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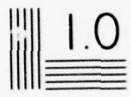
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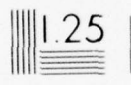




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Forecasts of Commuter Airlines Activity

JULY 1977



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Office of Aviation Policy
Washington, D.C. 20591

Technical Report Documentation Page

1. Report No. 14) FAA-AVP-77-28 ✓	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle 6) Forecast of Commuter Airlines Activity.		5. Report Date 11) July 1977	6. Performing Organization Code
7. Author 10) Gerald/Deosaran, Henry/Sweezy Regina/Van Duzee (FAA)		8. Performing Organization Report No.	
9. Performing Organization Name and Address Systems Analysis and Research Corporation 1801 K Street, N.W. Washington, D.C. 20006		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address Department of Transportation Federal Aviation Administration 800 Independence Avenue, S.W. Washington, D.C. 20006		13. Type of Report and Period Covered 9) Aviation Activity Forecast 1977-1988,	
14. Sponsoring Agency Code			
15. Supplementary Notes 12) 142p.			
16. Abstract → This report assesses the potential of the commuter airline industry including the identification of those short-haul low-density points that are likely prospects for future commuter service. The first section provides a national forecast of commuter airline enplanements, revenue passenger miles, number of aircraft operations and composition of fleet for 1975 to 1988. The second part of the report describes a model developed to disaggregate the activity forecast to individual points with existing service or anticipated future service, and provides forecasts for those points. ↑			
17. Key Words Aviation Activity Commuter Airlines, Federal Aviation Administration		18. Distribution Statement This report is available to the public through the National Technical Information Service, Springfield, Virginia 22151	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

FAA-AVP-77-28

Forecasts of Commuter Airlines Activity

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I. EXECUTIVE SUMMARY

A. Objective

In order to assist the Aviation Forecast Branch in its annual projections of commuter activity, this study seeks to develop a forecast methodology, using econometric models where feasible, to be used in estimating the following items for a ten year period:^{1/}

- Enplaned passengers
- Revenue passenger miles
- Aircraft fleet and mix
- Operations

This includes a national forecast and individual terminal area forecasts for those airports which appear in the FAA terminal area forecast publication.^{2/}

Basically, the study assesses the potential of the industry including the identification of those short-haul low-density points that are likely prospects for future commuter service either because of suspension of service by a certificated air carrier or due to socioeconomic development.

B. Findings

1. National

a. Passenger enplanements.

For the contiguous 48 states, commuter air carrier passenger enplanements are expected to total 12.2 million by FY 1988.

^{1/} As agreed with the project's designated Technical Officer, the forecast period selected is Fiscal Year 1988. This coincides with the FAA's current forecasts of other aviation activities.

^{2/} Issued annually in September.

This comprises 10 million enplanements at existing points, plus an additional 2.2 million enplanements from potential future points. The overall total of 12.2 million enplanements represents an average annual rate of growth from 1975 of 7.6 percent. The forecast is based on the projected relationship between commuter enplanements and domestic certificated enplanements for existing points, plus computed values from econometric models for the new points.

b. Revenue passenger miles.

In FY 1988, commuter air carrier passengers are projected to fly a total of 1,540.0 million passenger miles. This computation is the product of the 12.2 million passenger enplanements forecast times a projected average trip length of 126.4 miles.

c. Aircraft fleet and mix.

Based on the forecast revenue passenger miles and average load together with projected rates of speed and utilization, the fleet in mainland passenger service in 1988 should number 830 aircraft. Of these, 790 (about 95%) will be multi-engine piston and turbine-powered aircraft. This estimate of the fleet also includes aircraft required to serve the new points.

d. Operations.

Total operations are computed from the forecast of enplaned passengers and a projected average boarding factor. The forecast is for a total of 4,352,600 operations (takeoffs plus landings) in 1988.

2. Individual Points.

a. Selection and Grouping.

All points receiving commuter service in 1975 were grouped as follows:

- i. Hubs (CAB/FAA classification).
- ii. Non-Hubs (over 1,000 enplanements).
- iii. Special areas.
- iv. Small points (under 1,000 enplanements).

b. Approach.

A predictive formula for passenger enplanements was constructed for each group (or sub-group as appropriate). Estimates of passenger miles and operations were then derived through extension of the basic models.

c. The Models.

Given below are the basic models constructed for group ii. above. (This group is felt to be most indicative of the typical commuter point and the model can be applied to those points identified as having potential for future commuter service).

Selected for inclusion in the model were those non-hub points (excluding special areas) which enplaned at least 1,000 commuter passengers in 1975. The points were then grouped into four community classifications and two service categories. Through regression analysis the following models were formulated and are used to validate the groupings of cities and to predict traffic generation at new service points.

Service By Commuters Exclusively

Institutional $Y_1 = -7.425 + 0.1413X$

Agricultural $Y_1 = -3.615 + 0.0812X$

Industrial $Y_1 = 0.099 + 0.0498X$

Recreational $Y_1 = 0.038 + 0.1080X$

Service By Commuters And Certificated Carriers

Institutional $Y_2 = 21.897 + 0.0414X$

Agricultural $Y_2 = 5.540 + 0.0802X$

Industrial $Y_2 = -2.666 + 0.1025X$

where Y_1 = Commuter passengers enplaned

Y_2 = Total passengers enplaned (commuter and certificated)

X = Economic/Isolation Index (constructed from population, income and driving time to nearest Air Service Center).

C. Potential Future Points

Two groups of points were identified as having potential for commuter operations:

1. One hundred and ten points currently served by certificated carriers but which averaged less than 40 enplanements daily in FY 1976. Of these 12 are served by Air Midwest and Air New England. Of the remaining 98 points, 24 were also served by commuter carriers in 1975. This leaves a potential transition of 74 additional points.

2. Seven hundred and sixty communities not receiving scheduled service but which have a population base deemed sufficient to support commuter service. The overwhelming majority of these, however, are subdivisions of larger urban centers or relatively close to existing service points. Of the 760 communities, 50 points were considered to have the socioeconomic base and degree of isolation to attract commuter service.

The maximum potential number of new commuter points, then, is approximately 124. It should be noted that these represent new service points. There is also the added potential of new markets from existing points.

The attached summaries present the national forecasts (48 states) plus Puerto Rico through 1988.

COMMUTER CARRIERS
NATIONAL FORECAST^{1/}

Passenger Enplanements (000)

	<u>Current</u> <u>Points</u>	<u>Transfers</u> ^{2/}	<u>New</u> ^{3/} <u>Points</u>	<u>Sub</u> <u>Total</u>	<u>Puerto</u> <u>Rico</u>	<u>Total</u>
1975	4,708.2	-	-	4,708.2	861.2	5,569.4
1976	4,975.1	-	-	4,975.1	908.7	5,883.8
1977	5,467.2	-	-	5,467.2	958.7	6,425.9
1978	5,712.0	-	-	5,712.0	1,011.6	6,723.6
1979	6,063.9	95.2	124.2	6,283.3	1,067.4	7,350.7
1980	6,510.2	196.8	258.2	6,965.2	1,126.2	8,091.4
1981	6,971.7	305.1	402.4	7,679.2	1,188.4	8,867.6
1982	7,323.6	420.4	615.0	8,359.0	1,253.5	9,612.5
1983	7,726.5	543.1	723.8	8,993.4	1,322.1	10,315.5
1984	8,205.9	673.6	752.0	9,631.5	1,394.5	11,026.0
1985	8,647.1	812.1	781.4	10,240.6	1,470.9	11,711.5
1986	9,075.5	959.2	811.8	10,846.5	1,551.5	12,398.0
1987	9,511.5	1,115.3	843.4	11,470.2	1,636.4	13,106.6
1988	10,026.6	1,280.8	876.2	12,183.6	1,726.2	13,909.8

^{1/} 48 Contiguous States plus Puerto Rico.

^{2/} Based on 74 mainland certificated cities enplaning less than 40 passengers daily. These cities were grouped in the same categories used for existing exclusive commuter points and the corresponding models used to derive estimates of enplanements at these new points. The estimates were then doubled to represent enplanements at the corresponding hubs, and phased in over five years beginning in 1979.

^{3/} Based on 50 potential new mainland service points. The forecast methodology is similar to that used for the transfer points, but the phase-in period is ten years.

COMMUTER CARRIERS
NATIONAL FORECAST

Passenger Miles (Millions)

	Current Points	Transfers ^{1/}	New ^{1/} Points	Sub Total	Puerto Rico	Total
1975	542.9	-	-	542.9	55.6	598.5
1976	575.1	-	-	575.1	58.7	633.8
1977	636.9	-	-	636.9	61.9	698.8
1978	670.6	-	-	670.6	65.3	735.9
1979	717.4	11.3	14.7	743.4	69.0	812.4
1980	776.0	23.5	30.8	830.3	72.8	903.1
1981	837.3	36.6	48.3	922.2	76.8	999.0
1982	886.2	50.9	74.4	1,011.5	81.0	1,092.5
1983	941.9	66.2	88.2	1,096.3	85.4	1,181.7
1984	1,007.7	82.7	92.3	1,182.7	90.1	1,272.8
1985	1,069.6	100.5	96.7	1,266.8	95.0	1,361.8
1986	1,130.8	119.5	101.2	1,351.5	100.2	1,451.7
1987	1,193.6	140.0	105.8	1,439.4	105.7	1,545.1
1988	1,267.4	161.9	110.8	1,540.1	111.5	1,651.6

SUMMARY
Page 2 of 3

^{1/} Based on same average trip lengths as for current points.

COMMUTER CARRIERS
NATIONAL FORECAST

Aircraft Operations (000)

	<u>Current</u> <u>Points</u> <u>1/</u>	<u>Transfers</u> <u>2/</u>	<u>New</u> <u>Points</u> <u>2/</u>	<u>Sub</u> <u>Total</u>	<u>Puerto</u> <u>Rico</u>	<u>Total</u>
1975	1,930.0	-	-	1,930.0	254.9	2,184.9
1976	2,006.1	-	-	2,006.1	269.0	2,275.1
1977	2,169.5	-	-	2,169.5	283.8	2,453.3
1978	2,231.3	-	-	2,231.3	299.5	2,530.8
1979	2,332.3	51.5	67.1	2,450.9	316.0	2,766.9
1980	2,466.0	104.7	137.3	2,708.0	333.4	3,041.4
1981	2,601.4	159.7	210.7	2,971.8	351.9	3,323.7
1982	2,682.6	216.7	317.0	3,216.3	375.6	3,591.9
1983	2,789.4	275.7	367.4	3,432.5	396.1	3,828.6
1984	2,909.9	335.1	374.1	3,619.1	412.9	4,032.0
1985	3,023.5	399.1	384.0	3,806.6	435.5	4,242.1
1986	3,118.7	463.4	392.2	3,974.3	459.3	4,433.6
1987	3,224.2	531.1	401.6	4,156.9	484.5	4,641.4
1988	3,342.2	600.0	410.4	4,352.6	511.1	4,863.7

1/ Based on a boarding factor of 4.8 in 1975 increasing to 6.0 in 1988.

