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The regional airline industry

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THE REGIONAL AIRLINE INDUSTRY

BY

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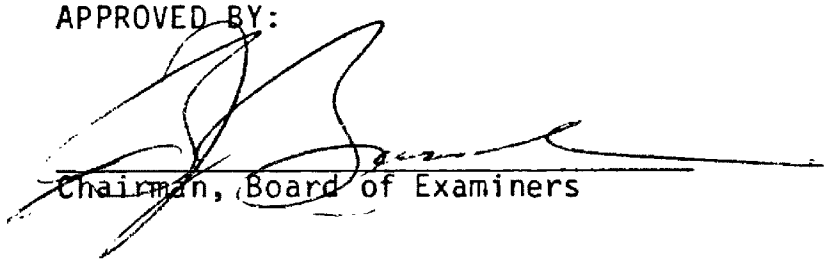

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TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF CHARTS AND GRAPHS

I. OVERVIEW OF THE INDUSTRY

A. INTRODUCTION

The regional airline industry has experienced substantial growth during the 15 years it has been recognized as representing a distinct class of air carriers. It was in 1969 that the Civil Aeronautics Board recognized the need to establish a class of small, noncertificated scheduled airlines. Thus, the regional/commuter airline industry was born. During 1984, regional airlines transported 26.1 million passengers and its revenue passenger miles totaled 4.17 billion.[1] Regional airlines are readily becoming a major force in the passenger transportation industry and the indications are that this upward trend will continue into the 1990's.

The typical regional airline operates scheduled, high-frequency flights from outlying communities to the larger airports where their passengers and cargo may continue on other scheduled flights. The aircraft used for these flights are generally piston or turboprop, multi-engine aircraft which can be flown at lower altitudes than the jet aircraft operated by the long-haul carriers. The average trip length of the regional carrier is usually between 100 to 300 miles.

The efficiencies of operating smaller aircraft has allowed the regional airlines to serve not only the smaller communities effectively but also larger cities which have long, narrow markets, i.e. many passengers evenly spread throughout the day. Because of these operating efficiencies, regional airlines are able to profit in such markets whereas major carriers operating jet aircraft cannot.

Simply stated, regional airlines are those carriers which provide regularly scheduled passenger and/or cargo service with aircraft seating

fewer than 60 passengers and a cargo payload of 18,000 pounds or less. These airlines operate according to schedules published in the widely used airline schedule guides. Regional airlines are often referred to as commuter airlines or simply commuters, and these terms will be used interchangeably throughout. In 1981, the Commuter Airline Association was renamed the Regional Airline Association.

B. HISTORY OF AIRLINE DEVELOPMENT

The modern system of air transportation in the United States is not very old. The Civil Aeronautics Act of 1938 created the Civil Aeronautics Board (CAB) and established guidelines for the Board to regulate rates and routes of airlines through a system of certification. Carriers granted certificates at that time were termed "trunk carriers" and are today referred to as "major" carriers.

Originally, there were two general classes of air transportation common carriers - trunk carriers and non-scheduled carriers. The trunk carriers provided scheduled service on fixed routes whereas the non-scheduled carriers furnished service on request without schedules. These small, non-scheduled carriers principally operated from a fixed base and hence the term, "fixed-base operator" (FBO) was coined. For these non-scheduled carriers, transportation services were incidental to the principal business activities of flight instruction and the sale and service of aircraft.

In 1945, the CAB established a new category of carrier known as "local service" carriers. This new class of carrier was created by the Board to serve the air transportation needs of small communities which the trunk airlines believed they could not serve economically. Like the

trunk carrier, the local carrier provided scheduled service to these smaller communities but they did so with smaller, more economical aircraft. Utilizing this type of aircraft allowed the local carrier to operate the route profitably.

The Local Service Experiment

The local service carriers evolved from the requests made by many small communities demanding their own scheduled air service. This led the CAB to initiate the so-called local service experiment. It allowed the smaller, "local service" carriers to serve their own geographical areas instead of having the existing trunk carriers expand into these small communities. It was thought that this arrangement would better serve the interests of the region.

The local service experiment has had a profound impact on the development of the regional airline industry. As required by the Act of 1938, these carriers were protected from economic competition and duplication of services. This was accomplished by imposing various gross take-off weight limitations on the aircraft permitted for use by non-certificated carriers. Hence, the domestic commercial air transportation became a three-level structure - trunks, locals and the air taxis.

The original 1938 legislation also did not provide for fixed based airline operators who engaged in transportation as common carriers. In 1947, the Board established two classes of non-scheduled air carriers -- labeled "large" and "small" carriers. Airlines which operated single engine aircraft with a gross takeoff weight of 10,000 pounds or less comprised the "small, non-scheduled carriers" and were termed "air

taxis". These "air taxis" were the forerunners of the regional/commuter airlines as they are known today.

In 1969 the Board recognized the need to establish a class of small, noncertificated scheduled airlines. By amending Part 298 of its Economic Regulations, the Board defined the commuter air carrier as a Part 298 operator. According to Part 298, a regional/commuter airline was a carrier which performed at least five round trips per week between two or more points and published flight schedules which specified the times, days of the week and airports between which such flights operated. Part 298 also defined the regional air carrier as one which could transport mail under contract to the U.S. Postal Service.

The other scheduled carriers, (trunk and local carriers), came under Section 401 of the Board's regulations and were sometimes referred to as 401 carriers. The separation between the 401 carrier and the regional airline centered around aircraft weight and, ultimately, to the number of passengers which could be hauled. To be exempt from the 401 certification, a regional airline could not exceed a take-off weight of 12,500 pounds. This effectively limited the aircraft to 19 passengers.

Over the years, these passenger and load limitations have been eased. Aircraft seating limit was moved up to 30 passengers in 1972 and to 60 passengers in 1978 with the enactment of the Airline Deregulation Act (coupled with subsequent CAB approval). The Deregulation Act also increased the limit for all-cargo payload to 18,000 pounds.

C. MARKETS SERVED

There are approximately 200 regional airlines which serve the transportation needs of travelers across the United States. These

carriers extend the nation's scheduled air service by providing service to the small and medium sized communities. Many of the regional carrier's routes cluster around large airports to exchange passengers with the certificated carriers. The integration of the regional carriers into the common system of air transportation is especially important to the passengers these carriers serve. Approximately 70 percent of the passengers transported by regional carriers connect with another airline for the continuation of their journey.[2]

The regional carriers link themselves into the nation's air transportation network through the larger airports generally in a "hub and spoke" fashion i.e. hub representing the larger airports and spokes representing the travel to and from the smaller communities. In this manner, the regional airline "feeds" the major carriers. Regional carriers can also feed passengers to the hub airport by utilizing a linear route strategy. Both the hub and spoke route system and the linear route system are discussed below.

The successful regional carrier provides timely, frequent service geared to the schedules of the certificated carriers, thus insuring convenient connections for the passengers and shipments going to other destinations. As such, the regional carriers must work closely with these carriers.

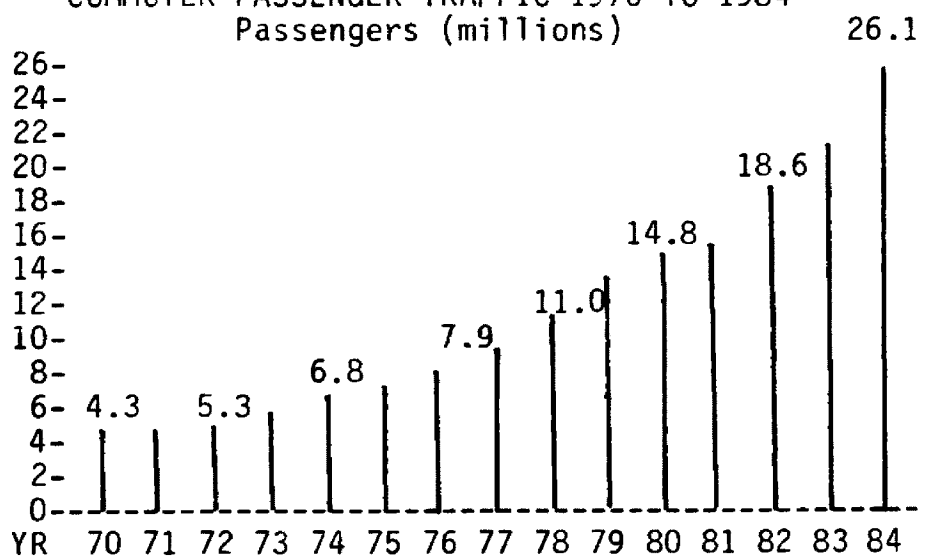
Today, 98 percent of the airports in the U.S. which receive scheduled air transportation are served by a regional air carrier.[3] These carriers now provide air service to 853 communities which is more than all other categories of air carriers combined. The importance of the commuter industry's role in the nation's air transportation system

is underscored by the fact that 619 or 71 percent of airports in North America receiving scheduled U.S. air service rely solely on regional carriers for their air service.[4]

D. GROWTH OF THE REGIONAL AIRLINES

Regional passenger traffic has steadily grown since records were first kept on the regional industry beginning in 1970. As noted below, the number of passengers enplaned on regional airlines totaled 4.27 million passengers in 1970. In 1984, this number had grown to 26.1 million, an increase of over 6 fold. The average number of passengers enplaned per carrier has also seen a significant increase in recent years. For example, in 1978 the average regional carrier enplaned 49,600 passengers while in 1984, this figure had grown to 128,100 passengers per regional carrier.[5]

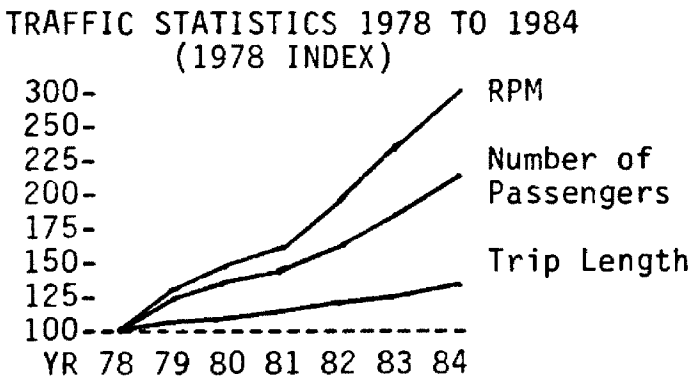
COMMUTER PASSENGER TRAFFIC 1970 TO 1984[6]



As stated above, the number of passengers transported by the regional airlines totaled 26.1 million in 1984. Of this total, 96 percent or 25.1 million passengers were transported by the top 100 regional carriers.[7] The top 50 carriers carried 84 percent or 21.9

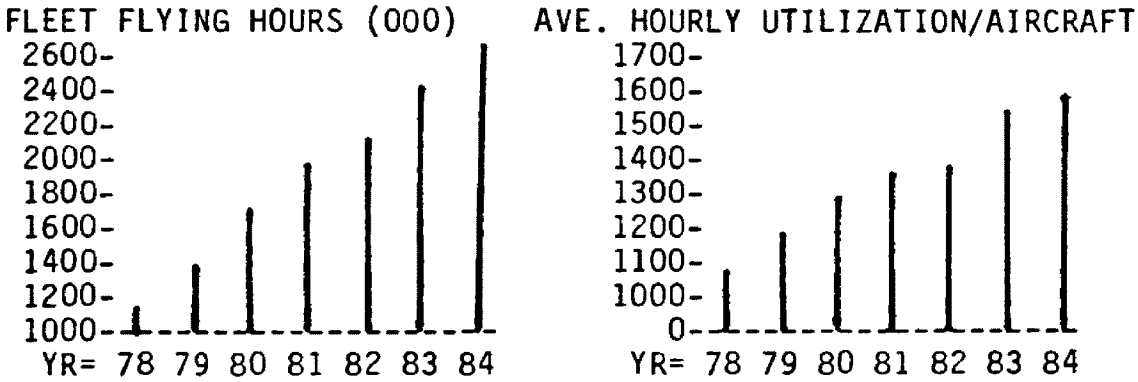
million passengers.[8] See Exhibit A for a listing of the top 50 carriers.

In terms of Revenue Passenger Miles (RPM), the top 100 carriers accounted 97 percent in 1984 and the top 50 regional airlines accounted for 84 percent.[9] Revenue Passenger Miles is a common and often referred to measure in the industry which represents the number miles each paying passenger travels. For example, if 10 paying passengers travel on a 150 mile flight the Revenue Passenger Miles would total 1500 miles. Using 1978 as a base index, a graphic illustration can be presented comparing the average trip length to the number of passengers transported resulting in the Revenue Passenger Miles. During this time period (1978 to 1984), the average trip length steadily increased each year from 121 miles in 1978 to 160 miles in 1984.



The number of regional airlines in service in 1970 totaled 160 carriers.[10] Although this number had grown to 221 carriers in 1984, it is down from an all-time high of 277 carriers in 1981 and also down from 245 carriers in 1982.[11] The number of aircraft serving regional airlines has also shown significant growth, increasing from 687 aircraft in 1970 to 1915 aircraft in 1984.[12] This is the largest number of aircraft which has served the regional airlines since records were first kept in 1970.

To transport the steadily increasing number of passengers, the regional carriers have also had to utilize their aircraft more efficiently. Since 1978, fleet flying hours has steadily increased along with the average number of hours per aircraft as indicated below. The carriers have learned to operate their aircraft not only more efficiently but also are matching their aircraft to their routes. The Deregulation Act has enabled the regional carrier to strategically match aircraft to market conditions. In doing so, the regional carrier optimizes the use of its aircraft.



The average number of passenger seats per aircraft has also steadily grown since 1978 (more will be said on this subject below). Thus, the regional airlines are becoming more aware of their operating environment by more efficiently utilizing their aircraft and matching larger aircraft to their markets.

In summary, the top 100 regional carriers dominate the industry's totals, accounting for 96 percent of all passengers and 97 percent of the RPMs. The aircraft utilized by the regional carriers are becoming larger and are being used more efficiently by their operators. The regional carrier's passenger travels an average of 160 miles per regional flight and approximately 70 percent of all U.S. regional

airline passengers connect with another airline during the course of their air journey. Today, regional airlines account for one-third of all domestic flights and generate 8.5 percent of all departing passenger seats.

E. DEREGULATION ACT OF 1978

The Deregulation Act of 1978 has probably been the most significant factor affecting the development of the regional airline industry since it was created in 1969. The passage of the Deregulation Act has caused the industry to have undergone some dramatic changes and it has created a new operational environment for the regional carrier. As such, an in-depth look at the basic provisions of the Act will provide a better understanding of the regional carrier's environment.

Historically, the airline industry has been regulated much the same as a public utility. In this manner, the industry was protected and nurtured as it developed. This assured the public of an orderly development of an air transportation system. While the industry was in its infancy, the protection afforded the emerging carriers was well intended and worked as designed. However as the industry matured, these same regulations which protected the carriers were also hindering the carrier's ability to expand and reach new markets. The Airline Deregulation Act of 1978 modernized public policy towards the airline industry. The premise of the Deregulation Act recognized that competitive conditions will improve the quality, variety and price of air transportation in the United States.

By its enactment of the Deregulation Act, Congress assured service to the smaller communities. Provisions of the Act recognized the need

for regional carriers and acknowledged the part these carriers would play in the future of the nation's air transportation system.

The Act also included several provisions which gave the carriers more flexibility and freedom. These included the carrier's ability to enter and exit markets at will, pricing freedom, the ability to match the proper size aircraft to market conditions, the guarantee of Essential Air Service (EAS) to small and medium size communities and subsidy programs for the EAS communities.

Free Market Entry and Exit

The Act provided the opportunity for both the certificated and regional carriers to enter new markets or exit those which were no longer profitable. This has allowed air carriers to realign their routes to meet changes in demand while capitalizing on new market opportunities. This change has been fundamental to the success of the Deregulation Act.

The regional carriers benefited from this provision as the major and national carriers (previously trunk and local service carriers respectively) withdrew uneconomic jet service in the short-haul and small community markets. The regional carriers were able to enter these vacated markets and provide replacement service. The Act also gave the regional carrier the ability to commence service at existing underserved communities. The result of which has expanded the regional carrier's role in the small and medium size communities across the nation.

Pricing and Fare Freedom

Another key component of the Act was pricing flexibility. The Deregulation Act eliminated the CAB's authority to regulate tariffs

effective January 1, 1983. However, from 1978 to January 1, 1983, the CAB allowed the carriers to freely set their own fare structure. In effect, the airlines were permitted to offer any service and fare options desired. The wide array of prices and services which were available at that time illustrate that this provision of the Act was used on a daily basis by air carrier management.

The Act also set a timetable by which a full phase out of fare and tariff regulation was to be accomplished. The gradual phase out of these regulations led to the complete deregulation of fares and tariffs on January 1, 1983. Towards this end, the CAB eliminated many of the passenger rule tariffs and allowed the filing of all but the most basic fare tariffs.

Perhaps the traveling public benefited most from the pricing freedom which the carriers were afforded. This provision allowed the carriers to match ticket prices to market and operational conditions. Combined with the carrier's ability to move in and out of markets, many of the carriers reduced their air fares in an effort to attract passengers in those locations where several carriers were competing with one another.

Joint Fares

The joint fare arrangement allowed passengers the convenience of purchasing only one ticket to board both the regional and major carrier's flight. Oftentimes a joint fare arrangement can be less expensive to all involved. This is because the regional carrier is able to attract additional "feed" passengers and the major receives the "feed" traffic more economically than if the major flies the route

itself. Consequently, lower fares can result. The relationship between the regional and major carrier is discussed in detail in Section III.

A joint fare program involves a bilateral agreement between two carriers which outline the terms for which a joint fare is to be divided. The Act required that a mandatory joint fare program be available to regional air carriers from 1978 until January 1, 1983. Prior to the Deregulation Act, few commuters and the communities they served received the benefits of joint fares.

The mandatory joint fare program was essential to the economic viability of commuter services in maintaining service to small and medium size communities. During the period 1978 to 1983 the regional airlines were becoming of age. Absence of a mandatory program, may have caused many smaller carriers to be forced out of business. Today, there are no regulations as to how joint fares are to be negotiated or as to how the revenue shall be divided.

Increased Aircraft Size

Anticipating the need to use larger aircraft for replacement service in medium size markets, the Airline Deregulation Act (coupled with subsequent action by the CAB) permitted the regional carrier to operate aircraft up to 60 passenger seats and 18,000 pounds cargo payload capacity. This had a beneficial impact on the carrier's service in two ways. First, the regional carriers could use the larger, 30 to 60 passenger aircraft on their existing, dense routes, thereby improving carrier efficiency and flexibility. Secondly, this released the regional carrier's smaller aircraft for improved service on the less dense routes and/or freed the aircraft for use in the start-up of new

markets.

As a result of the carriers ability to economically match aircraft to current market conditions, a revolution in new aircraft development began on a world wide scale. Under development today are a series of new generation, light transport aircraft which will provide regional airlines with substantially improved economy and their passengers with substantially improved comfort over many existing aircraft now in use in the industry. The development of these new generation aircraft will be discussed below.

Essential Air Service

The Airline Deregulation Act guaranteed air service to the small and medium size communities in the form of the Essential Air Service (EAS) program. The EAS program ensured that eligible communities receive air transportation service for 10 years beyond the date of enactment into law on October 24, 1978.

A community became eligible for essential air service designation when the next to the last air carrier proposed to eliminate all, or most of its scheduled air service to that location. The CAB, and now the Department of Transportation (DOT), determines the minimum level of air service necessary to provide adequate community access to the national air transportation system. This determination is based on historic information on the air traffic movement in to and out of the community. A maximum was also placed on the guarantee such that communities generating high levels of passenger traffic would be termed self sufficient in air service without EAS subsidy support.

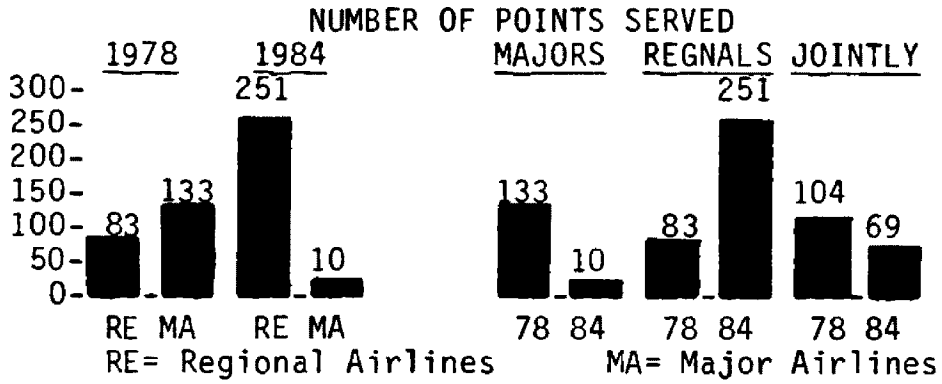
If the last remaining air carrier proposed to withdraw all or

substantially all air service, the agency would immediately seek a replacement carrier willing to provide service at the minimum essential level. If the agency was unable to secure a replacement carrier, the incumbent airline would be required to maintain minimum service until a suitable replacement carrier were found.

