood,

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28. Jordan, Airline Competition in America, p.114.

29. Samuel B. Richmond, Regulation and Competition in Air Transportation. (New York: Columbia University Press, 1961) p. 256.

and the reasons that they are not true are:

(1) Intrastate carriers are allowed to operate direct overland flights between Los Angeles and San Francisco while interstate carriers must use a roundabout route over the Pacific Ocean.

- An investigation by the Federal Aviation Administration in 1963 showed that this item was unimportant since it saved only thirty-five cents per seat. On a 200 seat aeroplane this saving would only total seventy dollars.

(2) Intrastate carriers employ unusual ticketing practices.

- Interstate carriers are required by C.A.B. regulations to give travel agents five percent commissions. Pacific Southwest, the major California intrastate carrier, gives eight percent commissions which encourages travel agents to send business their way.

(3) The rapid growth of traffic on the Los Angeles - San Francisco route allowed for the introduction of low fares and multi-schedules.

- Examination has shown, however, that the enormous expansion in traffic was largely due to competition. The C.A.B. Staff Research Report determined, by extrapolating traffic figures from the period of stable prices (pre-1962) over the period of falling average fares (post-1962), that 1964 traffic was 35.5 percent higher than it would have been had fares not declined 25.4 percent since 1962.[30]

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30. James R. Atwood, "Intrastate Carrier-Competitive Impact - Pacific Southwest Airlines".(Journal of Air Law and Commerce: Autumn, 1966) 613.

The convenience of a great number of schedules and low fares attracted passengers. There is no reason to suppose why this can't be duplicated elsewhere with the same results.

The present system of economic regulation has allowed hidden cross-subsdization whereby an airline's profitable routes subsidize its unprofitable ones. Deregulation would not appeal to the present scheduled carriers, since the present system provides them with considerable protection from the threat of complete extinction. Areas which do not cover the costs of their air services would also protest deregulation. These areas would receive fewer flights but lower fares is another likely result by using smaller and more economic aircraft. Air carriers would tend to become specialists by route lengths and hence they would need fewer types of aircraft and use them more efficiently, which describes Pacific Southwest's situation. Efficiency here goes beyond the normal meaning of aircraft utilization in time to include the number of passenger seats each aircraft is fitted with compared to the maximum it could carry. The Wheatcroft report in 1958 noted that on local routes small regional carriers would have lower costs than mainline carriers. In the operation of secondary routes an entirely different type of service can be provided and costs can be cut very considerably. It is very difficult, however, for a major operator to mix this type of service with the normal mainline standard.[31]

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31. Department of Transport, Airline Competition in Canada, p. 36.

Complete freedom of entry and rates would lead to stable market conditions in which competing airlines would have changing shares of the market or even go out of business. Entry costs in the airline industry are not high enough to discourage potential competitors so that operating airlines would keep their fares low enough to avoid attracting potential operators.

Deregulation would have to happen at the same time in the entire country since an experimental situation in only one location could lead to erroneous conclusions. If, for example, only one route was given its "economic freedom" then the present carriers would be tempted to price their fares on that one route below their marginal costs which would keep potential competitors out and demonstrate that such a service is unprofitable.

The level of lower air fares that would occur as a result of deregulation in Canada is a matter of conjecture but some estimate is necessary in order to weigh the benefits of deregulation. Figure 21 applies the 1974 California per mileage coach rate of 4.85¢ to some Canadian routes and provides some idea of the lower scale of fares that would result. For the routes selected the application of the 1974 California coach per mile rates results in savings ranging from a low of 23.1 percent to a high of 55.0 percent. Certainly this potential range of savings would be of great benefit to the public and would allow many more people to travel than has been the case hitherto.

Figure 21

Potential Canadian Coach Fares Using the 1974
California Per Mileage Coach Rate of 4.85¢

Route	Distance in Miles	Present Coach Fare	Potential Coach Fare	Saving	% Saving
Montreal-Toronto	315	$ 34.00	$ 15.29	$ 18.71	55.0%
Vancouver-Calgary	407	41.00	19.74	21.26	51.9%
Vancouver-Edmonton	522	46.00	25.32	20.68	45.0%
Vancouver-Toronto	2078	131.00	100.78	30.22	23.1%
Vancouver-Winnipeg	1144	83.00	55.48	27.52	33.2%

Source: Current airline timetables.

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