2/ Based on a boarding factor of 3.7 in 1975 increasing to 4.3 in 1988.

II. BACKGROUND

A. Small Community Service -- Historical Transition

In its formative years, the U.S. air transportation system consisted of a group of trunk carriers making transcontinental flights in a series of short hops. As the original trunk carriers grew and the capabilities of their aircraft improved, they concentrated services in the long-haul routes, limiting and in some cases even reversing expansion to smaller communities. A group of airlines, later designated local service carriers by the Civil Aeronautics Board (CAB), started operating to those low density short-haul points. The early local service fleets were dominated by the DC-3 because it was available at low cost after World War II and there was a labor pool of experienced mechanics and pilots. During the mid-fifties, the DC-3's were phased out as the locals began to acquire used equipment in the 40-50 passenger range in addition to the new 40-seat Fairchild F-27 turboprop.

In the mid-60's, as larger, more efficient jet equipment became available, the local service carriers, seeing the cost and service advantages, moved to equip their fleets with turbine aircraft. But the DC-9's and B-737's developed for the short-haul market also contained more seats. Those low density points that might provide sufficient load factors to support a Convair or Fairchild 227, would not provide a breakeven load factor on the larger craft despite their efficiency. In addition, once the move to jets was well underway, commonality of fleet

became an important factor and the local service carriers proceeded to eliminate the older turboprop aircraft from their fleet.

During the latter half of the sixties, two aircraft, well tailored to the small community market emerged. They were the 20-passenger De Havilland Twin Otter (DCH-6) and the 15-passenger Beechcraft Airliner (B-99) which soon began to dominate the market for modern commuter carrier aircraft with fifteen or more seats. Eventually, a series of certificated carrier suspension/air taxi substitutions were authorized by the CAB.

Uncertificated air carriers have long conducted extensive operations with small aircraft. Operating under Part 298 of the Board's Regulations, the carriers basically provided air transportation on a demand basis, hence the name "air taxi." Most commuter carriers have evolved from those unscheduled air taxi operators. In 1969, the CAB established commuter air carriers as a sub-classification of air taxi operators. A commuter was defined as a carrier that offers at least 5 regularly scheduled round trips a week and operates aircraft carrying a minimum of 30 passengers or a 7500 pound payload.

From its beginnings after World War II until about 1965 the commuter carrier industry grew slowly. The ensuing introduction of new commuter aircraft, such as the B-99 and Twin Otter, together with the rapid growth of airline traffic in the

late sixties, made possible the huge expansion of commuter carrier operations which has taken place since then.

B. Survey Of The National Data (48 Contiguous States)

Commuter Passenger Enplanements

In 1975, 130 commuter carriers conducted passenger operations in the forty-eight contiguous states and the District of Columbia. Of the 130 carriers, 17 enplaned more than 100,000 passengers and accounted for 59 percent of the total. The top 50 carriers enplaned 93 percent of the passengers (Table 1).

Mainland operations were conducted at 423 points. However, one-third of the points served enplaned less than 1,000 passengers and accounted for less than 1 percent of the total (Table 2). Five states (California, Pennsylvania, Florida, Texas and New York) accounted for 55 percent of the total commuter enplanements. On the other hand, these same states showed only 37 percent of the certificated domestic enplanements (Table 3).

Between 1970 and 1975 total commuter enplanements in mainland service increased from 2.5 to 4.6 million^{1/} for an average annual growth of 13.4 percent (Table 4). Most of this increase, however, took place between 1971 and 1974 when the average growth rate was 19.0 percent.

^{1/} 1975 excludes Air New England which was reclassified by the CAB as a certificated carrier.

TOP FIFTY COMMUTER CARRIERS
PASSENGER ENPLANEMENTS
MAINLAND STATES - 1975

Rank	Code	Name	Passengers	Passenger Miles (000)
1	GLW	Golden West	317,848	16,329.0
2	RAN	Ransome	292,074	34,373.7
3	MTR	Metro	233,352	16,504.0
4	WIS	Air Wisconsin	207,740	30,602.3
5	RIO	Rio	172,038	20,771.8
6	HRZ	Pennsylvania Commuter	153,838	14,975.8
7	HNA	Henson	142,356	10,399.9
8	PBA	Provincetown	136,420	14,354.8
9	CAZ	Air Catalina	132,354	3,632.8
10	AAR	Altair	129,054	17,638.4
11	SBN	Suburban	127,590	9,493.7
12	CCD	Cascade	126,748	20,925.0
13	VER	Vercoa	121,784	17,817.8
14	JCZ	Rocky Mountain	114,118	12,986.5
15	RZZ	Aeromech	109,110	10,044.6
16	FDA	Florida	101,840	11,899.8
17	HSZ	Scenic	101,400	17,857.1
18	SWT	Swift	98,350	16,460.6
19	ANO	Air North	98,012	11,506.8
20	PMT	Pilgrim	91,668	10,739.9
21	MAC ^{1/}	Mackey	80,601	14,658.3
22	CMD	Command	78,346	9,078.8
23	AVZ	Atlantic City	67,100	3,304.9
24	RAY	Royal	66,066	9,001.1
25	CPA	Capitol	60,290	4,812.9
26	MIS	Midstate	55,590	11,257.8
27	QOZ	Bar Harbor	52,066	9,163.4
28	AAT	Air Sunshine	50,452	6,779.7
29	MRC	Marco Island	50,364	4,532.0
30	CHA	Chautauqua	50,334	5,477.0
31	SLZ	Southeast	47,122	5,481.2
32	CRA	Commuter	46,704	9,326.8
33	ASO	Air South	45,982	11,152.7
34	KEE	Sun Valley	44,838	8,061.8
35	POC	Pocono	43,036	5,019.2

TOP FIFTY COMMUTER CARRIERS
PASSENGER ENPLANEMENTS
MAINLAND STATES - 1975

<u>Rank</u>	<u>Code</u>	<u>Name</u>	<u>Passengers</u>	<u>Passenger Miles (000)</u>
36	AMW	Air Midwest	42,652	8,778.2
37	CRO	Crown	40,244	3,057.4
38	MVA	Mississippi Valley	37,894	6,781.5
39	TSA	Sierra Pacific	36,764	8,385.4
40	ILL	Air Illinois	35,902	4,002.2
41	CAT	Catalina	35,694	1,141.4
42	DVA	Davis	34,470	5,004.5
43	STL	Stol	34,358	2,002.6
44	OAK	Oak Harbor	31,508	2,445.9
45	EXA	Execuair	29,344	4,453.9
46	MMH	Monmouth	27,230	3,357.2
47	SKM	Skyways	26,374	3,624.3
48	SNE ^{2/}	Shawnee	24,884	3,986.3
49	COC	Cochise	24,484	3,887.6
50	GCS	Galion	23,638	1,361.2
		Sub Total (50)	4,332,025 ^{2/}	498,691.5
		Other Carriers (80)	308,912 ^{2/}	36,429.7
		Total (130)	4,640,937 ^{2/}	535,121.2

NOTE: Rank is based on passenger enplanements.

^{1/} Denotes mainland enplanements only. (Carrier also had enplanements in the Bahamas.)

^{2/} Before adjustment for unreported data.

SOURCE: CAB, Form 298.

COMMUTER PASSENGER ENPLANEMENTS
MAINLAND STATES - 1975

	Under 1,000 Passengers		Over 1,000 Psgrs.		Total		Percent Of Total Psgrs.
	Points	Psgs.	Points	Psgs.	Points	Psgs.	
Alabama	-	-	1	1,198	1	1,198	-
Arizona	4	899	9	71,231	13	72,130	1.5
Arkansas	-	-	5	30,803	5	30,803	0.7
California	15	5,825	33	712,585	48	718,789	15.3
Colorado	5	1,815	5	122,974	10	124,789	2.7
Connecticut	-	-	4	71,552	4	71,552	1.5
Delaware	2	968	1	6,358	3	7,326	0.2
District of Columbia	-	-	2	187,210	2	187,210	4.0
Florida	1	8	17	482,638	18	482,646	10.2
Georgia	1	672	2	40,521	3	41,193	0.9
Idaho	4	177	3	31,888	7	32,065	0.7
Illinois	2	284	6	167,743	8	168,027	3.6
Indiana	2	868	8	77,765	10	78,633	1.7
Iowa	-	-	6	17,342	6	17,342	0.4
Kansas	3	2,089	11	71,781	14	73,870	1.6
Kentucky	-	-	4	15,858	4	15,858	0.3
Louisiana	1	314	7	83,528	8	83,842	1.8
Maine	-	-	6	43,816	6	43,816	0.9
Maryland	1	588	6	113,355	7	113,943	2.4
Massachusetts	1	509	6	88,197	7	88,706	1.9
Michigan	1	980	2	6,039	3	7,019	0.1
Minnesota	1	512	5	26,350	6	26,862	0.6
Mississippi	6	1,686	3	11,119	9	12,805	0.3
Missouri	3	1,466	4	76,940	7	78,406	1.7
Montana	1	248	-	-	-	248	-

TABLE 2
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COMMUTER PASSENGER ENPLANEMENTS
MAINLAND STATES - 1975

	Under 1,000 Passengers		Over 1,000 Psgrs.		Total		Percent Of Total Psgrs.
	Points	Psgs.	Points	Psgs.	Points	Psgs.	
Nevada	4	306	4	61,927	8	62,233	1.3
Nebraska	-	-	-	-	-	-	-
New Hampshire	2	365	-	-	2	364	-
New Jersey	2	688	5	108,630	7	109,318	2.3
New Mexico	1	427	3	25,404	4	25,831	0.5
New York	3	2,017	20	298,522	23	300,539	6.4
North Carolina	6	2,511	4	13,693	10	16,204	0.3
North Dakota	-	-	-	-	-	-	-
Ohio	1	872	3	24,002	4	24,874	0.5
Oklahoma	3	1,888	1	2,371	4	4,259	0.1
Oregon	1	432	7	35,170	8	35,602	0.8
Pennsylvania	2	472	15	644,709	17	645,181	13.7
Rhode Island	-	-	4	21,238	4	21,238	0.5
South Carolina	1	819	3	12,706	4	13,525	0.3
South Dakota	1	124	-	-	1	124	-
Tennessee	5	1,760	3	10,079	8	11,839	0.3
Texas	1	88	17	449,006	18	449,094	9.5
Utah	10	1,505	4	30,782	14	32,287	0.7
Vermont	-	-	2	12,463	2	12,463	0.3
Virginia	2	968	6	33,237	8	34,205	0.7
Washington	5	1,596	13	187,158	18	188,754	4.0
West Virginia	1	56	4	58,562	5	58,618	1.2
Wisconsin	2	768	11	76,249	13	77,017	1.6
Wyoming	6	955	2	4,659	8	5,614	0.1
Total	113	38,524	287	4,669,737	400	4,708,261	

TABLE 2
Page 2 of 2

SOURCE: CAB Data Tapes of Commuter Air Carriers' Statistics.