Basically, the Act guaranteed that each community would receive an adequate number of seats and a minimum number of departures to large nearby connecting airports. This was to ensure the community's access to the national air transportation system. Generally, the EAS program guaranteed a minimum of two daily round trips (sometimes fewer on the weekends) to one or more of the hub airports. The CAB also placed a maximum on the number of seats guaranteed sufficient to fill an aircraft to a 50 - 65 percent load factor up to a maximum number of 80 seats. The CAB set this cap on guaranteed seats, believing that communities with more than 40 passengers per day can support subsidy-free air service. If additional service is required, it is believed that the air carriers will pick up the slack.

The significance of regional airlines serving essential air service communities is underscored by the fact that in 1984, 320 or 97 percent of the EAS communities in the United States (except Alaska) relied on regional carriers for their essential air service.[13] Of this, 251 communities or 76 percent were served exclusively by the commuters as indicated below. In comparison, only 83 communities or 25 percent of the 320 points were served exclusively by the regional carriers in 1978. In 1978, major carriers served 133 points or 42 percent exclusively. In 1984, the major carriers served only 10 points exclusively or a mere 3

percent. These comparisons are illustrated graghically below.[14]



Subsidy For Essential Air Service

As part of the Essential Air Service program, a subsidy assistance program was available to compensate air carriers for losses incurred in providing service to the eligible EAS communities. The subsidy program was used for two purposes - to attract new service to a community or, to sustain existing service in a community.

The subsidy program was used to secure replacement services at eligible essential air service communities that otherwise could not sustain economic service. Under this scenario, proposals were solicited from carriers seeking to serve this community. The carrier's proposal would specify the volume and quality of service that would be provided and include the level or rate of subsidy the carrier required. The agency would authorize the subsidy only to the extent necessary to secure reliable air service. In those communities that continue to require financially assisted air service, the subsidy is substantially lower than that paid to the existing jet carriers. This is attributed to the regional's lower aircraft operating costs.

If the Board was unable or was delayed in securing a replacement air carrier at an eligible point, the incumbent carrier would become

eligible for compensation for losses incurred while it was required to maintain mandated levels of air service to that community.

The 406 Subsidy

Federal subsidies have played a very important part in securing air service to these small communities. Carriers which operated under what was called the Section 406 subsidy program, were paid a subsidy on a system-wide basis for service to specified points on their route structure. Under this arrangement, the carrier was provided with a 12 percent return on investment. With deregulation, the 406 subsidy was replaced with a new Section 419 subsidy program.

Congress however, appropriated a special fund to be equally distributed to the former recipients of the Section 406 Subsidy until 1985. After the Reagan Administration terminated the 406 subsidy program effective January 1, 1983, Congress then again appropriated $13.5 million through September 1983.

The 419 Subsidy

The 419 subsidy program which replaced the 406 subsidy, is distributed on a point by point basis rather than on a system basis. When the last carrier pulls out of an EAS eligible point, the CAB solicits bids from other carriers who are interested in serving that point. The bid can be made either with or without subsidy.

The subsidy paid under the Section 419 program are for communities which are unable to support air service on their own. With the 419 subsidy program, the carrier would agree to serve the EAS community for a two year period at a fixed rate. The contract would specify the number of passenger seats and frequency of service the carrier is to

provide.

The Deregulation Act has had a tremendous impact on the development of the regional airline industry. It provided both the regional and major carrier the opportunity to freely enter and exit markets, establish pricing and enabled the regional carrier to operate and match larger aircraft to the needs of the market. By design, the Deregulation Act provided the tools necessary for the development of a more efficient transportation system. The Act also protected the regional carrier by providing joint fares and subsidies during the transitionary period from 1978 to 1983. This allowed the regional airlines to develop and nurture not only the smaller communities which they served but also themselves.

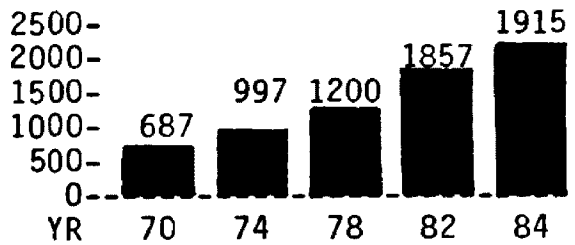
II. AIRCRAFT SERVING THE INDUSTRY

A. AIRCRAFT CURRENTLY IN SERVICE

Regional airlines utilize a wide variety of aircraft that are particularly well suited to the short-haul missions they perform. However, the 11 most popular aircraft (listed on page 22) dominate the market by providing 80 percent of the industry's seating capacity. Aircraft selected by the regional carriers are based on such factors as trip distance, passenger density, passenger or cargo use, and geographic or airport limitations which can dictate aircraft size and performance requirements.

As indicated below, more than 1900 aircraft are employed in U.S. commuter passenger operations today. This is nearly three times the number of aircraft which were operated by commuters in 1970. These aircraft are becoming larger in size, increasingly turboprop, and generally higher in performance than those which the industry operated just 10 years ago.

TOTAL AIRCRAFT OPERATED 1970 - 1984[1]



Until 1983, no aircraft had been designed specifically to meet the needs of the regional airline operator. The aircraft which were being used by the regional operator had to be adapted for commuter applications. As passenger and cargo traffic increased and new markets opened, the regional carrier discovered that suitable aircraft were in short supply. Aircraft manufacturers responded by increasing production

and announcing the introduction of future aircraft.

The aircraft needs of commuter airlines are being met by a wide range of new aircraft models offered by manufacturers on a worldwide basis. The need for performance, fuel efficiency, and dispatch reliability have become primary factors in commuter purchase decisions and the manufacturers have responded accordingly. A discussion of some of these "new-generation" aircraft will be undertaken below.

The development of the aircraft used by the regional carriers began much before the enactment of the Airline Deregulation Act. It was through the evolutionary changes made by the CAB in creating the "trunkline" and "local" carriers that the regional aircraft evolved from it's early, loosely defined "air taxis" title to its current, clearly defined position in the air transportation industry. A review of this period and the changes made as a result of the Deregulation Act provide the background to the development of the regional aircraft.

Historical Perspective

The results of the Local Service Experiment conducted in the 1940's indicated a need for another type of air service to serve the needs of the smaller, local communities. In 1947, the CAB created the second level of air carrier - the "local service" carrier. The third level of air carrier evolved from the restrictions which were imposed by the CAB on the aircraft which these carriers could operate i.e. gross take-off weight limitations. Hence, the three levels of carriers were the trunkline carriers, local service carriers and the air taxis.

A Product of Technology or Regulation

The third level carriers were exempt from the Board's economic

regulations and were limited by Part 298 to a 12,500 pounds gross take-off weight. Therefore, it could be argued that the regional airlines were a product of regulation as opposed to technology. However, with the advent of the turbojet (jet) aircraft, the commercial transport industry vastly expanded its operational horizons and in doing so provided the local service carriers with the opportunity to fill the vacancy created by the departure of the trunk carriers.

The new turbojet aircraft required more runway length in which to operate. Runways which accepted turboprop aircraft would not always accept the new turbojet aircraft. Likewise, runways which accepted the older piston-powered aircraft would not always accept the turboprops. Furthermore, operating economics dictated that as equipment became larger and more costly, it had to be operated over longer stage lengths. In a regulated environment (prior to the Deregulation Act of 1978), the long-haul runs were necessary to subsidize the short-haul.

Two phenomena were at work. First, when runways became too short or the community was too small to support the larger aircraft, replacement carriers were sought. At the same time, the third level carriers were able to compete in some of these markets by offering fewer seats but on a higher frequency basis.

Aircraft Development Stunted by Regulation

Development of aircraft to the commuter industry was limited by the CAB's Part 298-imposed 12,500 pound weight limitation and an identical penalty imposed by the FAA's Part 23 airworthiness standard for general aviation aircraft. Up until 1983, not one aircraft had been specifically designed for the commuter operator. All of the aircraft

used by the regional airlines up to that point were originally designed for other purposes and adapted for use by the airlines.

The first break-through came when the CAB, in 1972, raised its limitation on Part 298 aircraft to 30 passengers and 7,500 pounds payload. Later, the CAB further increased the size limitation to 56 then 60 passenger seats. Even more significant was the subsequent Special Federal Aviation Regulation 41C (SFAR 41C), which eliminated the weight limitation on the 10 to 19 passenger seat aircraft. By eliminating the weight restriction, SFAR 41C allowed both the manufacturers and operators of these aircraft to gain the maximum possible in productivity. In short, SFAR 41C optimized the 19 passenger aircraft.

Today's Commuter Fleet

The composition of the commuter fleet has been significantly influenced by certain regulatory constraints. Restrictions limited the aircraft size to: 10 or fewer seats until 1969 (aircraft which contained more than 10 seats had to meet the CAB's route certification requirements); 10 to 19 seats from 1969 to 1972; to 30 seats in 1972; and to 56 seats in 1978 (this was later increased to 60 seats which is where it stands today). The second influence on the composition of the regional fleet was the Federal Aviation Administration's (FAA) requirement which limited to nineteen the number of passengers which could be carried on the aircraft without a cabin attendant.

Regardless of these regulatory constraints, traffic density for the majority of regional routes also favored small aircraft. However, since 1978 there has been a gradual trend towards the use of larger aircraft.

This was brought about by the transfer of jet routes to the regional airlines caused by the Deregulation Act and the increase in traffic brought about by the regional carrier's development of the market. Exhibit B provides a breakdown of the regional aircraft by seating capacity. It illustrates the growing trend among the regional airlines to acquire aircraft of larger size.

Of the 1,915 aircraft which served the regional airline industry in 1984, 1,747 were dedicated to passenger transportation. The eleven most popular aircraft accounted for 58 percent of the total aircraft used in the industry but provided 80 percent of the total industry seating capacity. The most popular model in 1984 in terms of industry seating capacity and fleet flying hours was the Fairchild Metro. The Metro provided 13.6 percent of the industry's seating capacity and was flown a total of 420.1 thousand hours. The following is a listing of the eleven most popular aircraft broken down by seating capacity, number of aircraft, number of seats and total fleet flying hours.[2]

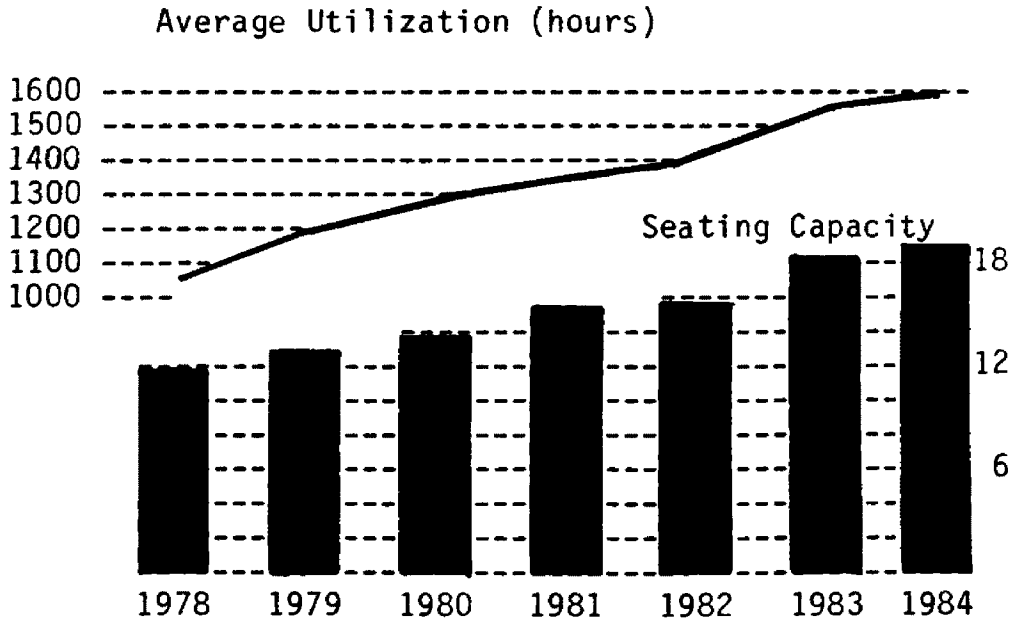
AIRCRAFT	SEATING CAPACITY	NO. OF AIRCRAFT	NO. OF SEATS	FLEET FLYG HOURS
Fairchild Metro	13.6%	191	19	420.1
Shorts 330/360	11.0	88	30/36	199.3
Fokker/Fairchild F27	8.3	55	50	106.2
deHavilland Dash 7	7.6	38	50	89.0
deHavilland Twin Otter	7.5	114	19	233.5
Embraer Bandeirante	7.3	111	18	240.9
Convair 580/600/640	6.0	54	44	79.7
Beech 99	5.9	119	15	232.1
Nihon YS 11	5.3	27	58	53.7
Fokker F28	4.1	12	85	29.2
Cessna 402	3.4	212	8	250.2
TOTAL	80.0%	1021	N/A	1,933.9
ALL OTHERS	20.0	726	N/A	1,830.2
TOTAL INDUSTRY	100.0%	1747	18.4	2,764.1

The 10 to 19 passenger aircraft is the most popular seating capacity. This size category has dominated the totals since 1978 and

today, provides approximately one-third of the industry's seating capacity. However, the trend since 1978 has been towards the aircraft with larger capacity. For example, in 1978 the average capacity on a regional airline was 11.9 seats but size has grown approximately 9 percent per year to 18.4 seats in 1984 as shown below.[3] This trend is expected to continue as the regional airlines operate more efficiently within their markets and begin to accept delivery of the larger, new-generation aircraft.

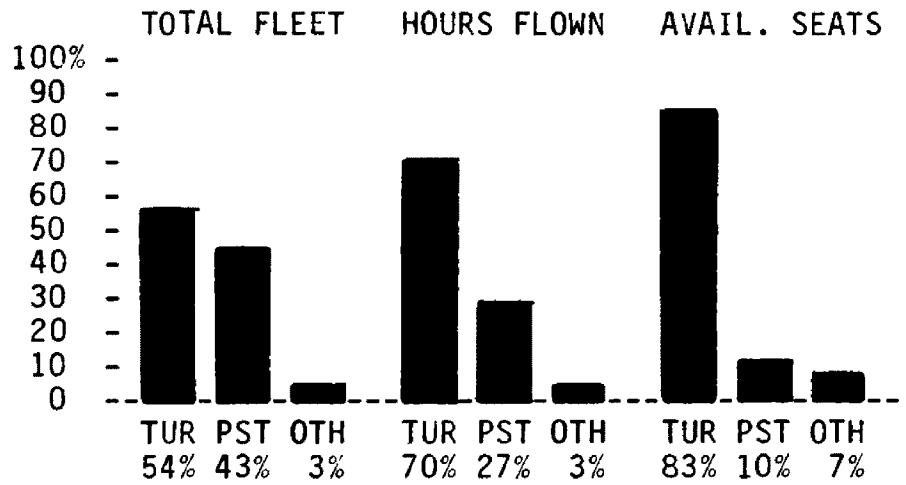
Aircraft Utilization

Likewise, the average annual utilization per aircraft has increased during this period as well. In 1978, the regional airlines utilized their aircraft an average of 1,080 hours per year.[4] In 1984, the average annual use had grown to 1,580 hours representing an average growth of 7.7 percent per year. This is also indicative of the regional airlines operating more efficiently in their markets and making better utilization of the larger aircraft. This trend can be expected to continue as the regionals acquire the more efficent turboprop aircraft.



Turbine Powered Aircraft

In 1983, and for the first time since the inception of regional airlines, there were more turbine-powered aircraft than piston powered. The turbine-powered aircraft represented 54 percent the aircraft flown by the regional airlines in 1984.[5] Of the eleven most popular aircraft the regional industry, nine are turbine-powered. Not surprisingly, the turbine aircraft flew more hours than the piston powered aircraft and accounted for 70 percent of the total hours flown by the regional airlines and provided 83 percent of the available seats.[6] This compares to 27 percent and 10 percent respectively for the piston powered aircraft. This comparison is illustrated graphically below.



TUR = Turbine PST = Piston OTH = Other (jets and helicopters)

The trend toward the turbine-powered aircraft is expected to continue amongst the regional carriers because of the operating efficiencies of the engine. As the price of fuel rises, the turbine-powered aircraft are expected to become even more popular.

Seating Capacity

An analysis of passenger aircraft fleet by total number, utilization, and revenue passenger miles by seating capacity, between

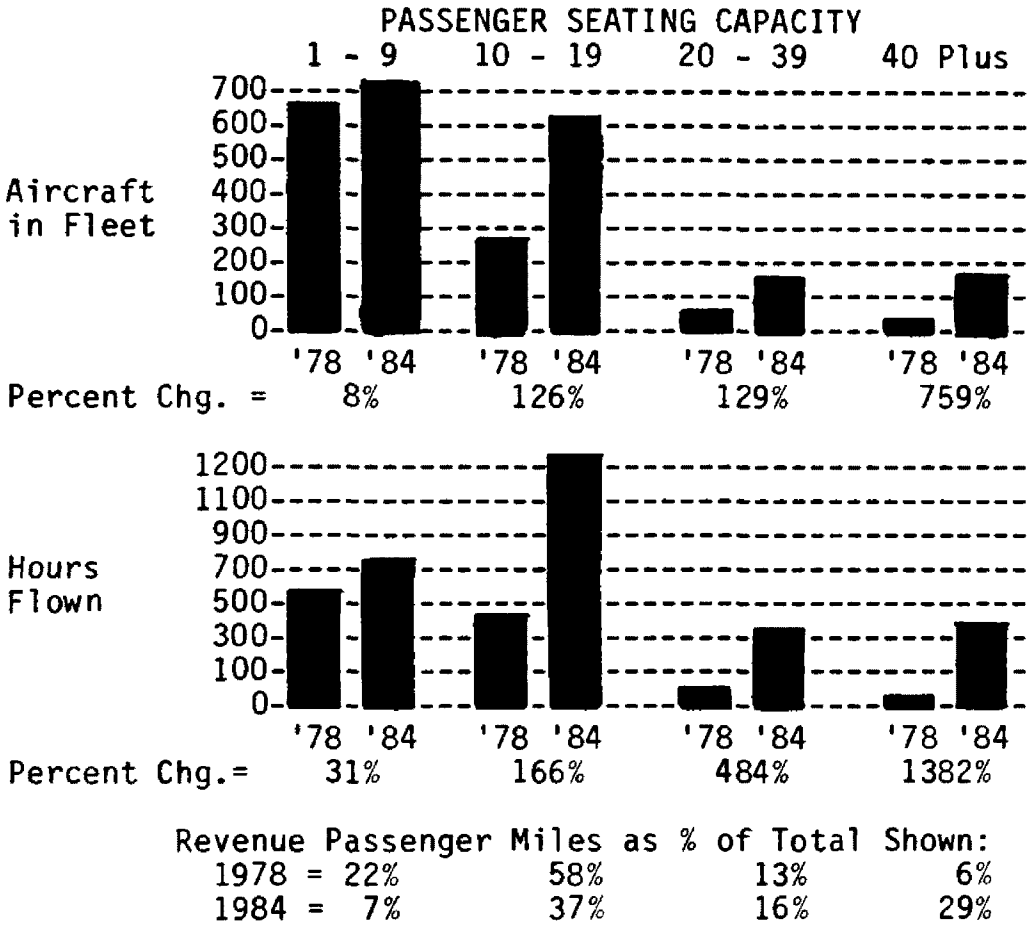
the years 1978 and 1984, reveals some interesting information. In terms of total fleet aircraft, the 10 to 19 passenger aircraft have grown the most rapidly increasing 340 units to 610.[7] The hours these aircraft were flown also increased more than any other category, up 788 thousand hours to 1.26 million, representing a 160 percent increase.[8]

Aircraft seating 40 passengers or more have shown the second most rapid growth in terms of actual numbers, up 167 aircraft.[9] However, as a percentage of its 1978 base, these aircraft have seen the most rapid growth of all categories. In 1978 for instance, there were only 22 aircraft serving the regional airlines which had 40 or more passenger seats. In 1984, there were 189 aircraft in this category. The hours these aircraft were flown increased almost 14 fold to 341 thousand hours and the revenue passenger miles increased from 6 to 30 percent as a percentage of the total traffic as shown below.

The 20 to 39 passenger aircraft have increased from 72 aircraft in 1978 to 165 aircraft in 1984, a 129 percent growth. Total hours flown by these aircraft was up from 57 thousand hours in 1978 to 333 thousand hours in 1984. The revenue passenger miles as a percentage increased only slightly from 13 to 16 percent. A graphic illustration of the changes which have occurred between 1978 and 1984 in terms of passenger seating capacity follows. A comparison can be made relative to the number of aircraft in regional airline service and the total number of hours these aircraft were flown.

Hence, aircraft offering 20 passenger seats or more have shown the most dramatic growth during the past 5 years, increasing from 19 to 45 percent of total industry capacity. This is a noteworthy trend which is

expected to continue especially in consideration of the new generation aircraft which were introduced beginning in 1984.