COMPARISON BETWEEN
COMMUTER AND CERTIFICATED PASSENGERS ENPLANED
IN TOP COMMUTER STATES
1975^{1/}

	Commuter		Certificated		Ratio ^{2/}
	Passengers ^{4/}	Percent	Passengers	Percent	
California	718,789	15.3	18,259,512	10.4	39.4
Pennsylvania	645,181	13.7	7,311,745	4.2	88.2
Florida	482,646	10.3	11,899,612	6.8	40.6
Texas	449,094	9.5	12,509,238	7.1	35.9
New York	300,539	6.4	14,484,648	8.3	20.7
Sub Total	2,596,249	55.2	64,464,755	36.8	40.3
Washington	188,754	4.0	3,490,972	2.0	54.1
District of Columbia	187,210	4.0	6,103,702	3.5	30.7
Illinois	168,027	3.6	16,367,368	9.4	10.3
Colorado	124,789	2.7	5,864,860	3.4	21.3
Maryland	113,943	2.4	1,226,311	0.7	92.9
Sub Total	782,723	16.7	33,053,213	19.0	23.7
Other States	1,329,289	28.1	77,440,330	44.2	17.2
Total ^{3/}	4,708,261	100.0	174,958,298	100.0	26.9

^{1/} Commuter passengers are for CY 1975 (CAB Data Tapes). Certificated passengers are for FY 1975 (CAB/FAA Airport Activity Statistics).

^{2/} Commuter passengers per 1,000 certificated passengers.

^{3/} 48 states and the District of Columbia.

^{4/} Includes estimates for unreported traffic.

HISTORICAL COMMUTER ACTIVITY
MAINLAND PASSENGERS AND PASSENGER MILES

	<u>Enplaned Passengers</u>		
	<u>Total</u>	<u>Non-Mainland</u>	<u>Mainland</u>
1970	3,689,832	1,218,095	2,471,737
1971	4,109,464	1,458,307	2,651,157
1972	4,857,404	1,745,133	3,112,271
1973	5,326,650	1,695,309	3,631,341
1974	6,331,754	1,864,424	4,467,330
1975	6,486,626	1,827,689	4,640,937

	<u>Passenger Miles</u>		
	1970	355,039,200	83,520,100
1971	399,420,100	102,596,900	296,823,200
1972	477,113,400	124,944,500	352,168,900
1973	524,734,300	122,563,500	402,170,800
1974	644,419,000	134,769,300	509,649,700
1975	673,165,400	138,044,200	535,121,200

	<u>Average Trip Length</u>		
	1970	96.2	68.6
1971	97.2	70.4	112.0
1972	98.2	71.6	113.2
1973	98.5	72.3	110.7
1974	101.8	72.3	114.1
1975	104.1	75.5	115.3

SOURCE: CAB, Part 298, Schedule T-1.

III. THE DATA

A. Basic Data

Data on commuter activity were obtained from schedules filed by the carriers under Part 298 of the CAB's regulations:

Traffic - Schedule T-1.
Operations and Equipment - Schedules A-1 and T-2.

These schedules were introduced for the third quarter of 1969.^{1/} The study uses calendar year data for the six-year period 1970-1975 to coincide with the availability of other data in the correlation analysis.

There are certain limitations to the data. Because of the multitude and variety of carriers reporting, together with unfamiliarity with the reporting requirement, various omissions have been observed. A preliminary tabulation of the data by city by carrier showed the lack of completeness and/or continuity. For the base year (1975), estimates were inserted for the obvious omissions in order to obtain a sounder base for purposes of projection. Fortunately, the reporting by the larger carriers appeared to be complete, and these accounted for the bulk of the traffic. Nevertheless, while the smaller carriers accounted for only a minor portion of the overall traffic, their impact at individual points was significant. Appendix A lists the basic data (as adjusted) for each point grouped by state and FAA Region.

^{1/} In 1969 the Board established a sub-classification of air taxi operators, the "commuter air carriers". Under the regulation, the carriers must register with the Board and report basic traffic and operating statistics.

B. Explanatory Variables

Air Service Centers

The determination of Air Service Centers was based on the CAB/FAA publication "Airport Activity Statistics of Certificated Route air Carriers" for the twelve months ended December 31, 1975.

All points classified as hubs (large, medium and small) were considered to be Air Service Centers. In addition, other points were included if they had more than 2,500 annual departures. In some cases, where the point did not quite meet the 2,500 departures qualification, it was nevertheless included if total enplanements exceeded 25,000.

The Air Service Centers thus identified numbered 217.

Actual Driving Time

For each commuter point, the Air Service Center was identified and the driving time (in minutes) to its airport was computed. The Air Service Center associated with each commuter point is not necessarily the closest, but rather the point which logically fits into the directional flow of traffic.

Critical Driving Time

This statistic was derived based on a methodology used in a Civil Aeronautics Board study.^{2/} It is comprised of two measures:

Frequency delay time: one-half the average time between departures based on a twelve-hour day.

Total access time: held constant at 140 minutes. This is the sum of two time factors, a 90-minute standard driving time ^{3/} plus an average frequency delay time of 50 minutes ^{4/}.

Critical Driving Time was then computed as the difference between these two measures. For example, if the Air Service Center had 3,650 departures, the critical driving time is:

$$140 - \frac{12 \times 60 \times 365}{2 \times 3,650} \text{ minutes}$$

$$\text{CDT} = 104 \text{ minutes}$$

Isolation

Community isolation was determined based on two concepts:

- a. Actual surface driving time required to gain access to an Air Service Center.
- b. The level of service at the Air Service Center.

^{2/} "Service to Small Communities", a staff study of the Bureau of Operating Rights.

^{3/} Required to reach alternate air service. (Used by the CAB in past decisions).

^{4/} Average of the group of smallest air service centers.

The community is not isolated if the driving time is less than 90 minutes. It is isolated if the driving time exceeds 140 minutes. In the range between 90 and 140 minutes, isolation is determined by the critical driving time.

Basically, the isolation standard in this range is lower (nearer to 90) for smaller Air Service Centers, because of the longer frequency delay times. Conversely, the relative attractiveness of the service at a busier hub requires a higher (closer to 140) standard for a community to be classified as isolated.

Isolation = Actual Driving Time - Critical Driving Time.
If the result is positive the community is isolated, and the higher the value the greater the degree of isolation.

Economic/Isolation Index

This index was constructed as the most logical indicator of both the generative and distributive characteristics of a specific point.

Population and personal income have been established as the primary generative factors in estimating demand potential. The index uses total personal income as a substitute combination of these two factors.

Driving time measures the relative attractiveness of alternative service facilities. The shorter the distance to an alternative boarding point of equal or better service, then the greater the probability that some of the potential demand of one area will be distributed to the air facility of another.

The index represents the product of total personal income and driving time.

Population and Income

Base year (1975) data was compiled from Sales Management Survey of Buying Power. Projected growth rates were extracted from the Department of Commerce's BEA Area Projections as follows:

Hubs - from SMSA projections

Non-Hubs - from the non-SMSA portion of the appropriate district.

The resulting growth rates are shown in Appendix B.

Note: Because of the lack of data on small points for some of the factors, estimates were derived from larger units. For example, where per capita income data for small communities was not available, statistics for the next larger unit (in most cases the county) were substituted. Any resulting distortion should not be significant, however.

Other Factors

In the initial attempts to formulate the models, various other factors were used. These were compiled from standard reference sources. In addition, various data extractions were made from publications by the Civil Aeronautics Board and the Federal Aviation Administration. These have been referenced where used in the study.

IV. MODEL FORMULATION - NATIONAL

A. Models

The basic methodology used was multiple regression analysis in attempts to formulate a model. The preliminary list of potential explanatory variables included:

- Certificated Carrier Enplanements
- Population
- Gross National Product
- Consumer Price Index (Transportation)
- Total Personal Income
- Per Capita Disposable Personal Income
- Average Household Effective Buying Income
- Index of Industrial Production
- Total Retail Sales.

(The number of certificated enplanements was included because of the high percentage of commuter passengers connecting with certificated carriers, while the various measures of economic activity were intended to reflect the substantial volume of business travel on commuter airlines).

Various combinations of the above factors were regressed against the dependent variable (commuter enplanements) but the results were largely unsatisfactory. This was due to two factors:

- the small number of observations (6 years of historical data)
- the high degree of correlation with any one factor. Simple correlations showed, for example:

Certificated	.916
Population	.971
GNP	.793
Total Income	.905
Retail Sales	.810

The most acceptable model achieved from this series linked the two most logical explanatory variables in the following formula:

$$\text{COMM} = -47701 + .240427 \text{ POP} + .004873 \text{ CERT}$$

Where COMM = Commuter Enplanements

POP = Population

CERT = Certificated Carriers' Enplanements.

(all variables are expressed in thousands).

The above showed an R-squared of .954 and was generally satisfactory by other statistical standards. A projection from this model for 1987 would show 11,356,500 commuter enplanements.

The next approach was to transform the dependent variables while limiting the number of independent variables in any model. Accordingly, two additional dependent variables were created by expressing commuter enplanements in terms of the two most logical explanatory factors:

- commuter enplanements per 1,000 certificated enplanements.
- commuter enplanements per 1,000 population.

Sequential testing of these two factors against limited combinations of the above independent variables yielded the following formula as the most acceptable:

$$\text{COMM/CERT} = -97.08904 + .00046 \text{ POP} + .17809 \text{ ALTCOST}$$

Where COMM/CERT = commuter enplanements per 1,000 certificated enplanements.

POP = Total population (expressed in thousands).

ALTCOST = Index (1972 = 100) of Transportation Costs (alternative modes).

The above showed an R-squared of .983. Again, this model was statistically acceptable. But a projection to 1987 based on this formula would show 14,913,800 commuter enplanements.

B. Applicability

The question arises as to the applicability of any model formulated on this period (1970-1975) as the basis for predicting commuter activity twelve years hence. A time-series model assumes that the interrelationship between the variables in the base period will remain unchanged in some future period.