B. NEW GENERATION AIRCRAFT

The design, development, certification and delivery of a new aircraft is a lengthy and costly project. A minimum of five years is required to move a new light transport project from the drawing board to certification and initial delivery. Many regulatory, technical and market areas must be thoroughly researched prior to investing the millions of dollars required to develop a new aircraft. Regulations imposed on the manufacturer by the FAA are obviously an important consideration. However, it is the needs of the aircraft user which must

be first analyzed. In other words, the aircraft's intended mission must be defined.

The regional airline industry is seeking new aircraft which will meet the more demanding role of airline service. This means a fatigue life of more than 30,000 flight hours or 2,500 cycles per year (a cycle represents one flight segment). The aircraft should have a minimum life expectancy of 12 to 15 years. This assumes the aircraft will be flown 2,000 to 2,500 hours per year.

Three new aircraft have been introduced recently in the 15 to 19 passenger classification. These aircraft are the Beech 1900, the Dornier 228-200, both 19 passenger aircraft, and the Dornier 228-100, a 15 passenger aircraft. In the 20 to 39 passenger aircraft, there are four new models being introduced. These aircraft are the CASA-Nurtanio 235 (34 to 40 passengers), deHavilland Dash 8 (36 passengers), Embraer Brasilia (30 passengers) and the SAAB-Fairchild 340 (35 passengers). In the 40 passenger plus aircraft, there are two new entrants, the Aerospatiale/Aeritalia ATR-42 (42 to 49 passengers) and the BAe ATR - Advanced Turboprop (64 passengers). One manufacturer (Fokker) renamed an improved and up-dated version of two of its older generation aircraft. The Fokker/Fairchild F-27 was renamed the Fokker F-50 (50 passengers) and the Fokker F-28 was renamed the Fokker F-100 (107 passengers). These "new" aircraft are scheduled for delivery in 1986/1987.

Introduction of these aircraft reflect the growing needs of the regional airline industry. They also all represent developments since the Deregulation Act of 1978 and utilize the most current technology.

The scheduled deliveries of these aircraft range to 1987.

C. OPERATING/ACQUISITION ECONOMICS OF COMMUTER AIRCRAFT

One of the high ranking considerations of the regional airline operator in making an equipment selection is the purchase price. The prices for new aircraft under consideration range from approximately $1.5 million to $6.5 million or more for several of the new generation aircraft. A frequently used index of transport aircraft price is expressing the price in terms of cost per seat. The purchase price per passenger seat ranges from about $80 thousand for a Twin Otter, to $150 thousand or more per seat for the new generation aircraft. There are considerable differences among these aircraft in the level of capital commitment involved, and this range becomes even greater when used aircraft and aircraft which are no longer in production are considered in the purchasing decision.

The regional airline executive must weigh the advantages offered by the new aircraft against its initial purchase price. To offset the cost of a new aircraft the carrier's breakeven load factor will increase i.e. more revenue passengers will have to be carried. Likewise, there is a trade-off consideration affecting aircraft size selection. The more favorable unit cost per available seat mile normally experienced with larger aircraft must be balanced against the higher direct operation cost per plane mile of the larger aircraft.

On routes where traffic is sufficiently dense to provide an adequate load factor, the favorable seat mile costs of such aircraft becomes meaningful and therefore, profit will be maximized by selecting the larger aircraft. Conversely, the seat mile cost advantage becomes

academic where thin traffic results in too few seats actually being occupied. This is an important competitive consideration as schedule frequency is emerging as a dominant factor with the traveling public. As a result, the carrier operating too large an aircraft is penalized in these markets where overall traffic density is thin.

Operation Costs

The operating costs of a regional airline, both direct and indirect, have the greatest impact on a regional airline's overall cost structure. Direct operation costs are those incurred in the process of producing aircraft flight capacity. Indirect operation costs are those incurred for such things as advertising and sales development, traffic handling, and general and administration costs.

Direct Operational Costs

The regional airline's direct operational costs are most frequently broken into four categories:

1. Fuel and oil expense;
2. Aircraft maintenance expense;
3. Flight operations expense;
4. Aircraft depreciation and rental expense.

The largest of the four categories for certificated carriers is fuel and oil expense. The average carrier's fuel and oil expense, expressed as a percentage of total direct operating costs, ranged from a low of 29 percent to a high of 36 percent in 1984.[10] The combined average stood at 35 percent of total direct operating costs. This equates to approximately $112 per aircraft block hour for a relatively modern 19 passenger aircraft, to a high of approximately $352 per aircraft block hour for an older, 44 seat aircraft which is no longer in production. Hence, one of the most important considerations of a

regional airline's cost structure is fuel consumption and the price of fuel. Fuel consumption is primarily determined by the fuel efficiency of the aircraft operated.

The next largest category of direct operating cost is aircraft maintenance. Aircraft maintenance expense includes the cost of labor and materials for maintenance and overhaul of the airframe, avionics, propellers and engines. This category also includes the cost of maintenance services provided by others and other associated maintenance overhead expenses.

In 1984, the average aircraft maintenance expense for the regional airline group was 29 percent of total direct operation costs.[11] During this period, the range varied from a low of 12 percent of total direct operation costs, to a high of over 37 percent. This represented actual costs of $40 to $368 per aircraft block hour respectively. The lower maintenance costs referenced above were associated with recently purchased new aircraft while the higher costs were associated with an older design 44 passenger aircraft no longer in production. Needless to say, the age of the aircraft plays a very large role in the maintenance expense. The maintenance and overhaul expense category is probably the largest controllable expense of the regional airline.

Flight operations represent the third largest direct operating cost category. This category includes pilot and cabin attendant pay, related payroll expenses for benefits and pensions, payroll and other taxes, training expenses, cost of supplies and insurance expense. Flight operations expense represented 21 percent of total direct operation cost for all certificated regional airlines in 1984.[12] The flight operation

costs ranged from a low of 17 percent to a high of 26 percent. An airline can lower these expenses by operating a single type of aircraft as opposed to operating several different type of aircraft which require special crew ratings for each aircraft. For example, aircraft which weigh more than 12,500 pounds require pilots to receive special training and a type-rating in that make of aircraft. All other factors being equal, the more diverse an airline's fleet, the more difficult it becomes to cross-utilize pilots.

The last and smallest of the four elements which make up direct operation cost is depreciation and rental expense. This includes depreciation for airframes and engines, amortization of capital leases of flight equipment and flight equipment rentals. In 1984, this category represented approximately 15 percent of total direct operation costs and ranged from a low of 6 percent to a high of 28 percent.[13] The lowest was achieved by an operator whose fleet consisted of a single type of older aircraft and the largest was achieved by an operator who recently added new aircraft to the fleet. Not surprisingly, this new fleet also had the lowest maintenance expense as a percentage of total direct operation costs.

In summary, the direct operation cost (D.O.C.) consists of four categories - Fuel and Oil, Maintenance, Flight Operations, and Depreciation and Rental Expenses. Although these costs do not represent the total costs associated with operating an aircraft, they do represent a substantial concern to the operator. As a percentage of the direct operation cost each of the four categories can be broken down as follows:

Fuel and Oil Expense.....35%
Maintenance Expense.....29%
Flight Operations Expense.....21%
Depreciation and Rental Expense.....15%

Direct Operating Costs By Aircraft Size

An independent firm, Aviation Consulting Incorporated, analyzed the direct operation costs of each of the aircraft types serving the regional airline's by seat capacity.[14] Based upon manufacturers performance data and applying a common set of assumptions to each cost category (depreciation, insurance, flight crew, maintenance and fuel), Aviation Consulting Incorporated compared the aircraft on a typical 150 nautical mile trip. The aircraft were broken down into three size categories; 15 to 19 seats, 20 to 40 seats and 41 to 50 seats.

The ranges of cost per available seat mile and the cost per plane mile for each of the three size categories is illustrated in Exhibit C. The results of the analysis show that the cost per seat mile in the 15 to 19 seat aircraft vary from 11.5 to 13.9 cents per seat mile, a 20 percent variation. The 20 to 40 passenger aircraft varied from 9.7 to 13.8 cents per seat mile which is a relatively high 40 percent variation. The 40 to 50 seat aircraft varied slightly between 10.4 to 11.0 cents per seat mile. As would be expected, there is a modest decrease in the cost per seat mile as the size of aircraft increases.

The cost per plane mile portion of the graph deplicts a somewhat different picture. The range of per plane mile costs for the aircraft in the small category is relatively narrow (10 percent), but grows wider for both the medium size category (28 percent), and the large category (25 percent). The differences in per plane mile costs between the categories is even more dramatic. The mid-point of the cost per plane

mile range for the medium size aircraft category is almost 50 percent more than the mid-point range for the small category. The same relationship holds true between the large and medium categories, with the mid-point of the cost per plane mile range for the large category being almost 50 percent greater than the corresponding point for the medium category. The costs per plane mile are highly significant and therefore, it is important for the regional airline operators to carefully choose the size of the aircraft which best suits the intended market.

Fuel Price Sensitivity

Aviation Consulting Incorporated analzed the costs per seat mile and per plane mile with a fuel price increase from current cost of $1.00 to $1.50 per gallon but held all other factors constant. The impact of the increase in fuel costs is illustrated in Exhibit D. As reflected in Exhibit D, the overall impact of a 50 percent fuel price increase would be an increase to the cost per seat mile and the cost per plane mile for these regional airlines of between 9 and 14 percent. As illustrated in the graph, the impact of the price increase on direct operation costs in percentage terms is almost identical for all categories. This serves to illustrate that the regional airlines are less sensitive to fuel price changes than other categories of cost. This fact is a tribute to turboprop fuel efficiency.

Indirect Operating Costs

Indirect operating costs include the cost of all activities needed to carry out the operation which are not included in direct operating costs. These include such expenses as advertising and sales expenses,

traffic handling expenses, and general administrative and overhead expenses. According to Aviation Consulting Incorporated, indirect operating costs accounted for approximately 39 percent of the regional carriers total costs. The remaining 61 percent was comprised of the operators direct operating costs. This ratio, 61 vs 39, has held constant since 1979.

In conclusion, fuel and maintenance are the two largest categories of regional airline operating costs, representing 35 and 29 percent respectively of average direct operating costs. Together these two account for 40 percent of the regional carrier's total operating costs. The significance of these numbers illustrates the importance of the regional carrier operating fuel efficient aircraft and the need of an efficient maintenance program. The evidence would indicate that a regional airline operator needs to implement and maintain aggressive management controls.

III. PROBLEMS FACING THE INDUSTRY

The problems experienced in the regional airline industry are similar in many respects to those experienced in other industries. However, each industry has problems which are peculiar unto itself and the airline industry is no exception.

The problem areas which will be discussed are those which may or may not represent a problem to each carrier and are by no means all inclusive of the problems facing the regional airline industry. Rather, these problems are concerns to most of the carriers regardless of their relative financial position or standing in the industry. Each regional carrier must at one time or another, address the three following issues - financing, competition, and the company's corporate goals, which may be described as the relationship between itself and major airlines. Each of these will be discussed in general terms and will be analyzed as generic areas of concern to the regional carrier.

The finance section will cover the alternatives which are available to the regional operators in financing aircraft, along with the merits of each alternative. The alternatives include Federal programs, traditional bank funding, leasing, public sources and manufacturer support programs.

The second area of concern to most regional carriers is competition. The Deregulation Act opened the doors of competition and the regional airline industry has had to adjust accordingly. Not only must the regional airline compete with other air carriers but also with the automobile. In this section, the competition between carriers and with the automobile is evaluated.

Finally, consideration is given to the relationship between regional airlines and the major carriers. In the past, regional airlines have gone relatively unnoticed by the major carriers. However, major carriers have recently discovered that the regional carrier is able to economically provide them with a vital link to their success. Today, major carriers actively seek relationships with the regional carrier and likewise, some regional carriers pursue interline relationships with these carriers. These relationships are not without drawbacks however, and some of the regional carriers fear this relationship will spell the end of the independent regional air carrier.

A. FINANCING

The airline industry is a very heavily capital intensive industry. Robert Priddy, vice president of Atlantic Southeast Airlines (ASA) states "It is difficult to make money in this business. There are massive capital requirements."[1] Compared to other transportation industries, the air transportation industry's long-term debt to equity ratio is higher than any other segment of the transportation industry. For example, the air transportation's long-term debt to equity ratio is 1.24, compared to .38 for railroads, .13 for trucking and .85 for the maritime industry.[2] In addition, the carrier's creditworthiness has made it even more difficult for the carrier to obtain funding for its' aircraft. The 1984 Airfinance Journal stated: "Airlines in the U.S. have tended to fail creditworthiness tests by virtue of deteriorating balance sheets."[3] Consequently, the financing of the carrier's aircraft and equipment has become one of the foremost challenges facing this industry.

Prior to hauling it's first customer, the air carrier will invest a considerable amount of time and money to create the necessary environment in which to operate. The carrier must initially establish a legal existence in the state(s) in which it will be operating (business license and incorporation), and with the appropriate federal agencies, the Federal Aviation Administration (FAA) and the Department of Transportation (DOT). A further investment is required to secure appropriate facilities at each airport such as ticket counters, computer terminals, office space, baggage claim and handling areas. In conjunction with these activities, the carrier must hire and train personnel to manage and operate its facilities and equipment. However, the carrier's largest investment begins with the acquisition of the aircraft and related ground support equipment.

Prices for an aircraft which is adaptable to regional service, range from a low of $100,000 for a used light twin engine, piston-powered aircraft to over $6.0 million for one of the new generation aircraft. Each represents substantial investments to the airlines which would be purchasing this equipment. For example, a carrier starting a new operation would probably choose the smaller and less expensive aircraft until market volume was known and its financial position was stable. An established carrier evaluating one of its known markets would be better able to justify the purchase of the more expensive aircraft.

To understand how regional airlines acquire these aircraft, one must understand the entrepreneurial spirit of the industry's first-generation management. Generally, the aircraft purchased by these

managers were funded through the airline's local bank. More often than not, the bank's approval was based on the financial strength and integrity of the individual backing the loan and not strictly on the airline itself. Today, the regional airlines have become better known and accepted and have a variety of potential financial sources from which to draw.

The Deregulation Act has had a very significant affect on the regional carrier's ability to obtain funding for its aircraft purchases. Regional carriers generally have found aircraft financing to be available since the enactment of the Deregulation Act. This is because the Act formally recognized the important role the regional carriers would play in meeting the air service needs of the small and medium sized communities. Provisions of the Act have included the Essential Air Service program, mandated joint fares, federally subsidized payments for air service into small communities and the availability of Federal loan programs. The Act has contributed greatly to the economic stability of short-haul air transportation and the regional air carrier.

Federal Finance Programs

The Deregulation Act renewed the FAA loan program and extended coverage to regional air carriers for the first time. Under this program, which expired October 23, 1983, regional carriers were eligible for federally guaranteed loans, up to $100 million per carrier, for the purchase of new or used aircraft and related spare equipment. Previously these programs were only available to the subsidized local service carriers.

The terms of the program called for a minimum down payment of 10

percent or more from the carrier, with the balance financed by a commercial bank. The government would then guarantee repayment of 90 percent of the outstanding loan balance. The effect was an 81 percent loan guarantee from the government. This program provided many banks with the cushion necessary to approve some loan applications which might otherwise have been denied.

The total guarantees approved under this program for the regional carriers during the period from 1978 through 1983, represented a value of $110.5 million on 65 aircraft and involved 36 individual transactions.[4] Like many other government supported credit programs, the use of the program diminished sharply after its initial introduction. The most activity was experienced during fiscal year 1980 with 16 loans on 34 aircraft which were valued at $45 million. Fiscal year 1982 involved only 3 loans for 5 aircraft valued at $19.9 million. In comparison, during this same period the local service carriers received 19 approvals on 66 aircraft valued at $602.5 million.[5] Local service carriers were the only other airline group allowed to receive credit support since the Deregulation Act and then only for the fiscal years 1981 and 1982.

A second federal program used by the regional carrier is the Business and Industrial Loan Program administered by the Farmers Home Administration (FmHA). The purpose of this program is to promote business and industry in rural communities. Regional airlines can use the FmHA program to guarantee financing for aircraft, equipment spares, facilities, training and other related costs. In order to qualify for the program, the carrier's facilities or the communities to which they

provide air service must be located in rural areas of 50,000 population or less. This FmHA program was initiated just one year prior to the Deregulation Act and, since 1977, more than 20 regional airlines have received loan guarantees from the FmHA totaling $15 million.[6]

The significance of the these federally supported programs lies not in the number of transactions which occurred or in the millions of dollars which were involved but rather, in its' recognition of the regional carriers as a group. Prior to the Deregulation Act, these carriers had to rely primarily on the financial support of their local banks. These federal programs exposed the regional airline industry to the financial community on a national level, and played a very important role in the development of the regional carriers standing in the financial community. Today, financial institutions across the country have dedicated commuter finance departments which actively solicit business from the regional airlines.

Other than the federally sponsored programs referenced above, the regional airlines utilize four basic means to secure funding for aircraft. Each method has its own distinct advantage(s) and the carrier's selection will be based upon the advantages each alternative offers the carrier relative to the carrier's individual financial position and goals. In selecting one of the alternatives, the carrier must first weigh the contributions each alternative makes to the profitability of the company then determine if the advantages of that alternative are consistant with the goals of the airline. The four alternatives are:

1. Traditional Debt (Bank) Financing
2. Leasing

a. Finance Lease
b. Operating Lease
c. Leveraged Lease
3. Public Sources
4. Manufacturer Support

The purpose of this section is to illustrate some of the methods and alternatives available to the operators and not to delve into the specifics of comparing "numbers" of each alternative. Instead, each alternative will be reviewed with the idea of comparing the relative advantages and disadvantages of one alternative to another. For only with an exact set of circumstances could one effectively compare and choose the alternative which would best benefit that particular regional carrier.

Debt Financing

Debt or bank financing has been the long-standing method of acquiring aircraft. The terms are usually standard and include a down payment of between 10 and 25 percent with the balance financed at an agreed upon rate of interest over a period varying from 3 to 10 years. The actual terms of the loan agreement would be negotiated and depend upon the bank's experience with the customer, the type and age of the aircraft, the prevailing financial environment and upon the negotiating skills of the parties.

Debt financing allows the owner (airline) to retain the rights of ownership, and herein lies it's primary advantage. Under this arrangement, the airline acquires the title to the aircraft by way of it's down payment. The funding source takes a first position in the equipment with the execution and filing of a chattel mortgage agreement or a security agreement. This arrangement allows the carrier the use of

the equipment and the benefits of ownership, including an equity position in the aircraft.

The rights of ownership allow the carrier to depreciate the equipment, claim the Investment Tax Credit (ITC) and to deduct the interest portion of the loan payment from the carrier's accounting and tax books. The aircraft can be depreciated over several years ranging from 3 to 10 years depending upon the age of the aircraft and upon tax and internal bookkeeping considerations i.e. depreciation under Accelerated Cost Recovery System (ACRS) rules for tax purposes and under a different method or scale for financial internal statement purposes. The ITC ranges from 8 to 10 percent of the equipment cost, depending on the method of depreciation, and results in a direct reduction of the carriers income tax liability. From a tax standpoint, the benefits of ITC and depreciation become significant only when the carrier is profitable. If the carrier is not, these potential benefits cannot be fully realized in a year of loss or low earnings.

One of the disadvantages of debt financing is the large amount of cash necessary to support the transaction. The required down payment along with the monthly obligation makes debt financing precarious for some companies due to the heavy cash drain. The acquiring company will realize a cash in-flow some years down the road when the aircraft is sold. However, for all practical purposes, it takes several years before enough equity is built up to make a significant increase in value. The length of time a carrier keeps its aircraft ranges from 3 to 8 years. Thus, the impact of the eventual sale is insignificant when evaluating the early years cash flow. This is an important

consideration when comparing the acquisition alternatives available.

Leasing

The lease option is relatively new but has become very popular in the regional airline industry. There are two main types of lease contracts - the finance lease and the operating lease. It is important to distinguish the difference between each type since they frequently have an effect on the accounting treatment, legal rights and the price structure of the rental payments to the carrier.

The finance lease is similar to traditional bank financing in that the leasing company acts simply as a lending institution. The carrier or lessee, specifies the equipment needed and acts as the leasing company's agent in the ordering, inspection and maintenance of the equipment. The leasing company (lessor) has recourse against the lessee in the event of the carrier's failure to make the lease payments. Under this arrangement, the payments are structured such that during the primary term of the lease, the rentals paid to the lessor will cover the full cost of the equipment plus interest and the lessors profit. Hence, the lessor receives a return on the investment during the primary period.

The finance lease is recognized on the carriers accounting books as a purchase (an asset with an offsetting liability entry) since it generally meets one or more of the 3 criteria set forth by the IRS. These are:

1. A bargain purchase price at the end of the lease i.e. below Fair Market Value (FMV);

2. The lease term is greater than or equal to 75 percent of the estimated useful life of the aircraft;

3. The present value of the minimum lease payment is greater than or equal to 90 percent of the acquisition price of the aircraft.