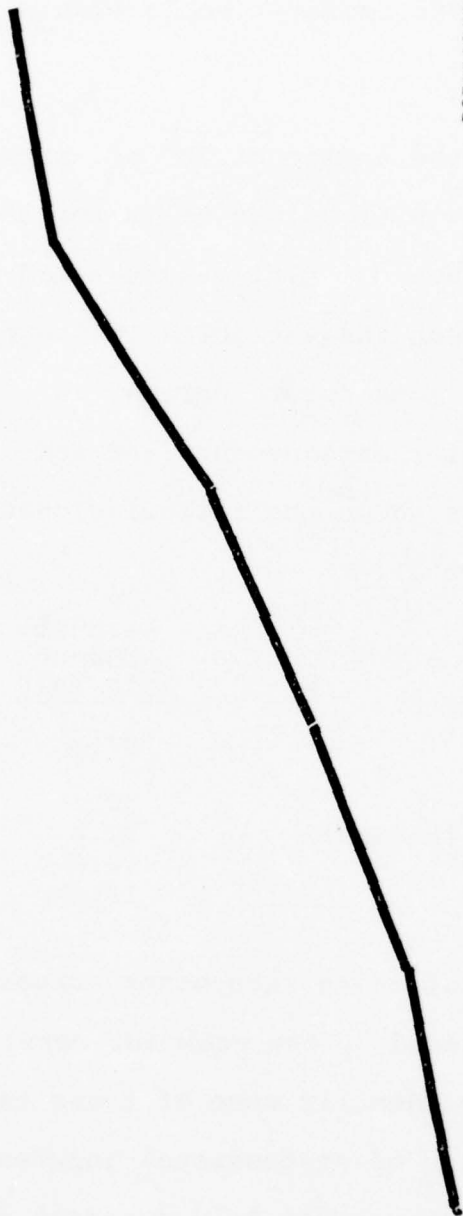
A comparison between commuter enplanements and some of the more logical explanatory factors shows the following changes over the five-year period (Chart 1):

	<u>Percent Change 1970-1975</u>
Commuter Enplanements	87.8
Population	4.2
Certificated Carriers' Enplanements	21.8
Real Gross National Product	10.8
Real Total Personal Income	12.7

The above would suggest that there were other forces feeding the high growth experienced by the commuter carriers. The following analysis seeks to identify some of these factors, and to argue for the substitution of professional judgment in lieu of a mathematical model with respect to a forecast for 1987.

TREND IN COMMUTER PASSENGER ENPLANEMENTS
AND POTENTIAL EXPLANATORY FACTORS
1970-1975

COMMUTER PASSENGERS



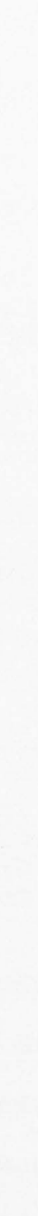
POPULATION-U.S.



GNP (1972 = 100)



PERSONAL INCOME



TOTAL RETAIL SALES



CHART 1

1970 1971 1972 1973 1974 1975
YEAR

C. Analysis Of Historical Trends

The period from 1970 to 1975 (used in the model) shows two different trends for commuter and certificated passenger enplanements. Commuter enplanements recorded an average annual rate of increase of 13.4 percent, while the certificated carriers (domestic trunks and locals) showed a growth rate of 4.0 percent.

The high growth rate of the commuter carriers may be attributed to several factors:

- More complete reporting to the CAB each year since inception of the reporting requirement in 1969 under Part 298. Thus the recorded higher enplanements of successive years may be partly due to a reduction in unreported traffic.
- The introduction of more sophisticated aircraft and a growing public acceptance of commuter service.
- Impact of the energy crisis which led to a significant shift from automobile to air transport for short-haul flights.
- The impact of the Allegheny Commuter and other replacement programs.

In fact, this period may be viewed as the "take-off" age for commuter carriers. If the same historical pattern which characterized other sectors of the air transport industry manifests itself, then the industry is approaching a period of maturity, and growth will continue but at a much reduced pace.

At the same time, the certificated carriers were experiencing a prolonged traffic recession reflecting the general economic condition of the period, as well as the lower rate of growth experienced by an industry that has reached maturity.

Thus, while the model correlated these two trends for the period with acceptable results, the judgment is that these two trends are not indicative of future periods. It is expected that the growth rate experienced by the commuter carriers will be somewhat reduced, while the certificated carriers will show some recovery from the traffic recession.

Commuter enplanements per 1,000 certificated enplanements showed the following trend:

1970	16.6
1971	17.5
1972	18.6
1973	20.5
1974	24.4
1975	25.5

While the ratio showed an increasing trend through 1974 (average annual increase was 10.1 percent), the change from 1974 to 1975 was only 4.5 percent^{1/}, despite the fact that 1975 certificated enplanements actually declined from 1974. From preliminary data compiled by the CAB, the commuter ratio shows a decline to approximately 25 enplanements per 1,000 certificated enplanements in 1976.

After the high growth rates of the past decade due to some extent to the factors cited above, the commuter industry will tend to show the same growth trends as the certificated carriers in the long run. The large majority of commuter passengers connect with certificated carriers, and both groups are subject to the same socioeconomic forces.

^{1/} Air New England was reclassified as a certificated carrier in 1975. Without this change the ratio would have been slightly higher.

D. Forecasts

1. Enplanements.

After reviewing the various models constructed, and with serious reservations with respect to the applicability of a time-series model for forecasting commuter activity in 1987, it was felt that the most acceptable basis for predicting commuter enplanements was the relationship to certificated carrier enplanements. Accordingly, a determination was made of this relationship which was then linked to the model constructed^{2/} for certificated enplanements:

$$C = .0255 (- 76.05 + 1.59E + 2.24I - 0.16P + 2.94D_1 - 6.87D_2)$$

Where C = Commuter Enplanements (in millions).

E = Civilian Employment (in millions).

I = Plant, Equipment and Other Investment in the air transport industry (in billions of current dollars).

P = The Price of Air relative to other modes of transportation (both indexes based on 1967 dollars).

D₁ = A dummy variable to represent seasonality (1 for third quarter, zero for all others).

D₂ = A dummy variable to estimate the effect of major airline strikes (1 for third quarter 1966, zero otherwise).

The projection for the next several years, on an aggregate basis, is for commuter enplanements to stabilize at approximately 25.5 per 1,000 certificated enplanements. Using

^{2/} FAA, Aviation Forecasts, Fiscal Years 1977-1988, September 1976.

this ratio for 1988 and the projection of domestic certificated enplanements (FAA) results in a forecast of 10 million commuter enplanements from currently served points. An additional 3.2 million enplanements are estimated by a separate methodology from potential new points.

2. Revenue Passenger Miles.

Average trip lengths for commuter passengers remained fairly constant during the period 1970-1975, with an average annual increase of slightly under one percent. This is not unexpected. The majority of commuter passengers have been flown over the same routes historically -- between a smaller point and an airport hub. This pattern of service has remained largely unchanged, with the same hub being used either for connecting purposes or as trip termination due to a community of interest.

The slight increase in average trip length each year is mainly due to the expansion of service to more remote points. However, the lower traffic density at these points has an insignificant impact on the overall national averages.

Passenger miles are computed, then, as the product of enplaned passengers times average trip length. A least squares regression of the historical trend results in a projected average trip length in 1988 of 126.4 miles:

$$T = 47.68 + .8943 Y$$

where 47.68 is a constant of the equation

T = Average Trip Length

Y = last 2 digits of year (e.g. 1975 = 75).

The increase from 1975 to 1988 represents an average annual rate of change of 0.7 percent.

Based on the forecast of 12,183,600 enplanements, revenue passenger miles are projected at 1540 million.

3. Aircraft Fleet And Mix.

Changes in the composition of aircraft fleet currently operated by commuters will be determined by three factors:

- Economics of the route.
- Aircraft manufacturers.
- Regulatory changes.

Between 1970 and 1976^{3/} the size of the fleet increased 36 percent, with an average addition of a little over 50 aircraft each year.

During this period, however, the composition of the fleet remained fairly stable:

<u>Type</u>	<u>Percent</u> ^{4/}
Single-engine piston	15
Multi-engine piston	60
Turbine	25

With respect to size, one important CAB decision may have some impact. In 1972,^{5/} the Board replaced the existing 12,500 pound take-off weight limitation on air taxi aircraft by a 30-passenger/7,500 pound payload restriction. This means that a few commuters, whose routes could well be served by larger

^{3/} Based on the quarter ended June 30 of each year. (Table 5).

^{4/} Small variations are found year-to-year. However, these percentages are representative of the period.

^{5/} Order 72-7-61, Docket 21761, Part 298 Weight Limitation Investigation, decided July 18, 1972.

AIRCRAFT OPERATED BY COMMUTER AIR CARRIERS
BASED ON QUARTER ENDED JUNE 30

Type	1970	1971	1972	1973	1974	1975	1976
Piston:							
Single-Engine	115	91	90	125	169	145	156
Multi-Engine	424	452	529	504	550	565	625
Total	539	543	619	629	719	710	781
Turbine	191	146	193	208	261	252	225
Helicopter	10	1	15	8	2	-	2
Total	740	690	827	845	982	962	1,008

Type	Percent Of Total						
	1970	1971	1972	1973	1974	1975	1976
Piston:							
Single-Engine	15.5%	13.2%	10.8%	14.8%	17.2%	15.1%	15.5%
Multi-Engine	57.3	65.5	64.0	59.6	56.0	58.7	62.0
Total	72.8	78.7	74.8	74.4	73.2	73.8	77.5
Turbine	25.8	21.2	23.4	24.6	26.6	26.2	22.3
Helicopter	1.4	.1	1.8	1.0	.2	-	.2
Total	100%	100%	100%	100%	100%	100%	100%

TABLE 5
Page 1 of 1

SOURCE: CAB, Commuter Air Carrier Statistics.

aircraft may choose to acquire such planes. One example of the larger commuter aircraft developed recently is the 30-seat SDS-30 manufactured by Short Brothers of Ireland.^{6/} There has been some reluctance in the past among certain sectors of the air-travelling public to patronize commuter carriers. However, the Board's decision to permit larger aircraft could be the prod that aircraft manufacturers needed to develop airplanes that would secure greater public acceptance. Such aircraft will provide more headroom, more aisle space, greater seating comfort, lavatory facilities, more baggage space, greater range and pressurization.

Nevertheless, while a few operators will undoubtedly upgrade to this larger aircraft where route economics dictate, "perhaps for the next several years the majority of commuter markets will continue to be served by existing aircraft".^{7/}

Commuter carriers have predicated their success on the theory of higher frequencies with smaller aircraft. Any widespread movement to larger aircraft will negate the benefits of this tradition of service. The data for the period 1970-1976, however, does not show such a movement.

^{6/} Larger aircraft currently in operation include: DC-3, CV-340/580; F-27; Nord 262; M-404.

^{7/} Commuter Airlines Annual Report, October 1976. It should be noted that the cost of the new equipment is considerably higher than that of the aircraft currently in use. However, assistance in securing financing of new aircraft could be obtained if the commuters are allowed to participate in the government's equipment loan guarantee program.

Table 6 shows the number of aircraft operated by commuter airlines by the number of available seats for 1970 and 1976. If the larger aircraft (over 20 seats) acquired in recent years are omitted - this category accounts for less than 10 percent of the fleet - then the overall (unweighted) average in both years is about the same, a little over 10 seats.

There has been some trend toward the medium-sized aircraft (9-12 seats). In 1970, 30 percent of the total fleet was comprised of this group. By 1976, however, the share was 34 percent. Of the predominant size groups (ranging from 5 to 16 seats), the 9-12 category was the smallest in 1970. By 1976, however, this group contained the largest number of aircraft.