The operating lease is similar to the finance lease in many respects. As with the finance lease, the lessee generally specifies the equipment and acts as the lessors agent in much the same manner as outlined above. Likewise, the lessor will purchase the equipment and lease it back to the lessee. However, the lessor leases the equipment to the lessee at a rate and term which does not cover the lessor's cost, interest and profit. The lessor achieves its return by either re-leasing or selling the equipment after the primary (specified) term of the lease agreement. The lessor may lease the aircraft to the same or another carrier under new terms or may sell the equipment outright. The lessor relies on its ability to remarket the equipment after the primary term expires in order to achieve its required return.

The importance in distinguishing between the operating and finance lease frequently extends beyond the difference in the rental payments to the carrier. Operating leases are accounted for in different ways, but the primary difference is that the operating lease is not capitalized on the books of the lessee since it generally does not meet the criteria set forth above. For these reasons, the operating lease is more popular with the regional carriers.

As indicated above, leasing offers many advantages over conventional bank financing and is particularly well suited to capital intensive industries such as the airline industry. The reasons for the popularity of the lease relate to the increased financial flexibility this type of arrangement allows the regional carrier as developed below.

Initial Cash Outlay

Leasing allows the regional carrier to acquire aircraft with less cash outlay than conventional bank or debt financing. Conventional bank financing requires a minimum down payment of between 10 and 25 percent whereas leasing requires no down payment. Depending on the negotiating skills of the parties and the circumstances of the transaction, the only advance payment made by the carrier (lessee) would be the requirement of one or more monthly lease payments. With little or no initial capital outflow, the regional carrier preserves its cash for other purposes. With the heavy cash requirements of the regional carrier, this advantage is seen by some as the primary motivating factor for using leasing.

Credit Lines

Regional carriers usually will establish a line-of-credit with a local bank and generally, leasing will not affect this line-of-credit. A line-of-credit is extremely important to the regional carrier because of the capital intensive nature of the airline industry and fluctuating cash flows experienced by the regional carriers. In order to optimize the use of this line, regional carriers seek alternative finance sources to fund aircraft and equipment acquisitions. Utilizing other finance sources preserves the carriers line-of-credit for other purposes.

Utilizing another source of funds also broadens the carriers financial source base as well. This creates new flexibility for the carrier. Since the carrier now has more than one source of funds available, the airline is in a better position to negotiate the terms of a new loan/lease agreement (assuming the carrier is in a financial position to acquire new equipment).

Investment Tax Credit and Accelerated Cost Recovery System

As the purchaser and owner of the aircraft, the leasing company is entitled to the benefits of ownership i.e. Investment Tax Credit (ITC) and depreciation via the Accelerated Cost Recovery System (ACRS). By its' design, leasing allows the regional carrier to take advantage of these benefits whether the carrier receives the benefits directly or indirectly from the leasing company.

The leasing company can either accept and apply the ITC directly on its' books (for tax purposes) or it can pass the ITC to the airline. This point is usually negotiated at the time the lease rates are discussed. If the regional carrier wants the benefits of the ITC to apply directly on its books, the leasing company can pass the ITC to the carrier's benefit. However, if the regional airline does not want or need the ITC, the leasing company can reduce the price structure to the carrier in the form of reduced monthly payments. This reflects the leasing company's lower cost of equipment in the form of the ITC credit. Hence, the carrier benefits either way, with the ITC applied directly against its' taxes or in the form of reduced monthly payments.

Equally significant is the ACRS program which allows the owner of the aircraft to accelerate its write-off of the asset over a 5 year period. In the first two years, the owner is allowed the write-off 15 and 22 percent respectively of the asset's cost, in years 3 through 5, the write-down is 21 percent per year. This again allows the owner to reduce its' cost since the asset will be depreciated on an accelerated basis. The leasing company is then able to pass the reduced cost to the lessee/regional carrier in the form of reduced payments. If the asset

were depreciated on a straight-line basis over 10 or 12 years, the write-off would be approximately 1/2 of what is it is under ACRS rules and would result in higher monthly payments to the regional carrier. For example, an aircraft with a $2.0 million depreciatable value, the application of an ACRS write-off versus a 10 year straightline write-off compares as follows:

YR.	ACRS	STR.LN.
1	300	100
2	440	100
3	420	100
4	420	100
5	420	100
6-10	0	100/yr.

Current tax laws allow the regional carrier to benefit from the use of ITC and ACRS and a change in the laws regulating their application would have a direct impact on the cost to the regional airline. Currently, legislation is proposed which would have an effect on the use of ITC and ACRS. The program proposes to eliminate ITC and extend the ACRS write-down period on aircraft from 5 to 12 years. The passage of this legislation would have a dramatic effect on the cost of financing the regional carrier's aircraft.

Miscellaneous Considerations

Additional considerations which may be of importance to regional operators include the removal of the residual value risk and the off-balance sheet accounting that leasing may provide. Some regional carriers may choose not to show the leased aircraft on their accounting books and instead, disclose the lease as an accounting footnote. This type of accounting is possibly a very valuable consideration in weighing the alternatives.

Leasing also places the burden of residual value risk with the leasing company and not with the regional carrier. With the growth experienced by the regional industry, aircraft which are being utilized today may not be used by that same carrier in the future. For example, a carrier starting a new operation may begin with an eight passenger Cessna 402. In five years, the market served by this carrier may increase to justify a 19 to 35 passenger aircraft, never to return to the eight passenger Cessna. Therefore, the carrier may prefer not to have the responsibility of disposing of the aircraft at the end of the lease term. In effect, the risk of low residual value is not borne by the regional carrier. As will be discussed below, the residual value risk can also be a disadvantage to the carrier.

Hence, the leasing alternative allows the regional carrier greater flexibility in many respects. Generally, the carrier is able to use the equipment with a lower initial cash outlay and pays an implicit rate below normal interest rates. The residual values achieved and placed on the aircraft by the leasing companies have reduced the implicit rates to the carrier. Leasing, however, is not without its' drawbacks.

One of the chief drawbacks to the leasing arrangement involves the period of time to which the regional carrier is committed. Upon execution of the lease agreement, the carrier is obligated through the term specified in the agreement. For example, if the carrier signs a five year agreement, the airline is required to make five years of lease payments even if it has no further use for the aircraft after 3 years. Further, the carrier is not allowed to dispose of the aircraft because it is not the owner. If the carrier returns the equipment to the

leasing company two years early, the carrier would still be responsible for payment over the remaining two years. There are however, some options available. For instance, the carrier may be able to negotiate new terms with the leasing company to return the aircraft or sublease the aircraft to a third party.

Lease agreements will generally permit the carrier to sub-lease the aircraft to a third party with the permission of the leasing company. The carrier may be able to place the aircraft at a higher monthly rate and can therefore, achieve a return for its trouble. If the carrier is unable to locate such a sub-lessee or market conditions dictate otherwise, the carrier may have to subsidize the sub-lessee's rate. This would probably still be preferred to the alternative of not generating any income at all.

As previously mentioned, the aircraft is the property of the leasing company throughout the term of the lease. If the carrier has a need for the aircraft after the expiration of the lease, the leasing company is under no obligation to extend it. It has been recent experience that new terms are negotiated perhaps to the carrier's disadvantage depending on the market for used equipment and interest rates at the time. Some aircraft command higher values than when sold new. This phenomenon is reflected in Exhibit E - Resale Values. Hence, residual value risk can work for or against the carrier.

Leveraged Lease

Tax orientated leasing offers two types of structure: the "single investor" lease and the "leveraged" lease. The leveraged lease has become extremely popular with the regional operators because it offers

the regional carrier lower lease payments than would occur under a single investor lease. Although the costs to establish the leveraged lease are significant, these costs are usually justified by the high cost of the aircraft. The high cost to establish a leveraged transaction are due to the number of parties involved and the additional legal expenses when more parties are involved. They include the lessee, the equity participant, a long-term debt lender and the owner trustee. The single investor lease involves only the lessee and lessor.

Under the leveraged lease arrangement, the investor will put up the equity portion representing 20 to 50 percent of the equipment cost and will then borrow the balance at commercial rates, usually through an owner trustee. For tax purposes, the equity participant is required to contribute at least 20 percent of the equipment's cost in order to be considered "at risk" by the IRS. This is contrary to the single investor lease in which the single investor provides both the debt and equity portion of the equipment cost from its own funds. Hence, the leveraged investor has a much smaller investment when compared to the single investor.

The debt portion of the leveraged lease is funded by a long-term lender on a non-recourse basis to the equity investor. The lender looks to the carrier for repayment and the interest rate charged by the lender is based on the credit strength of the carrier. The lender files a first lien on the aircraft and receives an assignment of the lease payments. In the event of default, the lender must look to the value of the aircraft and to the carrier for repayment and not to the equity participant (investor).

The "leverage" is created because the equity participant claims the total tax benefits available on the full purchase price of the aircraft without having to invest the full purchase amount. In effect, the tax benefits are magnified because the debt is non-recourse to the equity participant. The equity participant's return is based upon three items - the tax benefits available from ownership of the aircraft, the amount of lease payments received from the carrier which are in excess of the debt service payments and the residual value of the aircraft at the termination of the lease term. Hence, the participant receives the benefits of ownership on the entire equipment cost while investing only a relatively small portion of the acquisition cost. Thus, the leveraged lease enables the sheltering of a maximum amount of taxable income with a minimum investment. A further advantage of the leveraged lease is that with a small equity investment requirement per lease, the investor can spread risk over a broader range of lessees and equipment.

The investors return is calculated on the actual amount of funds invested, that is, the equity portion. Hence, the investor is able to pass on a favorable package to the carrier since the overall return required is less than that required by the single investor lease arrangement. For the carrier interested in the lowest monthly lease cost, the leveraged lease works very well.

The equity participant or investor referenced above is more commonly a group of individual investors headed by an independent management team or trustee. The individuals who comprise the group spread their risk among all the investors and their return is proportionate to their individual investment.

The primary disadvantage of the leveraged lease centers around timing. First, the leverage lease requires more time to package. With the number of investors involved and the relative complexities of the leveraged lease, it will often take a considerable amount of time to arrange for all of the investors to gather and commit to a transaction. Another timing problem surfaces at year-end. Since this lease is tax motivated and most investors have taxable year-end in December, many of the investors are not able to determine tax liabilities until that time. Therefore, the investor is usually unable to commit until late in the year. Unfortunately, the regional carrier must generally plan the purchase of the aircraft months in advance of delivery. Hence, a timing problem results. Herein lies its chief disadvantage.

Public Financing

The majority of regional airlines are privately held companies, several of which are family owned. Many of these owners have relied on their local bank to meet the financial needs of their airlines. However, as equipment and operational costs rose, it became more difficult for the local banks to fulfill the capital requirements which were necessary to support the carrier's operation. To handle the capital requirements, some regional carriers considered the aspects of going public.

This has become a popular way of raising capital for regional airlines. Prior to 1981, only 2 regional carriers were publicly held. As of year end 1984, there were 22 regional carriers which were public companies. Between October 1981 and June 1983, regional carriers raised in excess of $58 million in the public equity market.[7]

The trend to going public can be attributed to the rapidly

increasing capital requirements, a declining supply of private and venture capital funds which are in part the result of the Deregulation Act. In order to take advantage of the opportunities and markets which were created as a result of the Act, the regional carriers had to expand. This necessitated the acquisition of additional aircraft and facilities to support the carrier's new operation. Since most carriers had a limited equity base and the carrier's debt to equity ratio was high, the carriers sought to build their equity base. This in turn, necessitated public offerings.

In addition to the capital raised through equity participants, one of the advantages of going public according to Donald Santacroce, President of NewAir (a Connecticut regional), is the increased awareness of the business community.[8] Until very recently the regional airline industry had been relatively unknown.

One of the disadvantages of going public is some loss of control the former owners/managers enjoyed. In a survey conducted by Fairchild Aircraft Corporation, this factor was listed by these former owners as one of the main drawbacks to going public, and certainly the biggest adjustment they had to make personally.[9] For years, these owner/managers had controlled every aspect of the business and financial data were proprietary. After going public, disclosure of all aspects of the operations including financial information on the company and themselves was required. In addition, they must now answer to shareholders.

Manufacture Support

As previously mentioned, many of the regional air carriers are

under-capitalized and do not have the credit history to support the purchase of an aircraft costing several million dollars. In an effort to increase sales and partly out of competitive necessity, manufacturers created their own in-house finance companies commonly referred to as captive finance companies (CFC).

Manufacturer-backed finance programs have come to play a critical role in the funding of aircraft. Manufacturers become involved due to the carrier's inability or unwillingness to tap traditional financial markets and the carrier's desire for financial flexibility. Oftentimes, the manufacturer substitutes its credit in lieu of the regional carrier's and then sells the package to another financial institution. The manufacturer then sub-leases the aircraft to the carrier. The carrier receives the benefits of the manufacturers credit in the form of lower payments and the third party finance company looks to the manufacturer in the event of default.

Manufacturer supported transactions offer three advantages to the regional carrier. First, the burden of placing the transaction may be borne by the manufacturer or a third party. The carrier does not have to spend management time searching the financial market. Secondly, manufacturers will sometimes allow the carrier the option to cancel the lease during its term. Usually this is a one-time option but it offers the carrier some additional flexibility. Finally, in the event of cancellation or a short-fall in the equipment's re-sale value, the loss may be sustained by the manufacturer.

Captive finance companies are used in a variety of ways by the manufacturer but they perform the same function as any other financial

institution, that is, obtain credit information, review financial statements and prepare documents. The obvious difference between the captive finance company and the independent finance company is that the manufacturer-backed company has a vested interest in both the financing and in the sale of the aircraft.

The approach taken by the captive finance company as far as credit criteria and profitability is concerned is the same as it would be for any finance company, at least initially. Ideally, the captive finance company, as any other financial institution wishes to obtain the best return possible at reasonable risk. In commuter aircraft financing, as in any new industry, risk tends to be high.

A financially sound regional carrier with a good credit history can generally obtain as good or better terms than that offered by the captive finance company. If the regional airline is in this position, the CFC is but one of many institutions bidding on the transaction. However, the real value of the CFC is realized when the manufacturer is involved in the financing of a marginal credit risk and/or when competing with other aircraft manufacturers.

In the case of a marginal credit risk, the CFC evaluates the credit and carefully analyzes the carrier's operation. The credit decision will be based, to a large extent, upon the management and the anticipated future of the airline. If the business plan, management and financial condition of the airline don't justify the acquisition, the CFC simply denies the application. However, if the CFC feels the airline has a good future with growth potential, the CFC usually approves the transaction.

The value of an in-house finance company is also realized when the manufacturer is bidding against other manufacturers. To win a bid, it often takes concessions from both the manufacturer and the CFC. The concessions provided by the CFC can sometimes make the difference between securing or losing the transaction. The CFC provides the manufacturer with an additional piece of weaponry which can spell the difference between success and failure.

B. COMPETITION

Regional airlines compete with two primary modes of transportation - other air carriers and the automobile. It may be easy to understand how another air carrier could be a competing factor but perhaps not so easy to understand how the automobile competes with the regional airline. However, the automobile not only competes but it is the regional airlines primary competitor. To understand the reasons behind this, one must understand the basis on which the regional carrier's route structure operates.

Regional air carriers were created to serve the transportation needs of smaller communities, thus, they generally operate in a 100 to 300 mile radius. Because of the relatively short distances involved, the regional carriers are forced to compete with the automobile. The primary factors affecting the passenger's decision to fly or drive center around cost, convenience and time. Whether the passenger is connecting to another flight at a hub airport or traveling on one leg only of the regional's flight, the carrier must be able to compete within these three decision criteria.

Automobile

The average flight length for a regional carrier is only 160 miles. The automobile may be able to travel this distance in 3 hours. In order for the regional carrier to be competitive on a time basis, it must be able to complete this mission in less time than it takes the passenger to drive. Based on a 300 mph aircraft, a 160 mile trip takes approximately 1/2 hour of flight time. This does not include the amount of time to taxi to and from the terminal or the time and inconvenience the passenger must endure to park his/her car, check-in then out, and perhaps rent a car at the new location. In addition, the cost of air transportation will more often than not, be higher than what it will cost the passenger to drive his or her automobile.

All things considered it may be more convenient and less expensive for the passenger to travel in his/her automobile than to travel on a regional airline. In some cases it may also be more convenient for the passenger to drive to the hub airport and board the major's flight directly rather than to ride on the regional carrier's flight. In doing so, the passenger will not have to worry about baggage being misplaced, or missing the connecting flight due to a delay on the part of the regional airline. The passenger must also consider the disadvantage of traffic delays associated with the automobile when evaluating the alternatives.

The regional carriers must also compete with another form of ground transportation - the bus or limousine service. This is particularly true where major airports and/or major population centers are within reasonable driving distances from one another. According to Joe Fugere, president of Pilgrim Airlines, Pilgrim's main competition comes from the

inter-state limousine services transporting passengers to and from the New York area airports.[10] The services provided by these limousines extend as far as 150 miles. To counteract the competition, Pilgrim offers the same service for a $20 add-on charge for those passengers continuing onto another Pilgrim or inter-connecting flight. Hence, the regional carriers are competing heavily not only with the automobile but also with other modes of ground transportation for the short-haul business.

Other Air Carriers

The Deregulation Act opened the doors of competition by allowing the air carriers to freely enter and exit markets at their own discretion. In doing so, these carriers instituted strategies which in some cases led to head-to-head competition. Prior to this time, the airlines co-existed in a relatively non-competitive environment.

The development of the regional airline was also influenced by the direct and indirect action of the CAB and major airlines. The design and purpose of regional airlines were to serve the smaller communities and act as "feeders" to the majors. They did so by transporting passengers to larger airports most often to connect with another major airline flight. Therefore, the major carriers had an interest in preserving a smooth, integrated system insuring easy passenger connections. Hence, the regional carriers were protected by both the CAB and the major carriers.

History of Protection

Like the major carriers, prior to deregulation the regional airlines were protected to a large extent by CAB controls. Although the

regional carrier was not required to be a certificated carrier, the CAB still controlled the areas in which the regional operated. In order to operate in an area, the regional had to be registered with the CAB. The CAB also regulated the regional carrier's subsidized air service programs. Hence, the CAB regulated the activities of the carriers such that its effect limited competition and allowed air fares to be set at artificially high levels. When the major carriers received approval to raise fares, the regionals generally followed suit and they did so without public outcry since the majors had paved the way. The increase was rationalized as an across-the-board rate hike. Like his bigger brother, the regional had no real competitive incentive to hold down its costs.

A similar attitude applied to route monopolies. The CAB protected the route structures of the major carriers while the regionals had a kind of unspoken route authority (if for no other reason because there were so few regional carriers in the early years). Furthermore, CAB regulations made it a difficult industry to simply "jump into". If an entrepreneur decided to start an airline, had the capital available and received the necessary governmental approvals, there was no reason to compete directly with another carrier since there were plenty of available markets from which to choose.

Deregulation Act

Overnight, the Deregulation Act changed the industry but the carriers brought their high cost structures from the regulated period. Although the regional carriers did not have as high a cost structure as the major carriers, due to lower equipment and labor costs, their cost

structures were also high, at least higher than the new regional entrants with whom they now had to compete. Beyond production costs, the ability of a new or an established carrier to enter markets at will created problems for the regional carriers. The security enjoyed under the CAB was gone and was replaced by an influx of available seats in markets which historically were monopolistic. The regional carriers soon found one or two carriers serving the same markets they previously served alone.

Regional carriers also discovered that some of the majors which had previously abandoned routes were now returning to these same routes. With the advent of deregulation, carriers pulled out of the short-haul, unprofitable routes to concentrate their equipment on the more lucrative routes. The regional carriers were quick to begin service in these vacated short-haul routes. For a period of time this worked well for both carriers as each filled service voids. After the market became saturated with carriers, heavy competition ensued. The major carriers discovered the need for their own feed traffic in order to fill their flights. In those cases which the major began to feed itself, the regional carrier's traditional role was pre-empted since they could neither compete with the convenience of a "direct connection" or profitably match the low fares which were subsidized by the major carriers.

In an effort to stabilize their position, many regional carriers sought to establish relationships with major carriers. Likewise, the majors also sought to establish these relationships as they began to realize the importance of the regional airline. These relationships

range from loosely organized attempts to coordinate schedules, to formal written agreements outlining the specifics of each carrier's responsibilities to the other.

C. RELATIONSHIPS WITH THE MAJOR CARRIERS

The relationship between the regional airline and the major airline has changed dramatically since the 1960's. Part of this change can be attributed to the Deregulation Act of 1978 and part to the regional airlines phenomenally fast growth. As stated above, regional carriers provide virtually all of the small community air service and as such, more attention has been paid to the regionals by the major carriers.

During the days of regulation, the major carriers enjoyed monopolistic routes and schedules. The regional carriers provided air service to the major's hub which enabled passengers to connect and continue on their journey on-board the major carrier's aircraft. Both the regional airline and passengers schedule revolved around the major carrier's route structure and schedule. Clearly, the major carrier was in the driver's seat. Kingsley G. Morse, president of Command Airways, Inc., recalls,

> "In the beginning it was almost impossible to even develop a basic relationship with an air carrier. I can recall that it took almost three years to convince an air carrier to give us a joint fare. Now they are common."[11]

With the enactment of the Deregulation Act, the major carriers were forced to abandon their unprofitable short-haul routes and concentrate their assets on the profitable long-haul flights. As these carriers dropped service in the short-haul markets, they realized that their load factors begin to drop. In response, the majors quickly adapted one of

two strategies. One strategy was to reinstate service into the short-haul markets and begin feeding themselves. Under this scenario, the major was again subsidizing the short-haul routes. The other strategy was to develop a relationship with a regional airline and have the regional provide the "feeder" service to the major. Today this arrangement is commonly referred to as "interlining".

Obviously, not all the majors handled the regional airlines in the same manner either before or after the Deregulation Act. Prior to the Act, several major carriers recognized the importance of the regional carrier and the services which they provided. One such carrier was Allegheny Airlines.

The Birth of the Interline Relationship

In the late 1960's the then president of Allegheny Airlines, Les Barnes, developed a concept which would change the way his airline would operate. At that time, major carriers, like Allegheny, were responsible for providing service to communities which the CAB so designated regardless of whether it was a profitable route or not. Hence, Allegheny could not drop the market as they could do today.

With this in mind, Mr. Barnes developed a plan to relieve Allegheny of its unprofitable short-haul routes. The plan allowed Allegheny to serve these markets without loss of revenue, without the added burden of acquiring additional equipment and without a cash outlay. Mr. Barnes concept utilized the smaller airline to compliment his fleet by bringing passengers from these short-haul markets. The feeder would be under the control and would wear the colors of Allegheny Airlines. The new airline would be appropriately named the Allegheny Commuter. It is

important to note that the CAB still charged Allegheny with the responsibility of providing service to these smaller communities. It is apparent that Mr. Barnes had an early appreciation for the regional airline and what the regional airline could do for a major carrier.

In 1967, Allegheny Commuter commenced operations with an agreement between Allegheny Airlines and a small regional carrier called Henson Airlines. With CAB approval, the first interline arrangement between a major carrier and a commuter airline began. Since this time, Allegheny has changed its name to USAir and Henson is no longer associated with the organization but the interline system of USAir still exists. Last year, regional carriers serving USAir contributed 2,137,032 passengers or 13 percent of USAir's total passenger load.[12]

The Logic of Interlining

Everyone benefits from this type of arrangement. The major carrier benefits because it is able to drop some of its unprofitable routes. It also allows the major to transfer aircraft being used in the short-haul markets to the larger, more profitable markets. Further, it gives the major the feed traffic it needs. Hence, it has a triple effect on the major.

The regional airline also benefits significantly from this relationship. The major carrier's name generally has wide-spread recognition in the markets in which it serves and therefore, the regional airline is immediately recognized, at least by name. Participation in the interline program helps the regional with its lenders as well. The relationship can sometimes add credibility to the regional carrier's operation through association with a well known major

carrier. The regional also receives an immediate increase in passenger traffic which it previously did not have. This of course, would have a positive effect on the commuters financial statements.

The communities which receive the service from the interline connection benefit since the regional carrier maybe able to provide better service than the major carrier. The reason for this is that the regional carrier can provide more frequent service to the community than that which could be provided by a major carrier operating larger equipment. The regional carrier is able to provide more frequent service because of its lower aircraft operating cost. Hence, the net effect is more flights per day with no increase in air fares. In fact, the air fares are often less because jointly, the carriers are able to shuttle passenger traffic more efficiently.

One of the greatest benefits to the traveler is a one ticket purchase and single baggage claim. The traveler can buy one ticket, check his or her baggage and then not have to worry about purchasing another ticket or having to re-check baggage. This is important consideration to the regional passenger since 70 percent continue on to another flight.

Regional Airlines Recognized

The major carriers have taken notice of the growth which the regional airlines have recently experienced and appear to be recognizing the important role that these carriers play in the air transportation system. Further, these major carriers realize quickly that the regional airline can have a very significant effect on their financial statements. Today, major carriers are actively soliciting regional

airlines to provide feeder service to their operations.

One of the more colorful figures in the airline industry today is Frank Lorenzo, President and Chief Executive Officer of Continental Airlines. Mr. Lorenzo recognizes the importance of the regional feed traffic stating,

> "The name of today's game is the same as yesterday's old one...feed. Large carriers today, are more aggressive in pursuit of feed than we used to be."[13]

Mr. Lorenzo further recognized the important role the regional carrier plays in the profitability of the major carrier. In a luncheon address to the Regional Airline Association, Mr. Lorenzo told the group:

> "Your traffic is more important to us now than ever before...Any large airline that can pick up just one additional passenger per departing flight can effect a material change in its economic results, so you can expect to continue to be wooed by most of us..."[14]

In his address, Mr. Lorenzo predicted that the relationship between regional and major carriers would continue to grow and that the major carriers are recognizing the regional carrier's contribution:

> "First, there is no question that the growing partnerships between small and large carriers are providing the traveling public with more and better services;
> Secondly, it is abundantly clear that the smaller airlines have a vital and profitable role in today's marketplace and are more important today to larger carriers than they ever were."[15]

D. MISCELLANEOUS PROBLEMS

Two of the more recent problems effecting the regional airline industry which will be discussed below, are the "two-letter designator" and the "Computer Reservation System (CRS)". The CRS has the potential

of costing the regional airline industry several million dollars annually in passenger booking fees. Hence, the reason for its attention. The two-letter designator issue, which has evolved from the interline arrangement between the regional and major carrier, is dividing the industry. The carriers who have entered into an interline agreement are generally in favor of the two-letter system while those carriers not interlined are generally opposed.

Two-Letter Designator

Two-letter designators were developed out of the necessity to abbreviate electronic messages transmitted on teletype circuits in the early days of airline transportation. The two-letter code simply identified the carrier and allowed the sender of the teletype to reduce the amount of time to send the message. Today, these codes are used in all of the travel guides including the most popular, the Official Airline Guide (OAG). Travel agencies around the world also use the two-letter designator to identify the carriers on which their customers will be traveling. These same codes can be found on every ticket purchased and on the various automated reservation systems used in the air travel industry.

The regional carrier who is interlined with a major adopts the two-letter designator of the major carrier. In the OAG and in the computerized reservation systems, the regional carrier's flight will be shown as one of the major airline's flights. The regional carrier also retains the two-letter code which it was originally assigned.

Double Listings

Having two separate designators has allowed the regional carrier

the opportunity to list itself twice in the OAG and in the computer reservation system. The regional carrier lists itself under the major's two-letter designator and again under its own two-letter designator. This obviously provides a marketing advantage to both the major and regional carrier. However, this may be misleading to both travel agents and passengers alike. In using these guides, the travel agent or passenger may believe they will be boarding the major carrier's aircraft. If the carrier has a fleet of jet aircraft, one could reasonably expect to be boarding a jet aircraft.

American Airlines is one carrier which has charged that the two-letter designators are being misused and has filed a lawsuit against Eastern, Frontier and Pan American Airlines. The suit alleges that these carriers are misleading the traveling public. The crux of the lawsuit centers around the tactics used by the carriers in allegedly misleading the passengers into believing they will be boarding the major carrier's jet aircraft when in fact, they will be boarding the regional carrier's much smaller aircraft.

Passenger Response

Al Kolakowski, Delta Airlines' manager of marketing services, is not convinced the customer really cares.[16] From Delta's experience there have been complaints but overall the travelers are accepting the practice. According to Mr. Kolakowski, there is better acceptance in the smaller communities than out of a major hub airport. This would be expected as most of the smaller communities are already receiving service from the regional carriers and are therefore, accustomed to the regional carrier's aircraft.

John Van Arsdale, former chairman and CEO of Provincetown-Boston Airline, the nation's largest regional carrier, feels the two-letter designator is misleading and the passengers do care. Mr. Van Arsdale stated the practice of using the major's code "is really wrong" and "really deceptive."[17]

Issues

The 2 letter designator issue is splitting the regional industry. Some of the regional carriers, most often those which have interlined with a major carrier, are in favor of utilizing the major's 2 letter designator. Others are against the program. The independent regional carriers which are not associated with a major carrier are generally opposed to the 2 letter designator. They believe they are placed at a disadvantage due to name recognition which some of their competitors enjoy with a major carrier and the additional advantage of double listing in the reservation system.

The significance of interlining may have more far-reaching implications. In those areas where a major carrier moves a dedicated regional on top of another regional carrier already serving that market, the latter may suffer. Kingsley Morse, president of Command Airways, fears the regional carrier could be caught in the middle of a battle between the majors with devastating results, "these excursions could be suicide missions."[18] Bob Shults, CEO of Scheduled Skyways, concurs "if some of our cohorts are coerced into being the pointman in the bloodbath, it will be really bad."[19]

The independent regional carrier will have difficulty in locations where a major develops a dedicated feeder. The major carrier is able to

leverage the independent regional carrier by refusing to interline. This will cause the passenger to either purchase two separate tickets on the independent or one ticket with a single check-in on the interlined regional. The end results are increased fares, and baggage and ticket inconvenience to the passenger not traveling on the interlined regional.

It will be several years before the impact of interlining is known. Kingsley Morse views the interline arrangement as "the end of the independent operator"[20] and predicts that "the configuration of the industry will be made up of constellations of major airlines, commuters and travel agents."[21] To date, over 40 regional carriers have formed interline relationships with 12 major airlines and this trend is expected to continue.

Computer Reservation System (CRS)

One of the more recent developments which could have a significant impact on the regional carrier is the Computer Reservation System (CRS). Like the interline relationship, the CRS rule will give a competitive advantage to the regional carrier interlined with a major carrier which owns and operates a CRS system.

The CRS system is a reservation system whereby all passenger bookings are made through one central reservation system. The major carriers which currently own and operate these systems (American, United, TWA, Eastern and Delta) are at a competitive advantage. The regional and other carriers not owning such a system will have to pay for the use of the reservation system since all of their bookings will be made through the CRS system. The rule is bias towards the owners of CRS systems since it allows them to list their flights and those of

their interlined regional ahead of other carriers. The system incorporates booking fees and automatic penalties for non on-line connections.

It is estimated that it will cost the regional carriers approximately $38 million annually in booking fees alone.[22] This supports the notion that a interline relationship may be necessary for the survival of the regional carrier.

IV. STRATEGIES OF REGIONAL AIRLINES

The strategies of the regional carriers are discussed in this section in both the regulated and deregulated environments. The strategies of the regional carrier under regulation was relatively straight forward while the strategies of the regional carrier today, under deregulation, is much different. Included in this section will be the history and strategies of two well-respected regional carriers.

A. STRATEGIES UNDER REGULATIONS

As mentioned, the route development strategies of the regional carrier during regulation were relatively straight forward. Service was provided to smaller communities not receiving any air transportation and replacement service was provided to those communities from which a major carrier withdrew. The regional carriers were better able to serve these communities since they could provide more frequent and economical service.

The regional carrier's expansion was more often the result of a major carrier dropping service to a community than the regional carriers planned expansion into these markets. However, prior to withdrawing service from any route, the major carrier had to obtain CAB approval in the regulated environment. The location of the regional carrier played a significant role in its development. Being located in or near the communities which were abandoned by a major carrier put the "local" regional carrier in an advantageous position. This facilitated the early route development of many of these "local" regional carriers.

During this period, certain areas of the country provided the regional carrier better expansion opportunities than others. Areas of

the nation where several smaller communities were located in close proximity to one another and/or located close to a hub airport, made it easier for a major serving that area to obtain CAB approval to drop service, than in those areas where distances between communities was longer and alternative transportation less available. The regional airline was afforded more opportunity to fill the void and quickly gained presence in the Northeast, Midwest and in California but less quickly in the Mountainous and Southeastern states.

The regional carriers route strategies were somewhat limited by the type of aircraft which these carriers were allowed to operate. Prior to 1984, regional carriers did not have an aircraft which was specifically designed to serve their needs. As a result, the regional carrier had to utilize aircraft which, by design, limited the carrier's capabilities. The carrier was further limited by regulation, as to the size and range of the aircraft they were allowed to operate. For example, two popular aircraft used by regional carriers at that time were the Beech 99 and the Twin Otter. With a full load of 19 passengers, the Twin Otter was effectively limited to markets of 125 miles or less due to the CAB's Part 298 12,500 pound weight restriction and fuel trade-off limitations.[1] With a full load, the 15 passenger Beech 99 was likewise limited to markets of less than 150 miles.[2] Hence, the regional carrier was limited by the aircraft it operated which in turn limited the carrier's ability to capitalize on market opportunities.

Ironically, the type of equipment the major carriers were operating also helped the development of regional airlines. The operating economics of jet aircraft required a high load factor for profitable

operation. As the price of jet fuel rose and load factors grew slowly, the major carriers realized they would not be able to continue the short-haul, low density routes profitably with jet aircraft. In a regulated environment, the major carrier operating such aircraft were able to subsidize the low density routes by either "feeding" these passengers to its' long-haul profitable flights or subsidize the low density route through a federal subsidy program. In either case, the major carrier was dependent upon factors other than the route itself to support the operation.

The Allegheny Commuter concept popularized the interline idea in 1967. The arrangement provided Allegheny (major) with the best of both worlds - economical operation of the route and feed traffic. The Allegheny commuters served the smaller communities which Allegheny (major) could not profitably serve with jet aircraft. The commuters fed passengers to various Allegheny hubs to connect with the Allegheny jet flights. The Allegheny operation proved that it was more efficient and profitable to both carriers to interline than to operate the lighter density routes independently. Hence, the overall strategy of these commuters was to ally themselves with Allegheny and serve as its feeder.

Another development which aided the regional carriers growth was the broadening of the aircraft size limitations. Prior to 1972, the regional carriers were limited to 19 passenger aircraft and only 3 years earlier, they were limited to 10 passengers. In 1972 the passenger seat limitation was increased to 30 and again increased in 1978 to 60 seats with the enactment of the Deregulation Act. This allowed the regional carrier to strategically match any aircraft with 60 passenger seats or

less to a particular market. Prior to these events, the markets which were served by the regional carrier had to adapt to the seating capacity of the regional carrier's aircraft.

Thus, in a regulated environment, the regional carrier's strategy revolved around the actions of the major carriers. When a major carrier received approval to drop service in an area, a regional airline generally responded by providing replacement service. Another strategy used by several of the regional carriers was to align itself with a major carrier and provide feed traffic.

With the Deregulation Act, the opportunities for the regional carrier expanded. Deregulation allowed both the regional and major carrier to exit and enter markets at will. As the major's abandoned the low density routes, openings were created for carriers operating smaller aircraft. Therefore, the strategies employed by the regional carriers were likewise effected. Accordingly, the regional carriers had to adapt to new and oftentimes dissimilar strategies based on the circumstances which surrounded the carrier.

B. STRATEGIES UNDER DEREGULATION

One of the provisions of the Deregulation Act allowed both the major and regional carrier to freely enter and exit markets. As major carriers dropped out of the smaller, less dense markets, regional carriers quickly filled the service void. The markets considered too thin for the majors were ideal for regional carriers. In addition, with the ability to utilize larger aircraft, the regional carriers were able to very efficiently match aircraft to their markets.

The Linear and the Hub/Spoke Route Strategies

The regional carriers began to rearrange their routes to seek the optimal route structure and match the best aircraft to the market served. Two route structures are common - the linear route structure and the hub and spoke structure. Each links small communities with hub airports and facilitates connections with major carriers at the hub. The hub and spoke structure uses the hub airport and feeds it with direct, non-stop flights into and out of that airport. The flight segments in and out of the "hub" airport represent the spokes of the hub and hence, the name "hub and spoke".

The linear route structure also serves the hub airport but with longer flight segments consisting of many leg segments. The flights of the regional carrier using a linear route structure usually will consist of more than one stop along the route before reaching the hub airport. The linear route carrier serves many communities on each flight.

Today, the regional airline industry is predominantly composed of the hub and spoke route systems. According to CAB records, the ratio of average passenger trip length to average flight stage length of the top 50 regional carriers, show that the majority of these carriers have hub and spoke route systems.[3] Some of the larger regional carriers have even developed their own hub and spoke systems. Carriers such as Air Wisconsin, Henson Airlines and Empire are serving hub-to-hub markets which obtain traffic support from their non hub-to-hub routes. In any case, the regional carrier must first determine which route strategy best suit the needs of the market the carrier serves and then pursue that strategy.

There appears to be little relationship between the hub and spoke

feeder route characteristic and size of the aircraft operated by the regional carriers. As referenced in Section II, the composition of the regional fleet in terms of fleet size, fleet composition, traffic and route characteristics indicate diversity among the carriers. The fleet composition of the regional industry show some of the carriers have pursued route strategies geared entirely to larger sized aircraft. Others have stayed with the traditional 15 to 19 passenger aircraft and corresponding suitable routes to support such aircraft.

Carriers which specialize in the 15 to 19 passenger class of aircraft often serve regions of the country with light density markets and relatively long stage lengths. These markets are most often found in the Midwestern, Southwestern and Mountainous sections of the country. For example, Air Midwest, Pioneer Airlines, Midstates Airlines, Royale Airlines and Scheduled Skyways all have fleets of more than 10 aircraft in the 15 to 19 passenger seat class of aircraft. These carriers all operate in the Midwestern, Southwestern or Mountainous sections of the country and primarily operate a linear route system.

There are several carriers which have chosen to specialize in the 15 to 19 passenger aircraft more for competitive reasons than geographical reasons. Apollo, Sun Aire, Horizon and Wings West all serve the California market and must compete with carriers which utilize larger, and sometimes jet aircraft. To compete, these regional carriers provide high-frequency service, surrounding the larger carrier's flights with many of their own flights. The smaller aircraft allows these carriers to utilize a frequency strategy which in turn, offers their passengers the convenience of time through frequent flights. In markets

which are not jet sensitive, this strategy works exceedingly well.

Small Package Express Service

A recent move on the part of the regional carriers which can have a significant effect on the revenues, has been the addition of a small package express service to its operation.

To a large extent, the rapid growth of the deregulated small package express business has been attributed to and associated largely with Federal Express. However, the fact that the independent regional airline is a major carrier of small overnight packages is less well known. Whereas Federal Express owns most all of its aircraft, couriers such as Purolator Courier, Emery, Airborne and others use regional carriers under contract to transport their overnight packages. In these cases, the regional carrier's strategy becomes that of the courier itself and its cargo business consists of expressing packages to the courier's hub on-board the regional carrier's aircraft. For example, a regional carrier which has several flights in and out of a courier's hub is easily able to add the courier's express mail on-board its aircraft. The carrier and courier both benefit since the carrier receives additional revenue for the service provided and the courier does not have to invest in additional aircraft.

The significance of the regional airlines' involvement in the transportation of overnight packages is reflected in the statistics for 1984. Regional carriers transported 324 million pounds in revenue freight, involved 18 dedicated regional carriers flying 168 aircraft a total of 155 thousand flight hours in the transportation of this revenue freight.[4]

Strategy of Interlining with a Major Carrier

As mentioned above, interlining has become increasingly popular with some of the regional carriers. The highly successful Allegheny Commuter system which was organized and developed in the regulation era has continued to operate successfully under deregulation. The coordinated regional/major carrier route development strategy has recently spread to many other carrier combinations and is expected to continue to be popular among both the regional and major carriers.

The interline arrangement provides the regional carrier with an effective competitive strategy for protecting market positions on existing routes. It also allows the regional carrier to more easily enter new routes under the major's protection. In this manner, the major provides feed traffic which the regional would not have with a start-up operation. In those instances where the major carrier has launched a full scale effort to create a new hub in its system, the market and growth opportunities of the associated regional carrier are correspondingly expanded.

C. STRATEGIES OF TWO REGIONAL AIRLINES

Two regional airlines which have gained recognition in the regional airline industry are Horizon Air Industries, Inc., of Seattle, Washington and Chautauqua, Inc., of Jamestown, New York. The differences between the carriers are many. One carrier was developed because of and is entirely dependent on one interline relationship, the other was built as an independent and has built relationships with many carriers; one is a publicly held company, the other is privately held; one commenced operations in a regulated environment and the other is the

child of the Deregulation Act. For these reasons, the strategies employed by these carriers are different and therefore, will make for a good comparison. The examples also are indicative of the diversity among the carriers which make-up the regional airline industry.

CHAUTAUQUA AIRLINES

Chautauqua Airlines was founded by Joel Hall in August, 1974 with service between Jamestown, New York and Pittsburgh, Pennsylvania. For over ten years Chautauqua has operated as one of the Allegheny Commuter airlines having service agreements with the burgeoning and profitable USAir, formerly known as Allegheny Airlines. In the beginning, Chautauqua's centerpoint was to provide connecting services with USAir's flights out of the USAir Pittsburgh hub. During its first full year of operation, Chautauqua's passenger boardings exceeded 46,000 increasing to 80,000 by 1978.

Route Development

In 1979, a Florida operation commenced from Orlando to Vero Beach and Ocala. The Florida operation was created partly in response to Eastern Airlines withdrawal of service from these cities and in part to feed USAir's Florida hub in Orlando. Chautauqua also began serving the Bradford to Pittsburgh market in April of 1979.