Another indicator of the size of aircraft that commuter carriers will be operating in the next decade is related to the current activity of aircraft manufacturers. A sampling of aircraft currently being developed/tested/produced shows:

<u>Make and Model</u>	<u>Number Of Seats</u>
Beech Baron 58TC	6
Cessna 404/414 Titan	10
Beech Model 200	15
Mohawk 298	29
Lear Star 600	30

The projection for the next decade, then, is for the commuter fleet to retain the same equipment mix generally that obtains today. There will be a gradual phasing out of older one-engine piston aircraft and the acquisition of larger equipment (20 seats plus). However, the mainstay of the fleet

COMPOSITION OF COMMUTER AIRLINE FLEET
1970 vs. 1976

(Based On The Fiscal Year Ended June 30)

	Number Of Seats							Total
	1 - 4	5 - 8	9 - 12	13 - 16	17 - 20	Over 20		
1970	40	229	219	230	3	10	731	
1976	39	323	340	210	-	80	992	
Percent Of Total:								
1970	5.5%	31.3%	30.0%	31.5%	.4%	1.4%	100%	
1976	3.9	32.6	34.3	21.2	-	8.1	100%	
Percent Change 1976 Over 1970	(2.5)	41.0	55.3	(8.7)	-	700.0	35.7	

SOURCE: Type, Model and Number in Use from CAB, Commuter Air Carrier Traffic Statistics.

Passenger capacity for each aircraft model from:

- Trend to Turbines, Aviation/Space Writer Association.
- American Aviation, Annual World Aviation Encyclopedia 1965, November 1965.
- General Aviation Aircraft Fleet 1976, General Aviation Manufacturers Association.

will be multi-engine piston and turbine-powered aircraft in the middle range.

	Composition Of Fleet (Percent Each Group)		
	Actual		Projected
	1970	1975	1988
Single Engine Piston	15.5	15.1	5.0
Multi-Engine Piston	57.3	58.7	60.0
Turbine	25.8	26.2	35.0
Helicopter	1.4	-	-

The number of aircraft required to transport the forecast passengers depends on:

- Number of Markets
- Aircraft Capacity
- Aircraft Utilization
- Load Factor

The dispersion of the traffic, that is the degree of market concentration affects the size of the fleet. Greater concentration permits higher frequencies and results in a higher daily utilization for a given fleet. The forecast growth in passenger enplanements will take place largely in existing markets.^{8/} Thus, there will be only a minor impact from this factor (number of markets) on future aircraft requirements.

^{8/} A change in the regulatory process with respect to small-community service will, of course, lead to the development of new markets.

There has been a gradual trend towards the acquisition of more aircraft in the middle range as previously noted. Based on the operations of 85 carriers,^{9/} the average capacity in 1975 was 13.6 seats. If the 10 operators of larger aircraft^{10/} are excluded, the average capacity was 11.8 seats. (Table 7).

Based on the operations of 67 carriers,^{11/} there was virtually no change in average capacity between 1975 and 1976. In fact, there was a slight decrease to 14.72 seats in 1976 from an average of 15.05 in 1975. If large aircraft are excluded, the average capacity for 1976 was 13.2 in 1976 and 13.3 in 1975. (Table 8).

The forecast assumes a gradual increase in average capacity of approximately one percent annually. This results in an average capacity in 1988 of 15.0 seats.

The 85 carriers who reported fully to the CAB for 1975 showed a total of 432.25 aircraft.^{12/} These carriers flew 521,800 hours for a daily average utilization per aircraft of 3.87 hours.^{13/} The larger aircraft, some of which were only

^{9/} All mainland passenger carriers who made full reports to the CAB for 1975.

^{10/} DC-3; Martin 404; F-27; CV-340/580; Nord 262.

^{11/} All mainland passenger carriers who made full reports to CAB in both 1975 and 1976.

^{12/} Average for the year. This is computed on an average for each carrier based on its fleet at the end of each quarter.

^{13/} Based on a six-days-a-week average schedule.

OPERATING STATISTICS OF SELECTED COMMUTER CARRIERS^{1/}

1975

TABLE 7
Page 1 of 4

<u>Code</u>	<u>Carrier</u>	<u>Average Aircraft</u>	<u>Average Daily Utilization</u>	<u>Average Load</u>	<u>Average Capacity</u>
ATX	Air Carolina	4.50	2.64	2.61	6.19
CAZ	Air Catalina	5.00	3.28	6.03	9.03
TMG	Air Idaho	2.25	2.48	5.89	13.19
ILL	Air Illinois	2.25	6.33	5.99	16.91
OVS	Air Kentucky	2.00	5.46	4.32	15.00
AMW	Air Midwest	8.25	4.26	5.22	10.28
NUM	Air New Ulm	1.00	2.15	2.53	7.03
ANO	Air North	4.25	8.37	8.17	18.00
ASO	Air South	8.75	1.75	18.42	35.03*
AIS	Air Speed	1.75	2.02	2.80	6.25
AAT	Air Sunshine	3.00	4.42	12.04	28.28*
WIS	Air Wisconsin	8.00	6.69	8.71	16.20
AAR	Altair	10.50	4.12	7.52	15.59
ASD	Amistad	2.00	2.32	3.04	5.10
AVZ	Atlantic City	2.50	4.45	7.64	20.94*
QOZ	Bar Harbor	7.25	4.27	5.86	13.53
VER	Britt	6.00	7.87	7.08	13.27
BRO	Brower	2.00	4.78	3.62	10.82
CAR	Cannon	4.50	0.47	1.63	6.84
CPA	Capitol	11.50	3.09	3.04	8.16
CCD	Cascade	8.00	6.24	13.61	25.33*
CAT	Catalina	3.00	2.05	4.96	9.00
CSK	Catskill	2.25	1.26	5.74	8.10
CHA	Chautauqua	2.00	6.47	7.62	14.97
COL	Colgan	3.00	3.33	5.89	12.00

OPERATING STATISTICS OF SELECTED COMMUTER CARRIERS^{1/}

1975

Code	Carrier	Average Aircraft	Average Daily Utilization	Average Load	Average Capacity
CLA	Columbia	3.00	3.33	4.63	8.77
CMD	Command	5.00	6.35	5.68	15.00
CRA	Commuter	11.50	2.34	5.62	10.93
CRO	Crown	2.00	4.00	9.47	16.39
DVA	Davis	4.75	4.99	4.18	8.07
DEA	Downeast	5.75	2.17	5.04	8.00
EKA	Eureka Aero	4.25	5.05	2.31	3.53
EXA	Execuair	3.00	7.33	4.07	7.83
FDA	Florida	9.75	3.47	7.07	23.23*
GCS	Galion	2.00	3.13	5.48	14.05
GLW	Golden West	12.00	4.59	8.57	18.27
OAK	Harbor	3.00	6.46	2.72	7.67
HNA	Henson	5.00	5.81	5.80	15.00
IMP	Imperial	1.50	2.64	5.35	12.51
LHA	Lake Havasu	2.25	1.09	2.44	5.30
LAW	Lawrence	5.50	2.64	1.55	4.38
MAA	Mall	2.00	2.92	3.86	7.40
MRC	Marco Island	3.00	1.57	19.08	40.02*
MES	Mesaba	1.25	6.03	4.54	15.00
MTR	Metro	8.00	7.79	6.38	17.69
MIS	Midstate	4.00	7.48	6.73	14.59
MVA	Mississippi Valley	3.75	4.54	7.45	15.28
MMH	Monmouth	6.50	2.65	3.90	8.18
MOU	Mountain Air	1.00	4.88	3.20	6.56
NEW	New England	5.00	0.54	2.93	5.24

TABLE 7
Page 2 of 4

OPERATING STATISTICS OF SELECTED COMMUTER CARRIERS^{1/}

1975

Code	Carrier	Average Aircraft	Average Daily Utilization	Average Load	Average Capacity
NPT	Newport Aero	6.75	0.67	1.63	4.00
SHA	Nor-Cal	1.00	3.68	4.86	7.00
PEA	Pearson	3.00	1.45	6.69	13.30
HRZ	Pennsylvania Commuter	8.00	4.74	7.20	13.86
PHL	Phillips	6.00	1.17	2.85	6.45
PMT	Pilgrim	6.00	5.66	6.77	15.77
PHR	Pinehurst	4.75	2.07	0.94	1.37
POC	Pocono	3.00	5.62	5.38	11.66
PBA	Provincetown-Boston	18.00	1.22	16.16	26.75*
RAN	Ransome	7.50	5.76	16.28	27.00*
PCA	Resort	4.50	0.29	1.21	5.13
RIO	Rio	9.00	5.95	7.64	14.38
JCZ	Rocky Mountain	3.75	9.21	7.15	19.00
GWE	Ross	6.50	1.07	5.31	17.81
RAY	Royale	5.00	4.44	4.97	13.29
SJA	San Juan	7.50	1.08	3.35	6.25
HSZ	Scenic	14.75	3.72	5.40	8.77
SKM	Scheduled Skyways	3.00	3.68	7.30	11.26
STG	SMB Stage Line	3.00	31.48	0.27	0.53
SEM	Semo	2.00	2.45	3.39	9.53
TSA	Sierra Pacific	5.25	2.37	13.44	32.90*
SEA	Sky West	4.25	4.44	2.69	5.51
HUB	Skystream	3.25	3.35	5.59	15.00
ZYZ	Skyway	17.00	1.35	4.04	7.54
SOC	South Central	3.00	2.01	3.75	15.75

TABLE 7
Page 3 of 4

OPERATING STATISTICS OF SELECTED COMMUTER CARRIERS^{1/}

1975

Code	Carrier	Average Aircraft	Average Daily Utilization	Average Load	Average Capacity
SLZ	Southeast	5.00	1.72	12.13	31.20*
SBN	Suburban	5.50	2.85	6.65	16.11
SUN	Sun Aire	1.75	1.99	3.13	15.76
KEE	Sun Valley Key	12.00	3.01	4.33	9.90
SWT	Swift Aire	6.25	6.77	8.92	15.23
TMA	Trans MO	3.00	2.90	2.45	4.82
WST	West Air	3.25	1.77	3.36	9.41
WFS	Wheeler	2.75	4.86	1.45	7.62
ZMZ	Winnepesaukee	3.00	2.20	3.03	6.65
ZIA	Zia	3.75	1.63	2.07	8.05
TOTALS:					
	Overall	432.25	3.87	6.39	13.61
	Large Aircraft	70.75	3.03	13.45	27.47
	Excluding Large Aircraft	361.50	4.03	5.46	11.78

^{1/} Mainland passenger carriers who reported in all four quarters.

* Includes larger aircraft.

SOURCE: CAB, Form 298.

COMMUTER AIR CARRIERS
OPERATING STATISTICS: 1976 VS. 1975

	<u>1975</u>	<u>1976</u>	<u>Percent Change</u>
<u>Operating Volumes</u>			
Aircraft Miles Flown (000)	69,082	74,397	7.7
Revenue Passenger Miles (000)	497,643	544,061	9.3
Available Seat Miles	1,039,995	1,095,014	5.3
<u>Averages:</u>			
Load (Passengers)			
Overall	7.20	7.31	1.5
Excluding Large Aircraft	6.36	6.56	3.1
Capacity (Seats)			
Overall	15.05	14.72	(2.2)
Excluding Large Aircraft	13.34	13.21	(1.0)
Load Factor (Percent)			
Overall	47.8	49.7	4.0
Excluding Large Aircraft	47.7	49.7	4.2

SOURCE: CAB, Form 298.
Based on 67 mainland passenger carriers who reported
fully in both 1975 and 1976.

recently phased in, showed an average utilization of 3.03 hours. If these airplanes are excluded, the average was 4.03 hours. It should be noted that these figures represent the utilization of aircraft in scheduled service. Undoubtedly, many of these planes were also used in other operations.