As a result of these additions, Chautauqua's traffic increased from an average of 7,000 boardings per month in 1978 to approximately 12,000 monthly boardings in 1979. The total number of passengers enplaned by Chautauqua was 142,710 in 1979 and increased to 146,929 in 1980. In 1981, USAir withdrew its jet service from the Pittsburgh-Akron/Canton markets and awarded Chautauqua this route. For the first two months of

operation which began on June 2, the passengers enplaned increased to 19,000 passengers per month. However, the air traffic controller's strike on August 3, caused the traffic levels to drop to 15,000 passengers per month.

Chautauqua transported 186,288 passengers in 1983, ranking it as the 38th largest airline in regional service. In 1984, Chautauqua's enplaned passengers increased 45 percent to 269,091 which ranked Chautauqua as the 32nd largest regional carrier.[5] To achieve these gains, Chautauqua has relied on sound management and its relationship with USAir. As Chautauqua continued to prove itself to USAir with good, reliable service, USAir provided the opportunity to Chautauqua to operate more routes.

In 1984, USAir again awarded Chautauqua with two additional routes from Pittsburgh to Hagerstown, MD on March 15 and from Pittsburgh to Charlottesville, VA on May 1. With the development of their existing markets, Chautauqua is expected to grow at an average annual rate of 10 to 20 percent.[6] Today, Chautauqua's average stage length is 125 miles.[7]

Management

Mr. Hall's operation is lean with 193 total employees of which 63 are pilots, 50 mechanics, 60 gate/ticket/flight attendants, 15 administration personnel and only 5 key management officials, including Hall and his wife. Hall favors the idea of purchasing new equipment rather than used. The details of the company's financial position are private since the Hall's own the airline. Mr. Hall does not favor his company going public. Hall, like other regional operators, is one who does not want to lose the management control over the operation:

> "The long-term management control problems associated with a publicly-held company more than outweigh the short-term benefits of using public money to purchase capital equipment."[8]

The operation appears to be profitable since the Hall's have been successful in arranging recent financing on several aircraft which cost in excess of $2.0 million each. Mr. Hall also favors the lease finance method to acquire new equipment since it allows the optimal trade-off between cost and flexibility. Chautauqua's fleet consists of 3 Beech 99's, 2 Shorts 330's and 7 Metro III's.

In evaluating and controlling routes costs, Hall employs the management concept that each segment of the system must be self-sufficient and generate its own profit. The revenue generated by each flight is offset by both the direct operating costs and overhead costs which are added to determine profitability. Mr. Hall states:

> "In this way, we are able to keep close surveillance of productivity. We can act rapidly enough to correct imbalance and to prevent costs from getting out of hand."[9]

Mr. Hall applies this technique to the purchase decision involving new aircraft and credits this system to a large extent to Chautauqua's financial track record.

Approximately 90 percent of Chautauqua's passengers connect to other flights of which 65 percent connect directly to a USAir flight.[10] Clearly, Chautauqua's strategy is to continue to work in the Allegheny Commuter system by feeding USAir flights. According to Hall, Chautauqua must be able "to move up and adjust to traffic opportunities, yet at the same time be prepared for unexpected economic reversals should they occur."[11]

One important stabilizing force on his side is the Allegheny Commuter affiliation with USAir and USAir's capacity for building a nationwide network of routes that will hold USAir and its associate operators in good stead should an economic pinch take place. This resource, coupled with the substantial marketing and flight service benefits of the agreement with USAir provide management flexibility not readily available to small independent carriers. In addition, Chautauqua is able to supplement its revenue through the small package express service developed by USAir. The service, called PDQ, is coordinated by USAir and prorates a portion of the shipping fee to Chautauqua when the package is on-board one of Chautauqua's flights. Currently, Chautauqua's revenue freight accounts for less than 1 percent of its total.[12]

Chautauqua's development will be influenced to a large extent by USAir's development and success. As USAir expands its route structure, so will Chautauqua. Mr. Hall's strategy therefore, will be to remain flexible and be prepared to react to opportunities as they are presented.

> "We have no grandiose plan to sweep the airline world off its feet. Our goal is to stick to our established markets and develop them to their fullest potential. Once we have done that we will then seek further opportunities."[13]

HORIZON AIRLINES

Horizon Air Industries, Inc. was formed in late 1981 with service to two cities in eastern Washington. Today, Horizon serves 23 cities in the states of Washington, Oregon, Idaho, California and Utah. Horizon

has grown to become the Pacific Northwest's largest regional carrier as well as the largest regional carrier on the West coast.[14] Overall, Horizon was ranked as the 11th largest regional air carrier in the industry in 1983, transporting 452,925 passengers in that year.[15] In 1984, Horizon increased the number of passengers enplaned from the previous year by 70 percent, carrying 769,625 passengers.[16] Horizon was ranked as the 7th largest regional carrier in the industry in 1984. To transport these passengers, Horizon utilizes a fleet of 20 Fairchild Metro III's, 12 Fairchild F27's and 1 Fokker F28.

Management

The man behind Horizon Air is Milton G. Kuolt II. Kuolt perceived there was a need for improvement and expansion in air carrier service to the smaller communities in the Pacific Northwest. According to Kuolt:

> "I saw a void in the regional mode of travel in the Northwest - in size of equipment, frequency of service to the customer."[17]

With this thought and no airline operating experience, Kuolt established Horizon. Kuolt believes his lack of operating experience is an asset rather than a liability. In fact, all of Horizon's non-technical management came from outside the airline industry. The blending of these non-airline management personnel into Horizon's operation created the balance Kuolt desired.

> "We have a large cadre of non-airline management. I wouldn't have it any other way. I didn't want traditional thinking in the company."[18]

Route Development

In September of 1981, Horizon commenced operations by serving the cities of Pasco and Yakima, Washington from Horizon's base in Seattle.

Today, Horizon's traffic market extends from Seattle to Boise, Salt Lake City and San Francisco with flights ranging from 26 to 570 miles in length, its' average flight leg is 150 miles.[19]

In the first quarter of 1982, Horizon added the cities of Portland, Eugene and Medford, Oregon; Sun Valley, Idaho and Pullman, Washington to its route structure. Later that year, Horizon added Spokane, Washington and the Idaho cities of Boise, Lewiston, Pocatello and Idaho Falls. In June of 1982, Horizon adapted a new strategy by acquiring Air Oregon, a regional airline located in Portland, Oregon. This acquisition added 5 Oregon cities in addition to those already served by Horizon.

Horizon again expanded in December of 1983 with the acquisition of Transwestern Airlines of Salt Lake City, Utah. As a result of this acquisition, Horizon established Boise, Idaho as a major operating hub. With the failure of Pacific Express Airlines, Horizon started flying between San Francisco, California and Klamath Falls, Oregon under an interim arrangement with Republic Airlines. Republic was charged with the responsibility of providing service under the "Essential Air Service" program until June 1984. When Republic withdrew its service in June, Horizon was awarded the route and began to serve the market directly.

In 1984, Horizon added the cities of Wenatchee, Washington and Redmond/Bend, Oregon. In 1985, Moses Lake, Washington was added as an Essential Air Service community bringing the total number of cities served by Horizon to 23 located in 5 states. Hence, the growth and route development strategies employed by Horizon was a combination of three factors. First, Horizon commenced service to those locations they

determined were lacking in air service. Secondly, they expanded their operation with the acquisitions of Air Oregon and Transwestern Airlines and, finally, they then capitalized on the markets which were vacated by Pacific Express.

Horizon has experienced rapid growth in the three and one-half years of its existence and, according to Kuolt, Horizon's strategy is now to strengthen their position in the markets they currently serve.

> "We're in a mode now of consolidating and strengthening our position in the Northwest. Just to get bigger isn't the plan. If we get bigger, it will be because we're better."[20]

Route Strategies

As part of Horizon's strategy, the company sought to develop relationships with major carriers. Whereas Chautauqua was created and is dedicated to only one major carrier, USAir, Horizon was created and developed as an independent airline and has relationships with 14 major carriers.

Horizon interlines approximately 50 percent of its passengers to major carriers.[21] Horizon is able to favorably negotiate joint fares and terms with the major carriers because of the high passenger volume Horizon offers the majors. Horizon's major interline partner is United Airlines. Out of a total of 40,000 joint fare programs divided between 14 major carriers, Horizon has 12,000 fares with United alone.[22] Horizon also recognizes the vital role the major plays in their success and the role Horizon plays in the major's success. Accordingly, Horizon will not attempt to compete with a major carrier.

> "We're not planning to aggravate the elephants (majors). It would be foolhardy to go head-to-head with any of the major carriers on the

> density routes. That's not our niche. We're always trying to associate ourselves with good, viable (major) airlines."[23]

Frequent Service Strategy

Kuolt attributes much of Horizon's success on the frequent service which Horizon provides its customers. Mr. Kuolt feels that frequency stimulates traffic and therefore, Horizon has followed this course in developing and serving markets. Frequent service provides Horizon with an advantage when competing against other carriers and its primary competition, the automobile. To compete with the automobile, Horizon provides its frequent service to small and medium-sized communities thereby making it as convenient as possible for the passenger to fly on its aircraft rather than to drive. This is especially important in Horizon's case operating in the western states where the people are somewhat more independent in nature and are accustomed to driving longer distances than their counterparts in the east.

> "Frequency stimulates traffic. The automobile, to me, is our major competitor. It's not other airlines. We've got to get people out of their cars."[24]

Aircraft to Match the Frequency Strategy

Horizon uses aircraft consistent with its high frequency strategy. Horizon matches equipment to the traffic of a particular market by controlling the seating capacity of the aircraft which serves these markets. Horizon's use of the Fairchild F-27 and the Metro III allows it to offer frequent flights in a cost-effective manner. The Horizon configured 18 passenger Metro is used on Horizon's thinner routes thereby making it possible to transport a smaller number of passengers without sustaining a financial loss. On the more dense routes Horizon

uses the 44 passenger F-27 and the 85 passenger, jet powered F-28.

Small Package Express Service

To supplement its passenger revenue, Horizon is involved in providing a small package express service. Last year, Horizon was ranked as the 4th largest air cargo carrier of all regional air carriers.[25] Although air cargo revenues account for only 5 percent of Horizon's revenues, Horizon plans to develop this aspect of the business.

To accomplish this, Horizon has a full-time freight manager and offers same day service of packages within Horizon's route system. In addition, Horizon works with freight forwarders, package carriers and has joint fares with some of the major airlines who handle freight. Currently, Horizon has freight facilities at Boise, Seattle and Portland.

Chautauqua/Horizon Summary

The strategies employed by Horizon and Chautauqua are different since the carriers were created for different purposes and currently operate in divergent environments. Horizon was formed as an independent carrier whereas Chautauqua was created and developed out of an interline relationship with USAir. Chautauqua's strategy relates directly to its' interline relationship with USAir. Their strategy is to remain in close complimentary contact with USAir and be in a position to take advantage of the opportunities created and provided by USAir. Horizon's strategy must be different since it cannot rely on the interline relationship to provide its' primary source of revenue and guidance. As a result, the carrier's route structures and strategies are different.

The strategies used by the regional carriers which interline with one major carrier are to a large degree limited or dictated by the major carrier. If the regional carrier adds a route which the major carrier does not want the regional to add, the major can put pressure on the regional to drop the route. Likewise, the major can also require the regional to add a route which the regional does not wish to add. With this type of relationship, the regional is to a large extent dependent on the major carrier for its growth and well-being.

The independent regional carrier like Horizon, must be able to work closely with the major carriers but at the same time be able to develop strategies independently of these carriers if they are to secure success in the marketplace. Horizon has and must continue to develop markets and revenue sources independent of another carrier's direct influence.

In both cases, the strategies employed by these carriers are dependent on the markets which each serves. In the case of the interlined regional carrier, the market is dependent upon the major carrier and therefore, the regional carrier's thrust should be aimed at the further development of this relationship with the purpose of securing additional complimentary routes. The independent carrier's strategy must be more independent in nature and be based on its' goals relative to the market, not the goals of a major carrier. The strategies of both carriers must also allow each to adapt and capitalize on new opportunities which they are afforded.

V. SUMMARY AND CONCLUSION - IMPLICATIONS FOR THE FUTURE

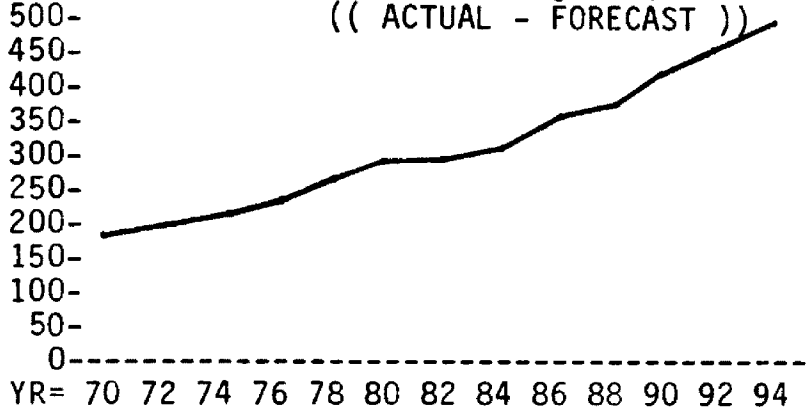
The regional airline industry has grown at a much faster rate than any other segment of the air transportation industry. In 1984, a total of 26.1 million passengers were enplaned by regional carriers which accounted for 4.2 billion in revenue passenger miles (RPM). This volume increased 19.6 and 29.6 percent respectively from the previous year. As will be demonstrated, the growth of the regional airline industry has outpaced the growth of all U.S. scheduled airlines and it is anticipated this trend will continue in the foreseeable future. This is because jet aircraft cannot economically compete with the regional carrier's smaller, more efficient turboprop aircraft in the short-haul, thin markets. Therefore, the regional carrier can be expected to play an increasingly important role in the industry.

A. PASSENGER GROWTH PROJECTIONS

The growth of the domestic airline industry can be represented by historical and forecasted data revolving around the number of passengers enplaned. As indicated in the chart below, the total number of passengers enplaned by U.S. domestic carriers increased at an annual rate of 7 percent from 1970 to 1978. In the post-regulation period from 1978 to 1984, the annual growth slowed to a 5 percent rate. According to projections made by Fairchild Industries, a manufacturer of commuter and military aircraft, growth is forecast at an annual rate of 4.5 percent from 1984 to 1994 for the U.S. domestic scheduled airline industry.[1] These estimates are consistant with those provided by the FAA in their February, 1985 report to the U.S. government (discussed below).

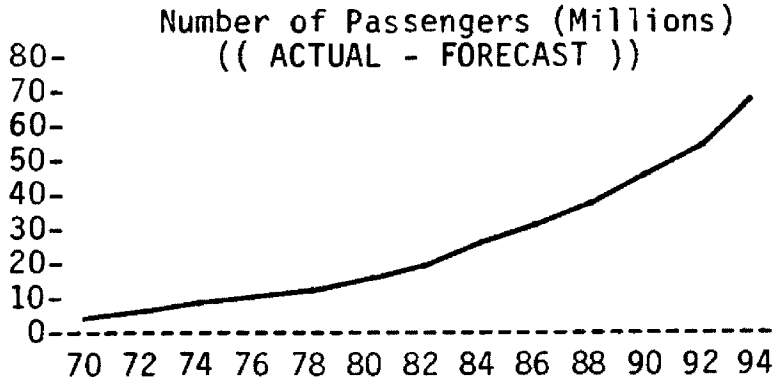
Based on these forecasts, the U.S. domestic scheduled airline traffic will exceed 500 million passengers by 1994.

U.S. DOMESTIC SCHEDULED AIRLINE TRAFFIC 1970 - 1994[2]



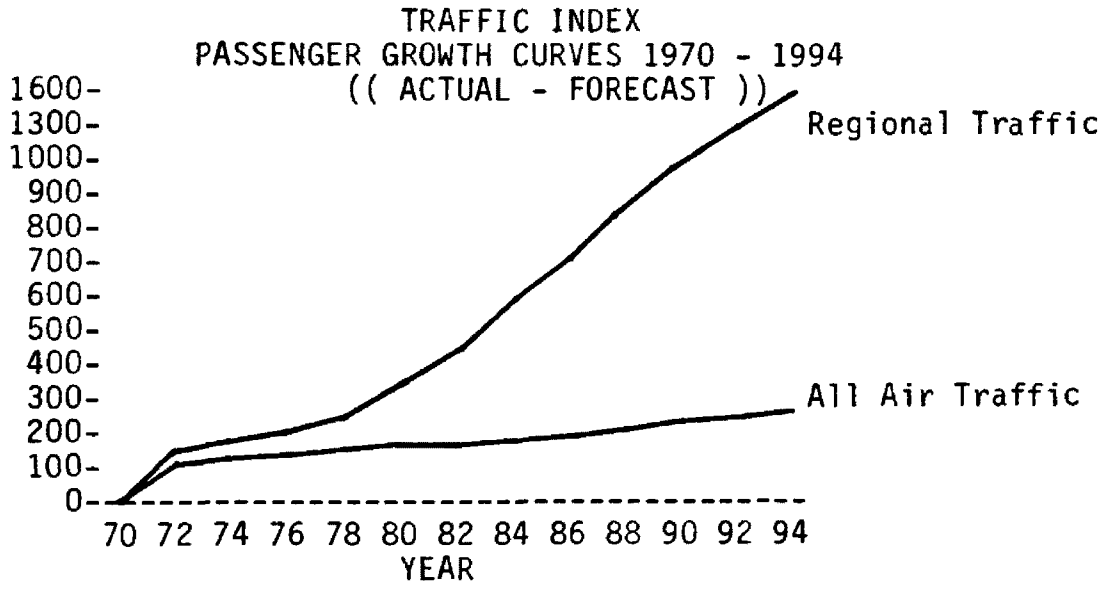
In terms of the number of passengers enplaned, the regional airline sector of the air transportation industry has grown at an annual rate of 12 percent per year from 1970 to 1978. However, in the deregulated years from 1978 through 1984, the regional airline industry has grown at a rate of 17 percent per year. It is estimated that the regional airline industry will grow at an average of 10 percent from the period 1984 through 1994.[3] The following graph illustrates this growth.

U.S. REGIONAL AIRLINE TRAFFIC 1970 - 1994



As indicated in the first graph, there were approximately 330 million passengers enplaned by the domestic scheduled airline system in 1984. Of this number, approximately 26 million or 8 percent were

carried by the regional airlines. By 1994, Fairchild predicts the total number of passengers transported by the domestic scheduled airline industry will exceed 500 million.[4] Of this, the regional airline industry is expected to transport 70 million by 1994 representing 14 percent of the total transported.[5] Using 1970 as a base index, a graphic illustration can be made comparing the growth curve of the regional carriers to the airline industry as a whole. It is apparent that the regional airline industry is becoming a more significant force. This is represented by the increasing percentage of passengers that the regional carriers are transporting each year relative to the overall air traffic.



In a February 1985 presentation to the U.S. government, the Federal Aviation Administration (FAA) predicted that aviation activity would grow at a faster rate than the general economy through 1996.[6] The FAA further stated that the regional airline industry would out pace the growth of the U.S. domestic airline industry during this period. The FAA's forecast included the following elements:

1. The revenue passenger miles will increase at an annual rate of 4.9 percent for all domestic air carriers.

2. Aircraft operations will increase at a rate of 2 percent per year which will reflect higher load factors, increased seating capacity and longer stage lengths.

3. The regional airline industry would enplane 23.7 million passengers in 1984 (the actual number was 26.1 million) which would account for approximately 6.6 percent of all passengers enplaned on the scheduled carriers. By 1996, the regional carriers were projected to carry 54.2 million passengers and account for 9.3 percent of all transported passengers.

In comparing the two forecasts (FAA versus Fairchild Industries), the numbers in terms of projected passengers enplaned differ but the trends of the forecasts parallel one another. Both forecasts project that the regional airline industry is expected to grow faster than any other segment of the air transportation industry.

Although the regional carriers transport a relatively small percentage of the total passengers enplaned, it is significant to note that the trend from 1970 to 1984 has been increasing each year. Equally noteworthy is the fact that this trend is expected to continue during the next 10 years. Thus, it is reasonable to assume that the regional carrier will be considered a significant force in the industry in the foreseeable future.

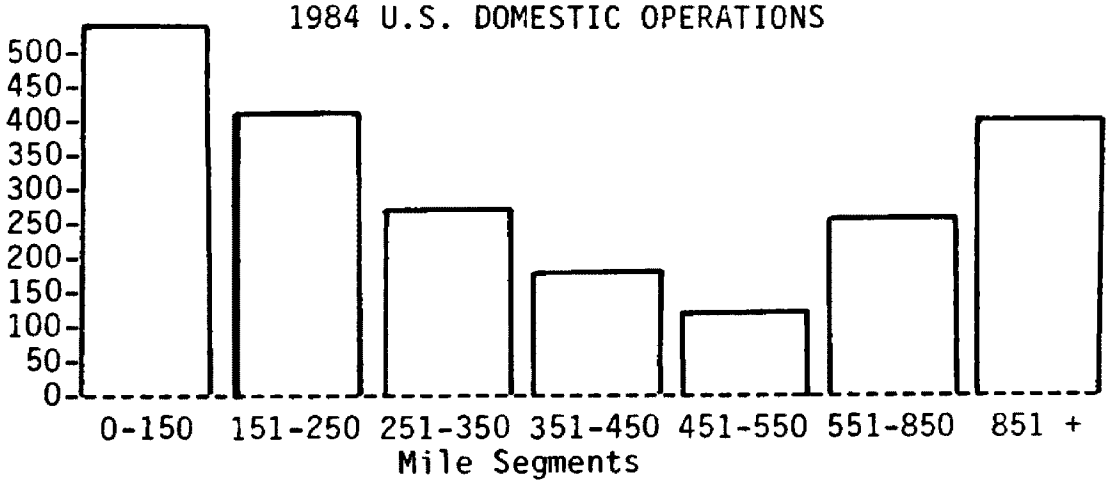
Stage Length

As previously discussed, the regional airlines generally operate in stage lengths of between 100 and 300 miles although in the case of Horizon Airlines, Horizon's stage length ranged from 26 to 570 miles. Hence, the stage length which the regional carriers are able to operate

vary significantly. In evaluating the stage lengths of all domestic carriers, the segments can be broken down to 7 categories. A large percentage of segments are in the less than 150 statute mile range category.