The forecast is for a gradual increase in aircraft utilization of approximately 1.3 percent annually. This results in an average daily utilization of 4.5 hours in 1988.

For the 85 carriers analyzed, the average load factor in 1975 was 46.9 percent. However, there was an increase of almost two points (almost 4 percent) between 1975 and 1976 for the 67 carriers who reported in both years. Average load increased slightly from 7.20 to 7.31 passengers.

The forecast is for an average annual increase of slightly over one percent in average loads. This results in an average load of 8.25 passengers in 1988 for a load factor of 55 percent. The forecast also assumes that there will be no change in average aircraft speed.^{14/}

The forecast of aircraft required may be determined as follows:

Load factor x average capacity = average load

Revenue passenger miles ÷ average load = miles flown

Miles flown ÷ average speed = total aircraft hours

Average daily utilization x 312 = annual hours per aircraft

Total aircraft hours ÷ annual hours per aircraft = aircraft
required

^{14/} Average speed in 1975 was 159.7 mph. For 1988, a speed of 160 mph. is used.

This may then be formulated as:

$$A = \text{RPM}/\text{AL}/\text{S}/(\text{U} \times 312)$$

Where A = Number of aircraft required

RPM = Revenue passenger miles

AL = Average load

S = Average speed

U = Average daily utilization

(312 is constant : number of daily schedules per year, based on a 6-day week).

Using the forecast RPMs and the projected values of the above factors, the aircraft fleet in 1988 is computed:

$$\begin{aligned} A &= \frac{1540 \text{ million}}{8.25 \times 160 \times 4.5 \times 312} \\ &= 830 \text{ aircraft} \end{aligned}$$

The total fleet operated in 1975 was comprised of 962 aircraft. These included aircraft in non-mainland service as well as cargo and mail operations. The 85 carriers analyzed (for which data was available) operated 432 aircraft and accounted for 96 percent of the mainland passenger enplanements. Assuming that the same ratios apply to the remaining 4 percent of the passenger traffic, then the total fleet in mainland passenger service in 1975 was comprised of 450 aircraft. The forecast of 830 aircraft in 1988, (about double the fleet of 1975), reflects the traffic growth projected from current and future points to a level more than two and one-half times that of 1975.

Based on the percentages previously cited for each group, the fleet should consist of:

	<u>Approximate Percent Of Total</u>	<u>Number Of Aircraft</u>
Single engine piston	5	40
Multi engine piston	60	500
Turbine	35	290

4. Aircraft Operations.

The number of operations required is a function of the forecast enplanements and average load per departure.

In 1975, the 85 carriers analyzed performed 852,269 departures and enplaned 4,448,682 passengers for an average boarding of 5.22 passengers. Average boarding is projected to increase to 6.00 by 1988 for current points and 4.2 for new points. The projected overall average is 5.6.

The forecast is determined from the following formula:

$$O = 2\left(\frac{E}{B}\right)$$

Where O = Total operations

E = Total enplanements

B = Average boarding

(the constant 2 represents a doubling of the number of departures to result in total operations: take-offs and landings).

The forecast of total operations in 1988 then, is:

$$\begin{aligned} & 2\left(\frac{12,183,600}{5.6}\right) \\ & = 4,352,600 \end{aligned}$$

V. MODEL FORMULATION - DISAGGREGATES

A. Approach

It was recognized early in the study that it would not be feasible to construct a single model which could be used for predicting passenger enplanements at each point. In 1975 enplanements ranged from less than 100 at some points to more than 200,000 at others.

The points receiving commuter service in 1975 were grouped on the basis of size or characteristics as follows:

1. Hubs (Per CAB/FAA classification).
 - a. Large.
 - b. Medium.
 - c. Small.
2. Non-Hubs (Over 1,000 enplanements).
 - a. Service by commuters exclusively.
 - i. Institutional.
 - ii. Agricultural.
 - iii. Industrial.
 - iv. Recreational.
 - b. Service by commuters and certificated carriers.
 - i. Institutional.
 - ii. Agricultural.
 - iii. Industrial.
3. Special areas.
4. Small points (less than 1,000 enplanements).

(A summary of 1975 enplanements by the above groups is shown on Table 9.)

TABLE 9

PASSENGER ENPLANEMENTS BY POINT GROUPINGS

<u>Group</u>	<u>1975</u>		<u>Income Genera- tive Factor</u>	<u>1988</u>	
	<u>Enplane- ments (000)</u>	<u>Percent of Total</u>		<u>Enplane- ments (000)</u>	<u>Percent of Total</u>
<u>Hubs</u>					
1. Large	2,052.4	43.6	1.110	5,240.8	
2. Medium	335.8	7.1	0.651	855.3	
3. Small	373.3	7.9	1.266	978.3	
Total	2,761.5	58.6	1.038	7,074.4	58.1
<u>Non-Hubs</u>					
<u>Exclusive Commuter:</u>					
4. Institutional	335.1	7.1	15.182	651.7	
5. Agricultural	180.6	3.8	7.887	368.0	
6. Industrial	332.2	7.1	7.716	690.8	
7. Recreational	214.8	4.6	27.226	491.3	
Total	1,062.7	22.6	11.080	2,201.8	18.1
<u>Jointly Served:</u>					
8. Institutional	89.5	1.9	4.008	180.5	
9. Agricultural	90.4	1.9	2.738	174.5	
10. Industrial	240.8	5.1	4.356	501.3	
Total	420.7	8.9	3.803	856.3	7.0
11. <u>Special Areas</u>	426.7	9.1	25.103	896.4	7.3
12. <u>Minor Commuter Traffic Points</u>	20.1	0.4	0.992	41.1	0.3
Other	16.5	0.4	N.A.	35.1	0.3
<u>Potential Points:</u>					
13. New				438.1	
14. Transfers				640.4	
Total				1,078.5	8.9
TOTAL				12,183.6	100.0

B. Hubs

Three classes of hubs are identified by the CAB/FAA based on total enplanements as a percent of the national aggregate. These points, because of their large-scale certificated operations, were treated as a separate group for the purpose of analyzing commuter activity.

However, while total traffic may be found to be correlated with various demand factors, the extent of commuter activity at these points shows a wide range. The following examples are based on cities with approximately the same number of certificated enplanements:

	<u>Enplanements (000)</u>		<u>Commuter</u> <u>Per</u> <u>1,000</u> <u>Certificated</u>
	<u>Commuter</u>	<u>Certificated</u>	
<u>Large Hubs</u>			
Philadelphia	284	3,144	90.5
Detroit	4	3,608	1.2
<u>Medium Hubs</u>			
Albany	37	514	72.9
Des Moines	2	493	4.7
<u>Small Hubs</u>			
Allentown	21	200	103.4
Fort Wayne	1	194	5.9

The above demonstrates the futility of attempting to formulate a model for predicting commuter traffic at points where both commuter and certificated carriers operate. A model may be constructed for the total traffic, but the split between

commuter and certificated at each point would have to be done on an individual basis because of the wide ranges shown above.

The cities classified as hubs, as a group, accounted for more than one-half (58.6 percent) of the total enplanements in 1975. However, the general tendency was for commuter carriers to record a greater share of the total traffic at the smaller hubs. Including only those points which had at least 1,000 commuter enplanements in 1975, the ratio shows:

	<u>Number Of Points</u>	<u>Commuter Per 1,000 Certificated</u>
Large and Medium Hubs	50	15.8
Small Hubs	32	46.9

At the large and medium hubs the commuters averaged 1.6 percent of the total enplanements, while at the small hubs the share was 4.7 percent.

Empirically, various studies have shown that the two most significant explanatory factors in developing a demand forecast for air travel have been population and per capita income. If combined into a single factor, the product of these two variables - total personal income - should be the most logical single indicator of changes in demand.

With respect to the hubs, a methodology was devised for predicting both the growth of this group and allocation to individual points. Using total personal income as the indicator, the group was allocated a share of the national enplanements forecast in 1988. This share was weighted for the ratio of its percentage share of traffic to income in the base year.

Allocation to individual points within the group were done on the same basis, and these forecasts are shown in Appendix C.

For the group, the formula reads:

$$\begin{aligned} GE_f &= \left[\left(\frac{GE_b}{NE_b} \right) \div \left(\frac{GY_b}{NY_b} \right) \right] \times \left(\frac{GY_f}{NY_f} \times NE_f \right) \\ &= \frac{GE_b \times NY_b \times GY_f \times NE_f}{NE_b \times GY_b \times NY_f} \end{aligned}$$

Where G = Group

N = National

E = Enplanements

Y = Income

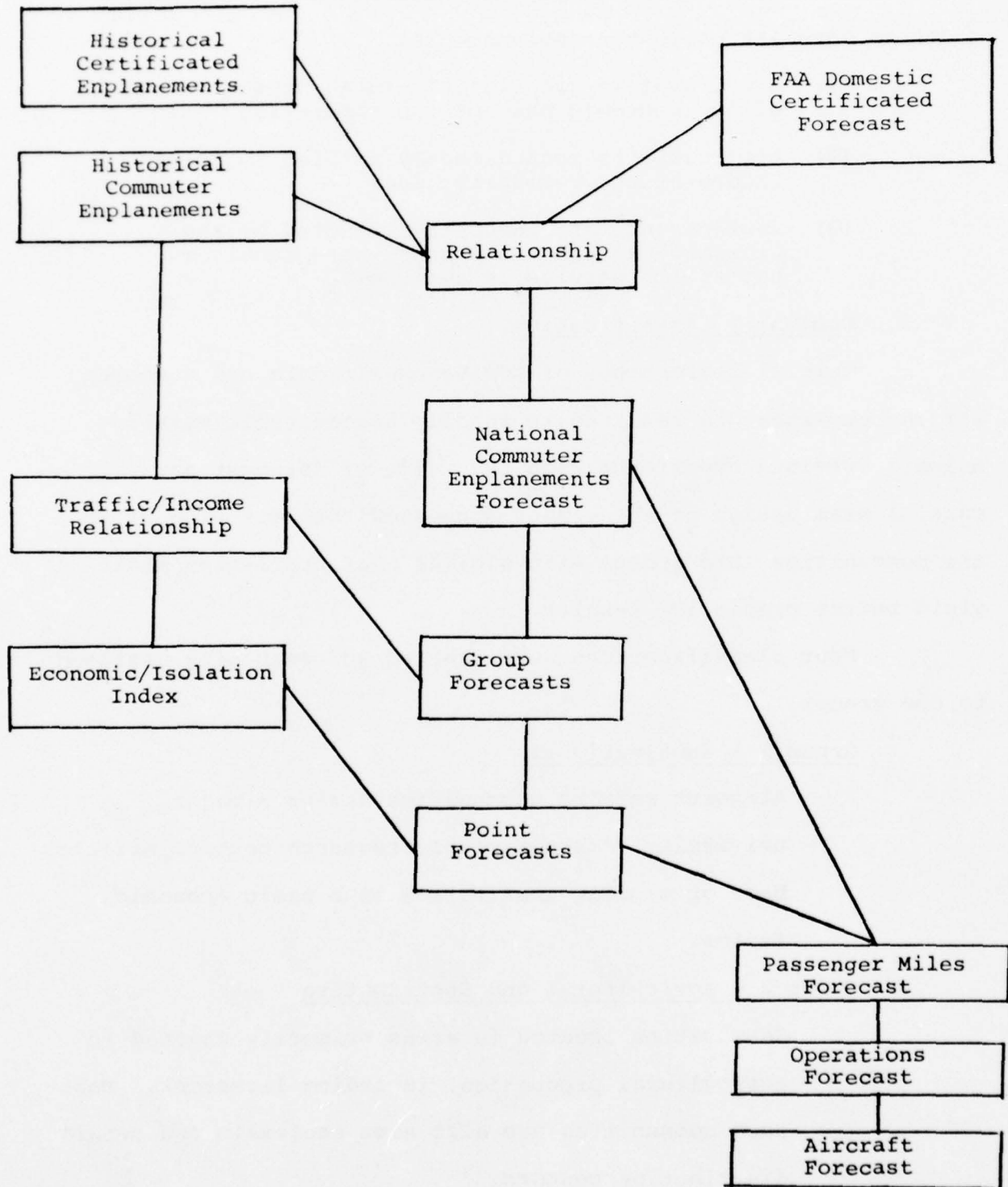
(The subscripts b and f refer to the base and forecast years respectively.)

After the group's enplanements are determined, the forecast for each point is computed by substituting the point for the group, and the group for the national data in the formula.

(Chart 2 presents a graphic flow of the methodology used in the disaggregation process.)

FLOW DIAGRAM OF METHODOLOGY

COMMUTER CARRIERS' FORECASTS
NATIONAL, GROUPS AND POINTS



C. Non-Hubs

1. The Hypotheses.

Three primary hypotheses are tested and proven in the model to forecast passenger enplanements:

- (1) Air travel is greatly influenced by the nature of the economic base of the community,
- (2) Air travel is most directly related to total income of the community, and,
- (3) Enplanements are inversely affected by the proximity of other airports where equal or better air service is available.

2. Community Classification.

Initial regressions of socioeconomic data and commuter airline enplanements resulted in totally unacceptable relationships. Previous experience with this type of forecast and careful examination of these data suggested that division of the communities into groups with similar characteristics might yield better predictive results.

Four classifications were created and each city assigned to one group:

Group 1 - Institutional

Airports serving communities having a major university, State Capitol, research center, military base or similar institution as a basic economic factor.

Group 2 - Agricultural and Distributive

Communities located in areas primarily devoted to agricultural production, including livestock. Most such communities are also area wholesale and retail distribution centers.

Group 3 - Industrial and Mining

Communities with significant manufacturing activity generally thought of as a "blue collar" industry. Mining of all types and petroleum production and refining are included in this group.

Group 4 - Recreational

Communities receiving a primary portion of total income from tourism, resorts and conventions.

These groupings were developed for both the exclusive commuter points and those points also served by certificated carriers. Only three groups were obtained for the latter cities because of the absence of Recreational centers. The cities assigned to each group are shown in Appendix D.

The assignment of some of the cities to a group is almost obvious, while others are obviously judgmental. Gainesville, Florida (University of Florida) and Jefferson City, Missouri (Missouri State Capitol, and nearby Columbia with the University of Missouri and Stevens College) are obvious, while Waco, Texas might be classified as Agricultural or Industrial as well as Institutional. Such judgmental assignments were made initially and later tested for a better statistical fit in their first alternate group. A few reassignments were made on this basis.

The groups thus formed are statistically summarized in Table 10 which gives the averages of the various data used and the range of data contained in each group. While none of the summary data is used in making the forecast, it provides understanding of the cities being forecast and the distinct differences

SUMMARY

SOCIOECONOMIC DATA USED IN NON-HUB MODELS

	No. Of Cities	Population (000)	Personal Income (\$)	Driving Time (Minutes)	Commuter Passengers (000)	Total Passengers (000)
<u>Exclusive Commuter</u>						
Institutional	21	43.9	4611	81	13.9	
Ave. Range		15.0-97.7	3791-6617	25-165	1.00-42.47	
Agricultural	29	34.7	4535	87	5.45	
Ave. Range		9.1-126	3215-7372	35-175	1.12-29.78	
Industrial	37	51.1	4649	80	8.52	
Ave. Range		4.9-172	3336-5992	30-155	1.00-29.86	
Recreational	17	20.1	4748	100	11.77	
Ave. Range		5.5-69.4	3669-5775	30-185	1.58-56.82	
TOTAL (Weighted Ave.)	104	40.0	4626	85	9.0	

Commuter & Certificated

Institutional	8	116.3	4387	76	8.90	42.00
Ave. Range		32.1-250	3923-7876	30-145	1.44-20.10	24.40-54.0
Agricultural	22	78.7	4370	98	4.11	31.78
Ave. Range		10.0-197.6	3681-5471	55-225	1.10-10.40	3.70-97.60
Industrial	21	111.7	4490	109	9.98	33.27
Ave. Range		8.4-339	2872-5328	60-270	1.00-36.00	1.30-97.10
TOTAL (Weighted Ave.)	51	98.2	4422	99	7.28	34.00

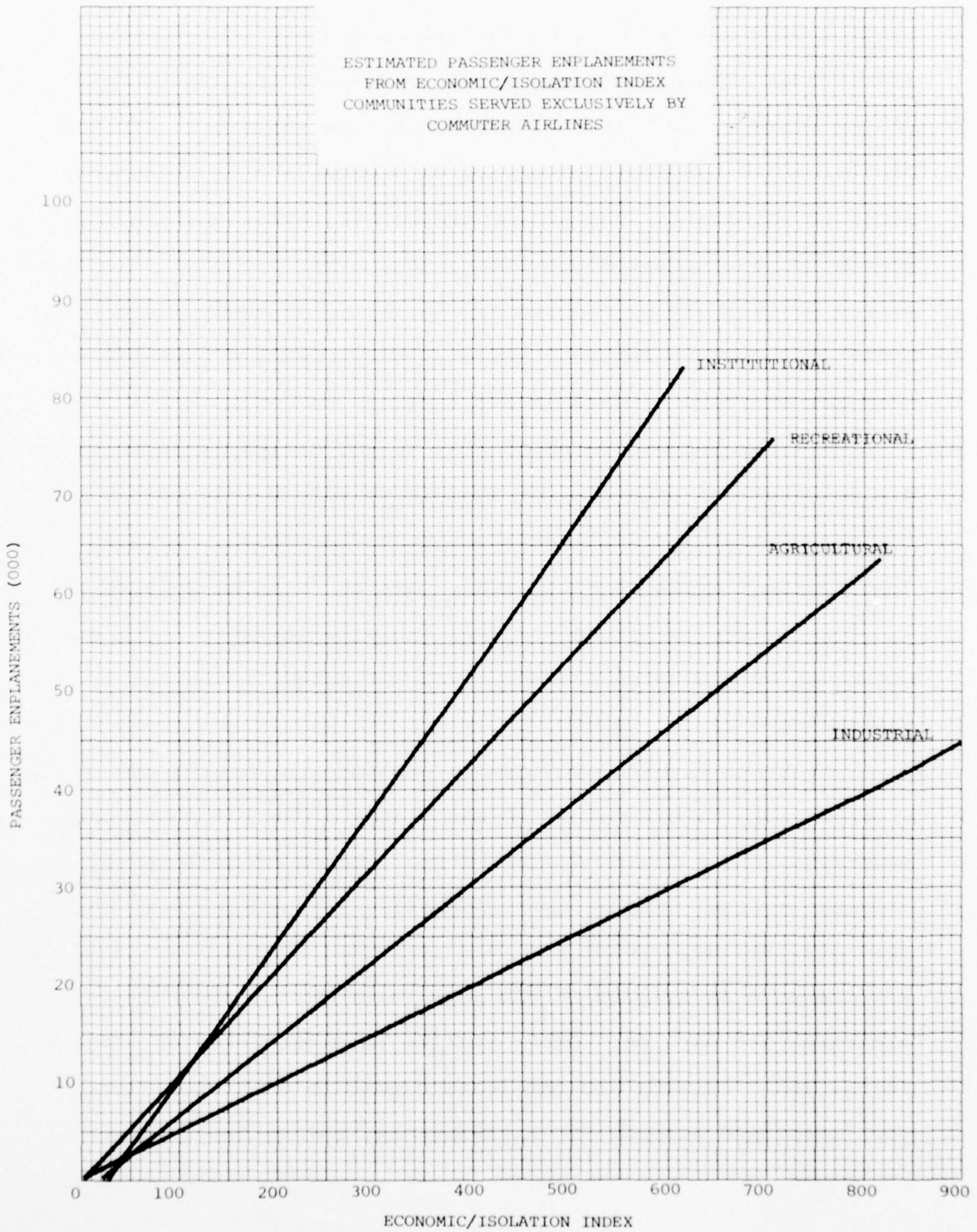
TABLE 10

among the groups as classified. Overall it is clear that the service of a certificated carrier significantly increases enplanements. The cities served exclusively by the commuters are, on the average, smaller than the jointly served cities (40,000 population vs. 98,200). However, on the basis of enplanements per 1,000 residents, the 51 jointly served cities enplaned 53.8 percent more passengers, on the average, than did the 104 cities served exclusively by commuters. In fact, the Agricultural and Industrial Centers enplaned twice as many, per 1,000 residents, when served by both types of carriers.

Personal Income of the jointly served cities is shown to be 4.4 percent less than that of the exclusively served points and the difference is consistent throughout the groups. Driving time to the airport of alternate choice tends to be greater in the jointly served cities and this tends to increase local enplanement of generated passengers as reflected in the total enplanements of the groups.

The final results obtained by grouping the cities add significantly to validation of the groups. Chart 3 shows the regression lines obtained for the four groups of exclusively commuter cities. All of the lines start approximately at the zero (0) intercept point and then indicate the relative level of enplanements as related to the local economy and proximity of alternate air service. Other studies have demonstrated that Recreational Centers are the least dependent upon their local population and economy for enplanements, but rather enplane

CHART 3



passengers who reside elsewhere and are enplaned on their return trip to their homes.^{1/} It would therefore be expected that Recreational Centers will have a high level of enplanements for a given economic index. The chart shows this is true.

Industrial Centers are generators of traffic, relying to the greatest extent on their local economy with the least proportion of enplanements who originated at other cities and out of other economies. Thus it was expected that Industrial Centers would have the lowest enplanements for a given economic index, Chart 3 shows this is true.