In 1984, there were approximately 2,200 segments operated by certified air carriers in the domestic U.S. with the majority distribution of 25 percent in the less than 150 mile category. The second most popular flight range segment was the 151 to 250 mile category. This category represented approximately 400 segments or 18 percent. The fourth most popular range category was the 251 to 350 mile category. Hence, of the 7 categories, the regional carrier can easily operate in three of the 4 most popular ranges.

NUMBER OF SEGMENTS BY RANGE CATEGORY[7]
1984 U.S. DOMESTIC OPERATIONS



Fuel Prices

The outlook for the regional airline industry in terms of passenger traffic is expected to significantly out pace the airline industry as a whole. However, the current moderation of fuel prices is encouraging larger airlines to re-enter some of their previously abandoned markets. This is viewed as a temporary condition due to the fact that the world

supply of petroleum is finite and demand from all sectors of society tends to grow. As fuel prices rise, the larger carriers will be forced to abandon or reduce service in many of these short-haul markets. The regional carrier will then pick up the void left by the larger carrier.

In addition, the new generation equipment being introduced in regional airline service will separate the operating economics between the regional carrier and the larger carrier operating jet aircraft even further. These aircraft were developed during a period of energy conservation (late 1970's and early 1980's) and they were designed to be fuel efficient. In the long run, the carrier operating jet aircraft will not be able to compete in the low density markets against the regional carrier operating the fuel efficient turboprop aircraft.

B. AIRCRAFT

The average size of the aircraft being operated by regional carriers has been growing steadily since 1978. As the regional carriers have expanded their markets, they have acquired larger equipment to meet the needs of these growing markets. In 1978, the average seating capacity of the 1047 aircraft which served the regional airline industry was 11.9 seats. In 1984, the average seating capacity was 18.4 seats per aircraft.

The majority of the regional carriers can be expected to continue operating the 15 to 50 passenger aircraft. Seven turboprop aircraft in this category account for 55 percent of the total seating capacity in the industry. These aircraft are the Fairchild Metro (19 passengers), deHavilland Twin Otter (19 passengers), Embraer Bandeirante (19 passengers), Short Brothers SD 330 and the SD 360 (30 and 36 passengers

respectively), Fokker/Fairchild F-27 (44-50 passengers) and the deHavilland Dash 7 (50 passengers).

In a previous section, it was noted that in 1983 the number of turboprop aircraft exceeded the piston-powered aircraft. The trend towards the more efficient turboprop aircraft can also be expected to continue. This is due to the fuel efficient nature of the turboprop aircraft and the significance of fuel costs to the regional operator. In addition, the new-generation aircraft being introduced are all turboprop aircraft and these aircraft can be expected to offer substantial improvements in both per-horsepower performance and fuel consumption. It is not unreasonable to expect the new generation aircraft will be as much as 50 percent more economical on a per seat basis than some of the aircraft in regional service today. Therefore, on a per seat basis the larger, new-generation aircraft lend additional support to the trend forecasted favoring the larger aircraft.

According to Alan R. Stephen, the Regional Airline Association's vice president, the average seating capacity will grow to the mid-30 seat range over the next five years.[8] Two reasons are sited for the trend to the larger aircraft. First, regional airlines are becoming of age and as such, they are reaching a point of fully developing the markets they currently serve. The regional airlines are also learning to adapt to the conditions of the marketplace. The carriers are now able to optimize the use of their aircraft by matching equipment to the demands of the market. Secondly, the majority of the new generation aircraft being introduced are in the 30 seat and above category. As of year end 1983, six manufacturers (Saab-Fairchild, deHavilland, Short

Brothers, Embraer, CASA and Aerospatiale) had introduced new generation aircraft in the 30 or more seat category. These manufacturers have announced orders and options for approximately 600 aircraft worldwide.

The outlook for aircraft deliveries support the notion of continued growth in the regional airline industry and in the regional carrier's movement towards larger equipment. The 10 to 19 passenger seat aircraft has dominated the regional airline industry since 1978 and this seat category is expected to continue to dominate the industry until 1986. According to the projections of Samuel C. Colwell, a former market analyst of Fairchild Industries, another seat capacity category, the 20 to 39 seat category, can be expected to dominate the purchases of the regional carriers from 1986 to 1994. During this period, the 10 to 19 passenger seat aircraft will steadily decrease in popularity and by 1991, Colwell projected that the 40 passenger seat aircraft will replace the 10 to 19 passenger aircraft as the second most popular category of new purchase aircraft behind the 20 to 39 seat aircraft.

C. REGIONAL AIRLINE CARRIERS

In 1984, the top 50 regional carriers dominated the industry in terms of total passengers enplanement and as a group, these carriers increased their share of the market. The top 50 carriers transported 21.9 million passengers of the 26.1 million total passengers enplaned in 1984, representing a very significant 84 percent. This figure was up from 1983 wherein the top 50 carriers transported 17.7 million passengers which accounted for approximately 81 percent of the enplaned passengers. In terms of revenue passenger miles, the top 50 regional carriers accounted for 3.5 billion or about 84 percent of the industry's

total for 1984 compared to 3.2 or 81 percent in 1983.

The 10 largest regional carriers generally grew at a faster rate than the industry's average in 1984. The passengers these carriers enplaned increased at an average of 29 percent versus the industry's average of 19.6 percent. The top 10 carriers accounted for 38 percent of the industry's passenger enplanements in 1984, up from 35 percent in 1983. Five of these carriers: Mid Pacific Airlines, Provincetown-Boston Airlines, Britt Airways, Air Wisconsin and Empire Airlines, exceeded one million passengers enplaned in 1984. In 1983 only one carrier, Mid Pacific Airlines, exceeded this mark.

The dominance of the top 100 carriers can be expected to continue. The number of regional air carriers can be expected to decrease steadily each year and will stabilize at about 100 carriers in the 1990's according to forecasts made by Colwell. This is the result of the continued dominance of the top 100 carriers and the current trend in the regional industry to merge and/or acquire other regional carriers. As previously stated, last year's top 100 carriers accounted for approximately 96 percent of all passenger enplaned by the regional airlines.

Mergers and acquisitions can be expected to continue as the carriers seek to align themselves with a complimentary company. In 1985, two of the top 10 regional carriers, Air Wisconsin and Mississippi Valley Airlines announced a consolidation. In January, Pilgrim Airlines and NewAir announced their merger. Also in January, the merger between Air Midwest and Scheduled Skyways was consummated. Air Midwest was ranked as the 16th largest regional carrier in 1983 and Scheduled

Skyways was ranked 32nd. Combined, these companies were ranked as the 10th largest regional carrier in 1984. Additional mergers include Skywest Airlines acquisition of SunAire Lines, Provincetown-Boston Airlines acquisition of Marco Island Airways, Horizon's acquisition of Air Oregon and Transwestern Airlines, and Air Virginia's acquisition of Mid South Airlines.

In addition to the acquisitions and mergers of regional carriers, there are accelerating alliances between regional and major carriers. These relationships vary in structure and in responsibilities to one another but are becoming more significant to the regional carrier in terms of passenger load factors and survival. This topic will be discussed in the next section.

D. POTENTIAL PROBLEMS

Based on research and discussions with leaders of the industry, there appears to be four areas which may significantly effect the regional airline industry. Not all represent problems to the carriers and in fact, some may work to the benefit of the regional carrier. These four areas are:

1. Interline Relationships with Major Carriers
2. Financial Arrangements
3. Two-Letter Designator
4. Computer Reservation System

Interline Arrangements with Major Carriers

As stated above, the relationships between the regional and major carriers are becoming more widespread and the number of formal associations can be expected to increase in the foreseeable future. The reasons for the popularity of the interline relationship and its

advantages were discussed in Section III. The popularity is reflected in the number of interline relationships accomplished recently.

However, there is a negative side to the interline relationship which can be found in the level of control the major carrier can have on the regional carrier. For example, in the Allegheny Commuter system, the commuters must have USAir's approval prior to initiating service into a new market. Hence, the Allegheny Commuters cannot expand without first clearing it with USAir. Further, if the major carrier determines the markets served by their affiliate regional carrier do not justify service, the major carrier can realign the regional carriers route structure. In most cases, the regional carrier would probably agree with the decision and would in all likelihood have an opportunity to discuss the change with the major carrier prior to withdrawing its service from a market. Nonetheless, it illustrates the amount of control and influence the major carrier can have on the regional carrier. The regional carrier would be well advised to review the potential problems which it may encounter prior to entering into an interline relationship with a major carrier.

In choosing an interline partner, the regional carrier must exercise caution. It may be advantageous for the regional carrier to choose a major carrier which serves a number of hub airports already being served by the regional. This would involve a minimum of risk and adjustment to both carriers. The most desirable partner to the regional carrier would be an aggressive, financially stable major carrier which also has a history of good labor relations. If the major carrier takes a strike, the interlined regional carrier will also be affected. In the

event of a strike, the regional carrier may find that it does not have enough traffic to support its operation. Even the relatively independent Horizon Air connects 50 percent of its passengers to a major carrier. Chautauqua Airlines on the other hand connects 95 percent of its passengers to other carriers. Hence, in most cases, the regional carrier will be significantly effected by a strike.

The financial strength of the major carrier is equally important. If the major carrier encounters financial difficulties to the point of having to withdraw service from some of the markets which the regional carrier is providing feed traffic, the regional carrier may suffer. If the major carrier completely ceases operations, the regional carrier may experience a dramatic drop in traffic due to the loss of the "feed" traffic. Hence, the regional carrier may be left with idle equipment.

Financial Arrangements

The arrangements made with various financial institutions has and will continue to be of concern to the regional carrier. As previously discussed, the airline industry is extremely capital intensive. Currently, regional carriers are acquiring aircraft which may cost in excess of $6.0 million each. In order to secure funds for the acquisition of these aircraft and other equipment, the managers of these airlines must become familiar with and be able to apply and present formal finance packages to the lending institutions from which they are seeking funds. The regional airline industry is becoming more complex and financially sophisticated and therefore, the carriers must be capable of relaying necessary and pertinent financial data to the financial community in a lucid and persuasive fashion.

The regional carrier can prepare itself by being able to supply audited financial statements, proforma financial statements, cash flow analysis and projections. Additional information which would be of benefit to the lending institutions would include background information on the company and its officers, a list of the short and long-term goals of the company, a summary of the proposed purchase outlining the benefits to the carrier and the growth prospects for the region to be served. This information can be of great assistance to the carrier for its own internal use as well as in securing funds. As part of an on-going program, the carrier should also strive to keep in touch with the financial community. This will certainly create goodwill and provide the lender an additional level of comfort in dealing with the carrier.

Two-Letter Designator

The two-letter designator is synonymous with the interline agreement between the major and regional carrier. As discussed, the interlined regional carrier adopts the two-letter designator of its major partner. In doing so, oftentimes the passengers do not realize the flight will be on-board the regional carrier's smaller aircraft. Herein lies the problem. The major carrier's designator may confuse the travel agent or passenger into thinking he/she is purchasing a ticket to board the major's large jet aircraft.

The regional carriers are divided on this issue. The carriers which have interline relationships generally support the two-letter designator issue for the reasons discussed in Section III. Those carriers not involved in an interline relationship are generally opposed. Currently, there is discussion in the industry to compromise

on this issue. The compromise would allow the regional carriers to utilize the two-letter designator provided that the designator is followed by another letter (or two) to distinguish it from the major carrier. The proposed compromise has general acceptance in the industry and therefore its adoption may be expected.

Computer Reservation System

Like the two-letter designator, the computer reservation system (CRS) favors those regional carriers which are interlined with a major carrier which owns and operates a CRS. Currently, the CRS rule allows the carriers which own and operate CRSs to establish fees for the use and penalties for non-on line connections.

The carriers which do not own or which are not associated with a carrier which owns a CRS, are at a competitive disadvantage for two reasons. First, the CRS owners are able to list their flights and their associated regional carrier's flights ahead of other carriers in the computer reservation system. When a passenger requests flight information, the travel agent's information network will display the CRS owner's flights ahead of the other carriers. Thus, there is a greater likelihood the passenger will choose the CRS owner's flight ahead of a non-owner carrier, all things being equal. Secondly, the rule allows the owners to establish fees for the use of the system. In effect, the market is controlled by 5 major carriers.

The non-owners do have an alternative. They can develop their own Computer Reservation System. If this were an easy solution, the non-owner carriers would surely adopt it. Unfortunately, the cost to develop such a system and get it operational severely limits this

alternative. In the near future, the CRS system can be expected to remain biased and expensive. However, industry leaders anticipate a more uniform and fair method of handling this problem will be developed within the coming year.

E. SUMMARY

The regional airline industry was recognized in 1969 as a distinct class of air carrier. Since that time, the number of passengers enplaned has grown steadily and the indications are that this trend will continue into the foreseeable future. Although the number of carriers serving the industry can be expected to level off around the 100 carrier mark, the surviving carriers will prosper and absorb the additional passenger loads left from the carriers which cease operations. These surviving carriers are expected to have several common traits.

First, these regional carriers will have a strong financial base and a financial management approach to business. This orientation is essential due to the capital intensive nature of the industry. Secondly, the carriers will operate fuel efficient aircraft and have a well established maintenance program. Fuel and maintenance costs account for 40 percent of the carriers direct operating costs and therefore represent a significant cost to the regional airline. The carrier can best control these costs by acquiring fuel efficient aircraft and carefully managing the maintenance performed on these aircraft. Thirdly, the regional carriers will acquire aircraft with more seating capacity. The number of passenger seats per aircraft has steadily grown and as the regional carrier develops its markets, a corresponding need for larger aircraft will arise. The regional

carriers are operating more efficiently within their markets as evidenced by the increasing seating capacity and increasing the number of hours the regional carrier's aircraft are flying. Combined, these factors indicate that the regional carrier will continue to move towards the larger aircraft.

Another trait among the successful carriers which will be found is the recognition by the regional carrier of its "niche". Clearly, the successful regional carrier must know where it is going and must understand the markets which it serves. Without this, the regional carrier will not be able to effectively manage the affairs of the operation or direct its future. Finally, the successful regional carrier can be expected to have a relationship with one or more of the major carriers. This relationship can range from an informal arrangement to a formal interline agreement in which the major carrier is able to control the direction of the regional airline. This last item can potentially be the most influencing factor effecting the future of the regional airline industry. Depending upon the interline agreement, the major carrier can dominate and control the activities of the regional carrier. If the major carrier is allowed to do so, the regional carrier would in effect, become dependent upon the major carrier. Therefore, the interline agreement must be carefully negotiated and considered by the regional carrier prior to entering into this arrangement.

Overall, these findings indicate that with respect to the future of the regional airline industry one can be very optimistic. During the next 10 years, the industry will prosper as well as those individuals

who are able to recognize the opportunities within the industry.

EXHIBIT A

TOP 50 REGIONAL AIRLINES IN 1984
(PASSENGERS ENPLANED)

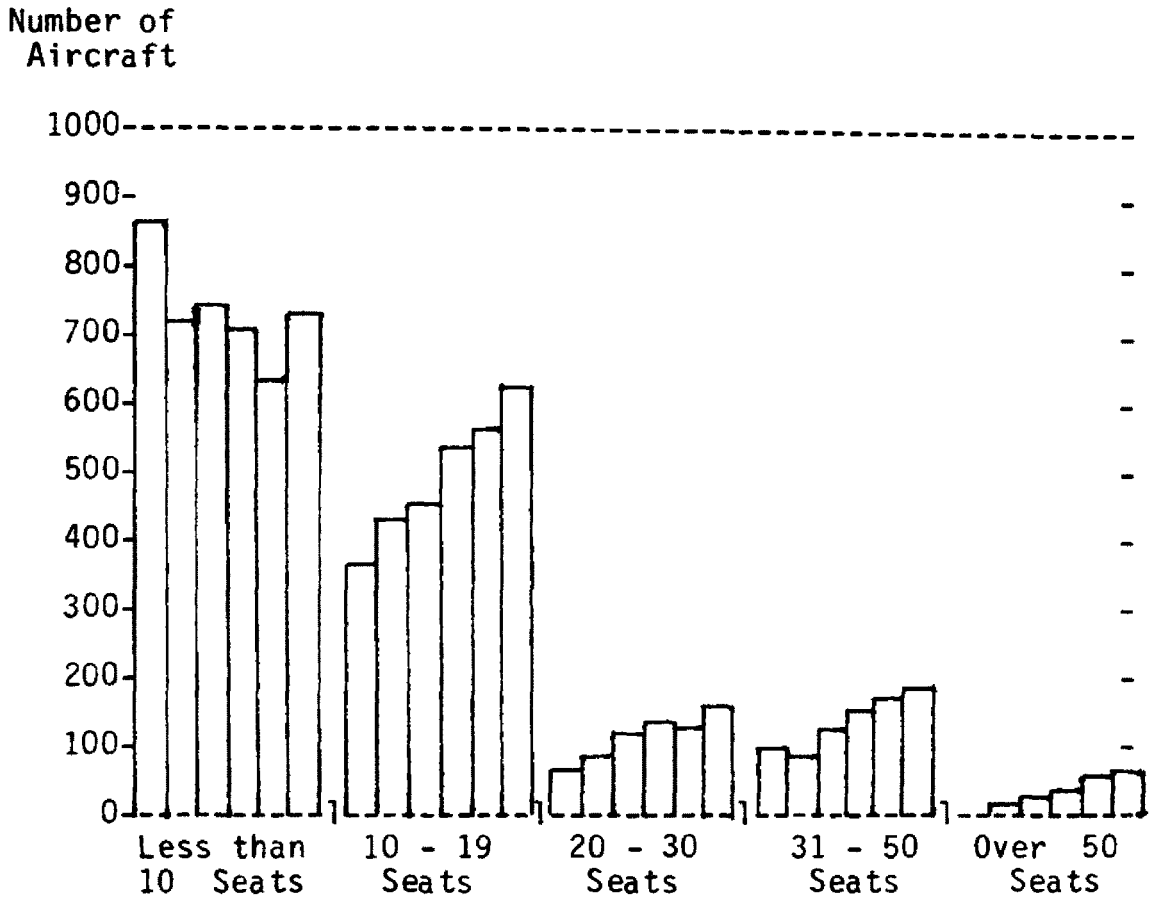
1984 RANK	CARRIER	1984 PASSENGERS
1	Mid Pacific Airlines	1,338,284
2	PBA	1,331,491
3	Britt Airways	1,204,885
4	Air Wisconsin	1,095,000
5	Empire Airlines	1,073,452
6	Metro Airlines	844,839
7	Horizon Airlines	769,625
8	Mississippi Valley Airlines	741,279
9	Henson Airlines	733,536
10	Air Midwest	710,782
11	Skywest/Sun Aire Lines	652,698
12	Atlantic Southeast Airlines	613,900
13	PRINAIR	576,795
14	Ransome Airlines	566,754
15	Rocky Mountain Airways	481,619
16	Pennslyvania Airline	464,462
17	Aspen Airways	443,958
18	Comair	417,601
19	Rio Airways	408,798
20	Royale Airlines	400,361
21	Cascade Airways	389,279
22	Simmons Airlines	376,134
23	Wings West Airlines	360,075
24	Suburban Airlines	346,226
25	Wright Airlines	307,998
26	Imperial Airlines	303,323
27	Pilgrim Airlines	301,406
28	Bar Harbor Airlines	297,875
29	Name withheld by Request	285,000
30	Midstate Airlines	277,413
31	Brockway Air	276,322
32	Chautauqua Airlines	267,091
33	Command Airways	258,585
34	Air Virginia	248,102
35	Gull Air	223,294
36	Frontier Commuter	220,000
37	Crown Airways	211,813
38	Royal Hawaiian Air Service	202,451
39	Fisher Brothers Aviation	192,635
40	Pocono Airlines	191,938
41	Crownair/Dorado Wings	175,000
42	American Central Airlines	174,386
43	Chaparral Airlines	164,834
44	Southern Jersey Airways	161,411

EXHIBIT A

1984 RANK	CARRIER	1984 PASSENGERS	
45	SEAIR Alaska Airlines	146,000	
46	NewAir	142,696	
47	Precision Airlines	140,657	
48	Pacific Coast Airlines	140,063	
49	ERA Helicopters (Alaska Airlines Subcontractor)	140,000	
50	San Juan Airlines	121,406	
	TOTAL ENPLANEMENTS TOP 50 AIRLINES	21,916,000	84%
	TOTAL ENPLANEMENTS ALL OTHER AIRLINES	4,224,000	16%
	TOTAL INDUSTRY ENPLANEMENTS	26,140,000	

EXHIBIT B

NUMBER OF AIRCRAFT BY SEAT CAPACITY
1978 TO 1984



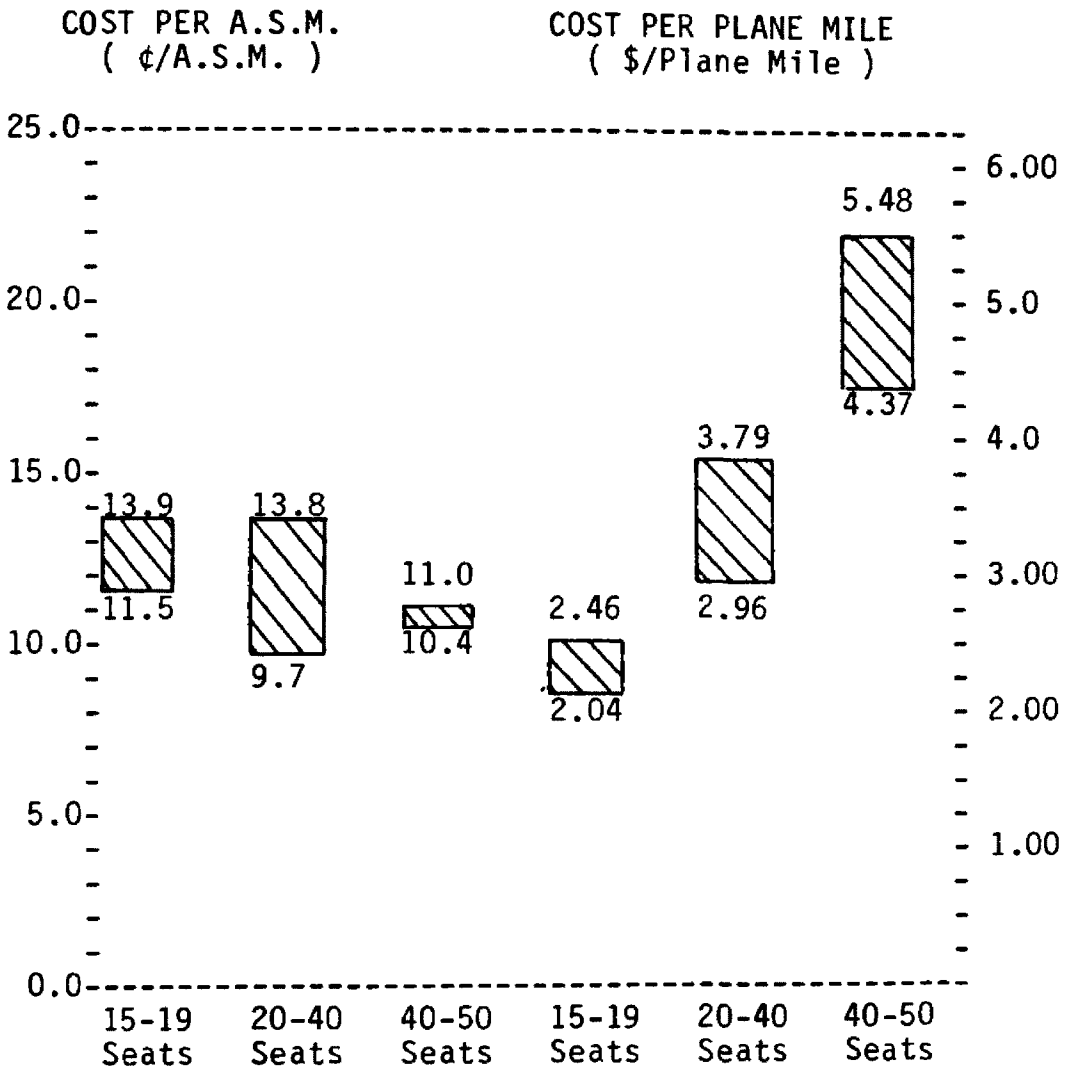
LEGEND (From Left to Right):

1979 1980 1981 1982 1983 1984

SOURCE: REGIONAL AIRLINE ASSOCIATION

EXHIBIT C

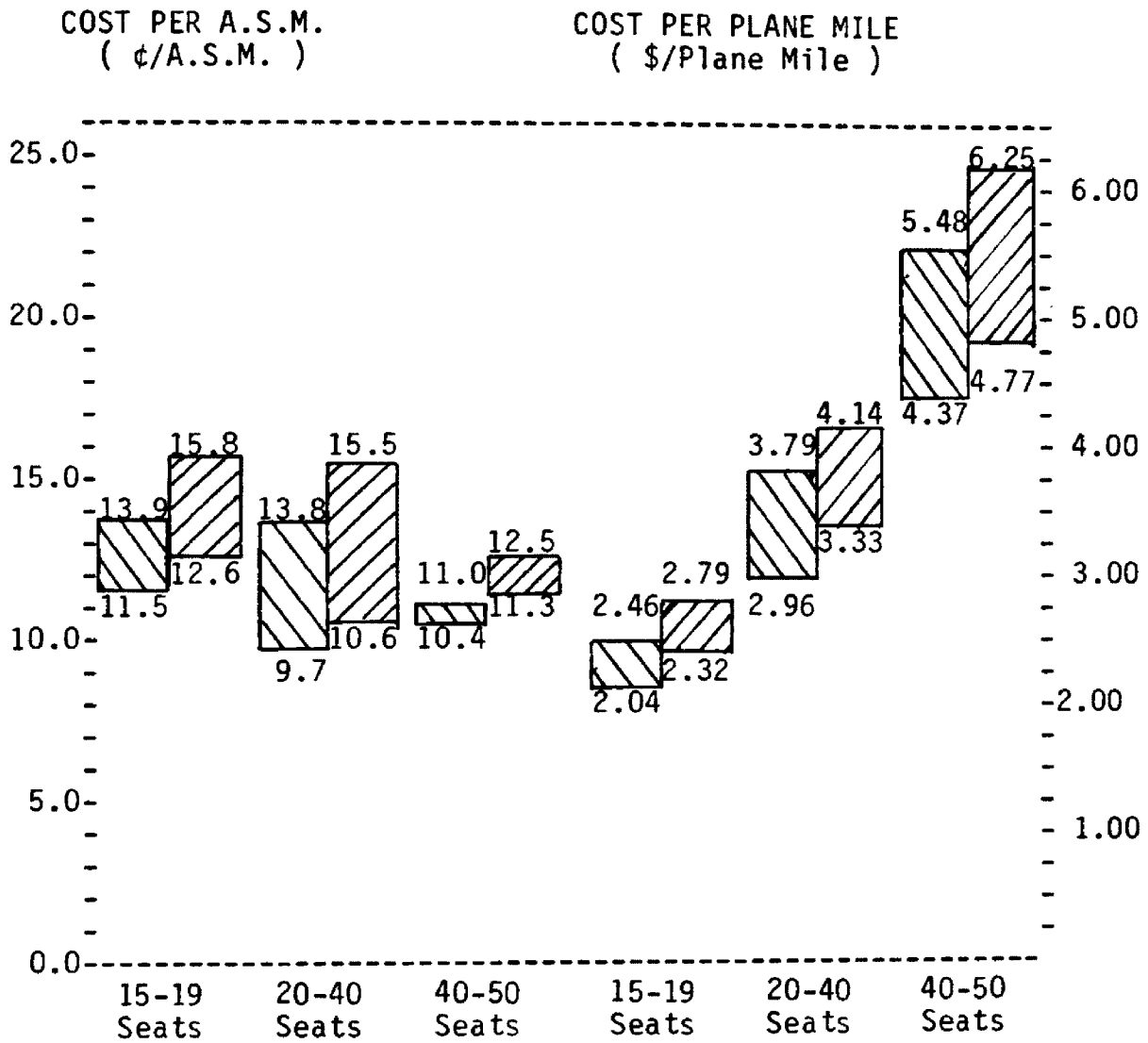
REGIONAL AIRLINER COST
FOR 150 NAUTICAL MILE STAGE LENGTH



SOURCE: AVIATION CONSULTING, INC.

EXHIBIT D

REGIONAL AIRLINER COST
FOR 150 NAUTICAL MILE STAGE LENGTH



LEGEND:

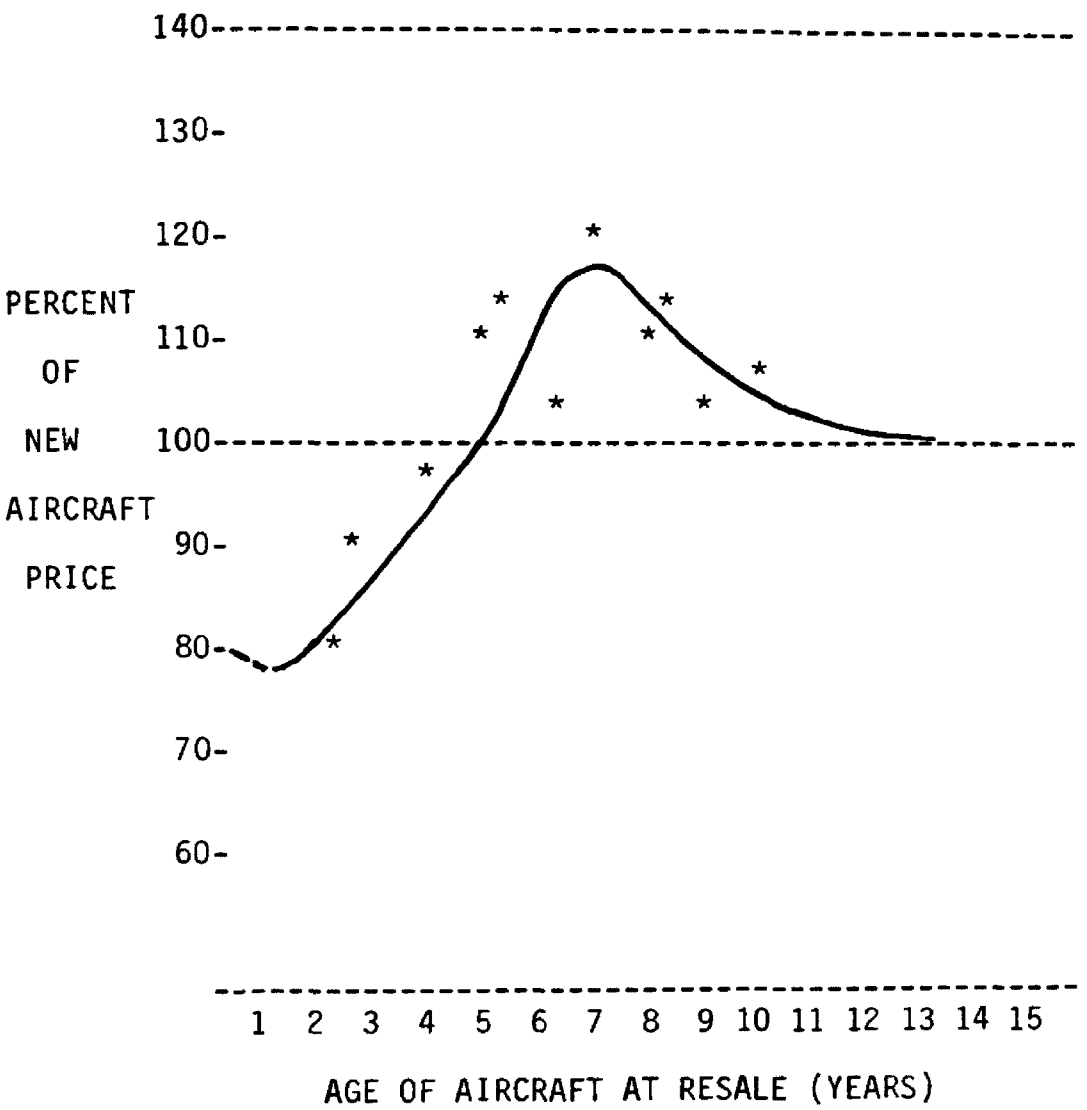
FUEL AT $1.00/GAL

FUEL AT $1.50/GAL.

SOURCE: AVIATION CONSULTING, INC.

EXHIBIT E

RESALE VALUES OF REGIONAL AIRCRAFT



SOURCE: FOKKER AIRCRAFT U.S.A., INC.

FOOTNOTES
REGIONAL AIRLINE INDUSTRY

I. OVERVIEW OF THE INDUSTRY

PG. NO.	FTNOTE NO.	SOURCE:
1	1	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 6.
5	2	Commuter Air Journal Staff, Regional Airlines Connect, Commuter Air Journal, March 1984, p. 18.
5	3	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 9.
6	4	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 9.
6	5	IBID, p. 6.
6	6	IBID, p. 19.
6	7	IBID, p. 8.
7	8	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 8.
7	9	IBID.
7	10	IBID, p. 6.
7	11	IBID.
7	12	IBID, p. 19.
14	13	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 21.
15	14	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 21.

II. AIRCRAFT SERVING THE INDUSTRY

PG. NO.	FTNOTE NO.	SOURCE:
18	1	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 19.

22	2	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 30.
23	3	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 31.
23	4	IBID.
24	5	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 33.
24	6	IBID.
25	7	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 31.
25	8	IBID.
25	9	IBID.
29	10	Fairchild Aircraft Corporation Sales Engineering Department, March 4-8, 1985 and interview with John J. Dugan Jr., Executive Vice President of Aviation Consulting, Inc., February 13, 1985.
30	11	Fairchild Aircraft Corporation Sales Engineering Department, March 4-8, 1985 and interview with John J. Dugan Jr., Executive Vice President of Aviation Consulting, Inc., February 13, 1985.
30	12	IBID.
31	13	Fairchild Aircraft Corporation Sales Engineering Department, March 4-8, 1985 and interview with John J. Dugan Jr., Executive Vice President of Aviation Consulting, Inc., February 13, 1985.
32	14	Interview with John J. Dugan Jr., Executive Vice President of Aviation Consulting, Inc., February 13, 1985.

III. PROBLEMS FACING THE INDUSTRY

PG. NO.	FTNOTE NO.	SOURCE:
36	1	John Constable, Regionals Set New Trends - Going Public, RAA Times, July/August, 1983, p. 6.
36	2	Value Line, January 4, 1985, p. 251, 292 & 305.

36	3	R.W. Carrington, Sophisticated Finance Techniques are Matched by Manufacturer Support, 1984 Airfinance Annual (England-New York) p. 7.
39	4	FAA Office of Management Systems, Statistical Handbook of Aviation, December 31, 1984, National Technical Information Service (Springfield, VA), p. 3-33.
39	5	IBID.
40	6	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 35.
52	7	Stephen L. Smestad, Survey of Public Commuter Airlines, Fairchild Aircraft Corporation, September 30, 1983.
53	8	John Constable, Regionals Set New Trends - Going Public, RAA Times, July/August, 1983, p. 12.
53	9	Stephen L. Smestad, Survey of Public Commuter Airlines, Fairchild Aircraft Corporation, September 30, 1983.
58	10	John Nammack, Interlining Remains Profitable for Commuters, Commuter Air, March, 1984, p. 22.
61	11	Kingsley G. Morse, Relationships With Larger Airlines, Airfinance Conference, Regional/Commuter Airline and Aircraft: Financial Demensions, Washington,D.C., October 3, 1984.
63	12	Kathryn B. Creedy, American Accent, Commuter World, January/February 1985, p. 49.
65	13	RAA Staff, Lorenzo Cites "Feed" as Key Factor for Trunks RAA Times, November/December, 1982 p. 16.
65	14	IBID.
65	15	IBID.
67	16	John Nammack, Interlining Remains Profitable for Commuters, Commuter Air, March, 1984, p. 22.
68	17	IBID.
68	18	Kathryn B. Creedy, American Accent, Commuter World, January/February 1985, p. 48.
68	19	IBID.
69	20	Kathryn B. Creedy, American Accent, Commuter World, January/February 1985, p. 48.

69	21	IBID.
70	22	RAA Staff, CRS Rule Could Cost Industry $38 Million, RAA Times, September/October 1984, p. 20.

IV. STRATEGIES OF REGIONAL AIRLINES

PG. NO.	FTNOTE NO.	SOURCE:
72	1	Fairchild Aircraft Corporation Sales Engineering and Market Research Department, March 4-8, 1985.
72	2	IBID.
75	3	Civil Aeronautics Board, Air Carrier Industry Scheduled Service Traffic Statistics, Medium Regional Air Carrier details, 12 Month period ending December, 1983, National Technical Information Service (Springfield, VA), p.3-33.
77	4	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 6.
80	5	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 8.
80	6	Timothy Coon, Controller, Chautauqua Airlines, Interview with S. Smestad, March 12, 1985.
80	7	IBID.
81	8	Joel Hall, President, Chautauqua Airlines, Interview with S. Smestad, March 13, 1985.
81	9	Joel Hall, President, Chautauqua Airlines, Interview with S. Smestad, March 13, 1985.
81	10	Timothy Coon, Controller, Chautauqua Airlines, Interview with S. Smestad, March 12, 1985.
81	11	Joel Hall, President, Chautauqua Airlines, Interview, with S. Smestad, March 13, 1985.
82	12	Timothy Coon, Controller, Chautauqua Airlines, Interview with S. Smestad, March 12, 1985.
82	13	Joel Hall, President, Chautauqua Airlines, Interview, with S. Smestad, March 13, 1985.
83	14	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 8.

83	15	IBID.
83	16	IBID.
83	17	Milton G. Kuolt II, President, Horizon Air Industries, Inc., Interview with S. Smestad, March 23, 1985.
83	18	IBID.
84	19	George Bagley, Vice President of Horizon Air Industries, Inc., Interview with S. Smestad, March 23, 1985.
85	20	Milton G. Kuolt II, President, Horizon Air Industries, Inc., Interview with S. Smestad, March 23, 1985.
85	21	George Bagley, Vice President of Horizon Air Industries, Inc., Interview with S. Smestad, March 23, 1985.
85	22	IBID.
86	23	Milton G. Kuolt II, President, Horizon Air Industries, Inc., Interview with S. Smestad, March 23, 1985.
86	24	IBID.
87	25	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 6 and Arthur Thomas, General Counsel, Horizon Air Industries, Inc., Interview with S. Smestad, March 25, 1985.

V. FUTURE OF THE REGIONAL AIRLINE INDUSTRY

PG. NO.	FTNOTE NO.	SOURCE:
89	1	Samuel C. Colwell, Worldwide Market Outlook for Turboprop Aircraft Sales, Fairchild Industries, Inc., February 15, 1985.
90	2	Gene Mercer, FAA Aviation Forecasts, Fiscal Years 1985 - 1996, Department of Transportation, FAA Report Number FAA-APO-85-2, National Technical Information Service (Springfield, VA), p. 14-30; and Samuel C. Colwell, Worldwide Market Outlook for Turboprop Aircraft Sales, Fairchild Industries, Inc., February 15, 1985.
90	3	Regional Airline Association, 1985 Annual Report of the Regional Airline Industry, (Washingtion, D.C.), p. 19; Gene Mercer, FAA Aviation Forecasts, Fiscal Years 1985 - 1996, Department of Transportation, FAA Report Number FAA-APO-85-2, National Technical Information Service

(Springfield, VA), p. 14-30; and Samuel C. Colwell, Worldwide Market Outlook for Turboprop Aircraft Sales, Fairchild Industries, Inc., February 15, 1985.

91 4 Samuel C. Colwell, Worldwide Market Outlook for Turboprop Aircraft Sales, Fairchild Industries, Inc., February 15, 1985.

91 5 IBID.

91 6 Aviation Week and Space Technology Staff, Critics Question Government's Aviation Role, Aviation Week and Space Technology, February 25, 1985, p. 36.

93 7 FAA Statistcal Analysis Branch, Statistical Handbook of Aviation, December 31, 1984, National Technical Information Service (Springfield, VA), p. 3-33.

95 8 Carole A. Shifrin, Larger Regional Carriers Will Extend Growth Trend in 1985, Aviation Week and Space Technology March 18, 1985, p. 218.

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3. Civil Aeronautics Board. "Air Carrier Industry Scheduled Service Traffic Statistics, Medium Regional Air Carriers, Details, 12 month period ending December, 1983". National Technical Information Service. Springfield, VA.

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14. RAA Times Staff. "CRS Rule Could Cost Industry $38 Million". RAA Times, September/October, 1984.

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16. Regional Airline Association. "1985 Annual Report of the Regional Airline Industry. Regional Airline Association. Washington, D.C.

17. Shifrin, Carole A. "Larger Regional Carriers Will Extend Growth Trend in 1985." Aviation Week and Space Technology, March 18, 1985.

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Bagley, George.	Vice President, Horizon Air Industries, Inc. March 23, 1985.
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