Institutions, like resorts, are the recipients of visitors generated from other economic centers who normally exceed locally generated enplanements. Attendees at conferences, government hearings, students, and related travellers are illustrative of this travel. It was therefore expected that Institutional Centers might rival Recreational Centers in passengers per economic index value. The chart shows that they do.

The research cited above found that trade centers demonstrate the greatest balance between resident and non-resident enplanements. The Agricultural Centers of these groups are similar to the Trade Center, but smaller scale, and occupy the balanced position on Chart 3.

Chart 4 shows the similar regression lines for the three groups of cities served by commuters and certificated carriers.

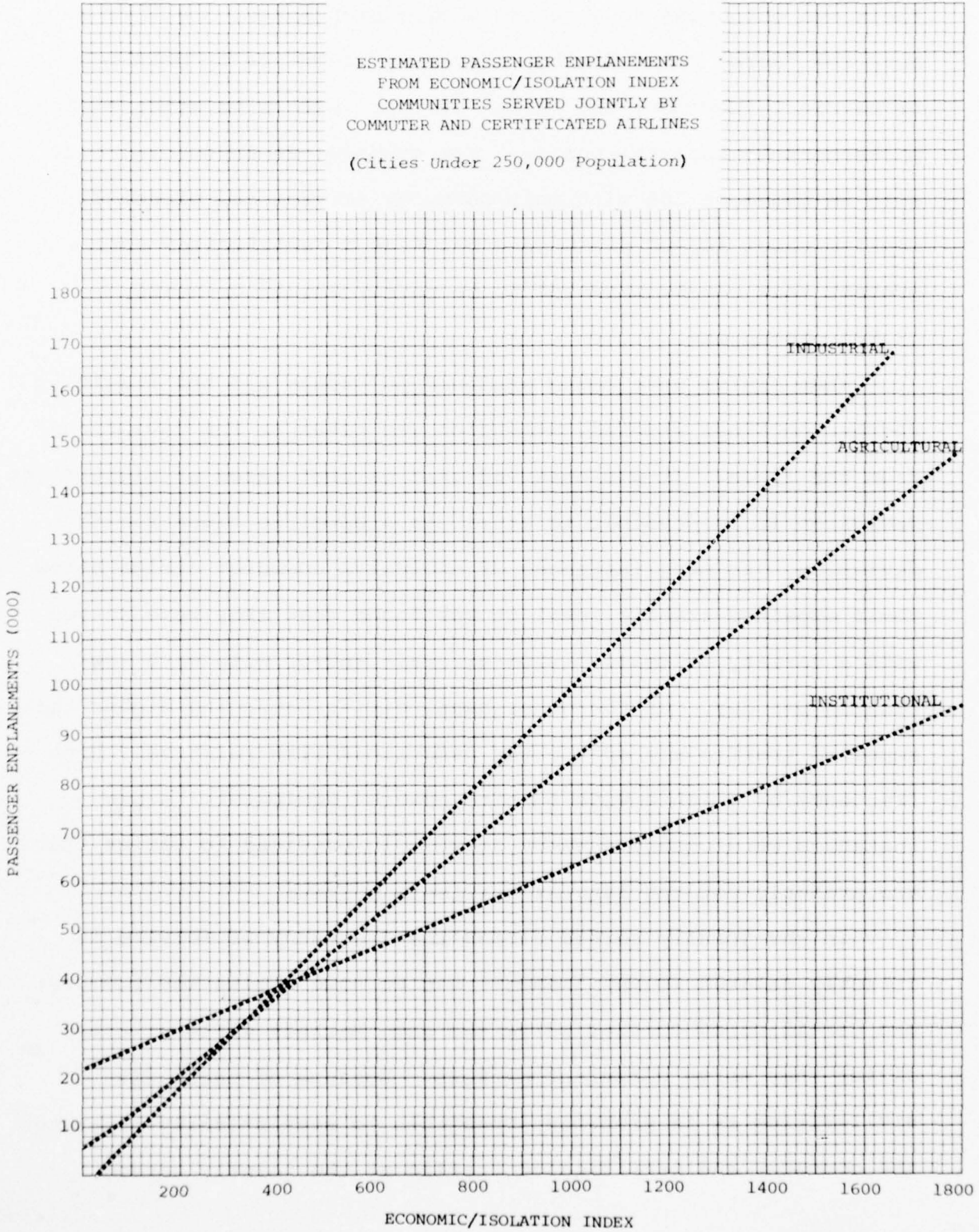
^{1/} See particularly Airline Hub Domestic Activity Forecasts, Contract DOT-TSC-1182, December 1976.

The line for Institutional Centers is of immediate interest as it intercepts the "y" axis at about 21,000 passengers. While the line is based on only 8 data points, and is therefore the statistically weakest line in the groups, it is not irrational. At Institutional Centers served exclusively by commuter airlines (Chart 3) the chart suggests that a center must have an economic index of 50 or more before it will enplane any passengers. At jointly served airports (Chart 4) it is suggested that an Institutional center with an index of 50 can be expected to enplane about 24,000 passengers. An exclusive commuter center would not reach this level without an index of 230 or more. A major portion of this difference is attributable to the non-resident nature of the traffic and the presence of the certificated carrier. Where only the commuter exists at the low index centers it appears that the non-resident passenger is not materializing as he does where the certificated carrier is present. This probably results from the failure of the certificated carriers to sell commuter service. Thus, at exclusive commuter points the non-resident is not prevalent as he should be, while at a jointly served point the certificated carriers carry the non-resident both in and out of the center. This creates the statistical picture of 20,000 + passengers enplaning where there is no economic base to produce them.

A similar situation appears for the Agricultural Centers with an index of about 50 again required to generate any passengers in an exclusive commuter city. A jointly served city with an index of 50 should expect about 10,000 passengers to enplane.

CHART 4

ESTIMATED PASSENGER ENPLANEMENTS
FROM ECONOMIC/ISOLATION INDEX
COMMUNITIES SERVED JOINTLY BY
COMMUTER AND CERTIFICATED AIRLINES
(Cities Under 250,000 Population)



Industrial Centers, which are by nature more dependent on their own economies as generators of enplanements, start from near the "zero" point whether served by commuters or both types of carrier. However, the "name" carrier appears to attract more passengers to enplane locally. For example, an industrial city with an index of 200 with only commuter service can expect to enplane about 10,000 passengers but with a certificated carrier present this can be expected to be nearly double or nearly 18,000 passengers.

When cities were being assigned to groups and the resulting regression lines studied, attention was given to the deviations from the lines. It was observed that in most cases of significant deviation it is possible to attribute a specific cause for the deviation. In many instances of exclusive commuter cities below their expected traffic level it was found that they were served with a variety of small piston aircraft and/or with very few flights per day. On the other hand, cities producing higher than expected traffic are most often associated with relatively high frequency of flights with turbine powered equipment. A few instances were observed where service is provided to cities that are probably not the largest available markets.

In the jointly served cities the frequency of service is directly related to enplanements but at some cities the commuter and certificated carrier serve the same markets while at other cities they serve different markets. Because of these dissimilarities it is probably impossible to statistically separate the commuter and certificated traffic at the jointly served

cities. An additional, non-statistical variable in many of these cities is the cooperation or acquiescence of the certificated carrier. Through direct agreements with commuters, such as some of the Allegheny Commuter contracts, or by unilateral reduction of frequencies on the part of the certificated carriers, commuters are encouraged to operate higher frequency of flights with higher generation of traffic. On the other hand, in some jointly served cities it is observed that service provided by the certificated carrier is adequate for the level of traffic expected and the commuter carries very little of the total traffic.

3. Forecast Methodology

A similar methodology as used for the hubs is employed in computing the forecast estimates for the individual points. Based on total personal income, each group was allocated a share of the national enplanements forecast in 1988. This share was weighted for the traffic-income relationship of the base year. Allocation to individual points within the group were done on the same basis, and with each points' economic/isolation units substituted for income. The disaggregation formula is:

$$\begin{aligned}
 PE_f &= \left[\left(\frac{PE_b}{GE_b} \right) \div \left(\frac{PU_b}{GU_b} \right) \right] \times \left(\frac{PU_f}{GU_f} \times GE_f \right) \\
 &= \frac{PE_b \times GU_b \times PU_f \times GE_f}{GE_b \times PU_b \times GU_f}
 \end{aligned}$$

Where P = Point

G = Group

E = Enplanements

U = Economic/Isolation units

(The subscripts b and f refer to the base and forecast years respectively).

The forecasts are shown in Appendix E.

D. Special Areas

This group of points represents those service areas where normal demand functions do not collectively apply. They may involve flights over an expanse of water (e.g. Catalina Island), thus negating most alternative modes of transportation. They may involve flights to resort/recreational/sightseeing locations (e.g. Grand Canyon), where the local socioeconomic factors are insignificant in determining the volume of traffic. Or these points may represent subdivisions of, or be situated close to, large metropolitan areas, in which case it is not possible to delineate the service area for correlation purposes.

These points do not fit into any other group for which a predictive model could be constructed, nor do they collectively have the same characteristics to facilitate correlation analysis. Many of these points (the resort areas in particular) are influenced by national rather than local economic conditions.

The estimates for this group as well as individual forecasts are computed on the same basis as described for the hubs. The forecasts are shown in Appendix E.

E. Small Points

This group represents those points which were too small (less than 1,000 enplanements) for inclusion in the development of the non-hub model. However, since it is expected that they will enplane more than 1,000 passengers in 1988,^{1/} individual forecasts have been made.

The forecasts for these points are based on the same methodology used for the hubs, and are shown in Appendix F.

The small number of enplanements at these points may be due to various factors. For instance, the service could be minimal, or the area's traffic generation is being enplaned at a neighboring facility. In any case, the forecasts assume continuation of the status quo.

^{1/} Based on the projected national growth rate of 6.1 percent annually, it would take at least 500 enplanements in 1975 to qualify for inclusion in this group.

VI. POTENTIAL COMMUTER POINTS

A. Cities Currently Certificated

In recent years, various studies have been published with regard to air service at small communities. More recently, greater attention has been focused on the subject in connection with congressional hearings on regulatory reform. The common thread running through most of these studies may be summed up as follows:

- The quantity and quality of service provided by the certificated air carriers is inadequate.
- There is a considerable potential for commuter air carriers to be the dominant supplier of such services.

While it is not the intent to review all the studies here, the major reports are reviewed so far as they contain significant implications for the commuter air carrier industry. Special attention has been given to those studies which specifically identify possible commuter points.

In a recent study^{1/} by the Department of Transportation, an evaluation of small communities' air service was presented. The study traced the historical trends of such service as provided by the certificated air carriers and evaluates the possibility of transition to commuter service. An analysis was made of the 131 points with an average daily passenger enplanement of less than 80, and grouped into five categories. The groups, in ascending

^{1/} "Air Service To Small Communities", a report by the Office of Transportation Regulatory Policy, Department of Transportation, March 1976. (See also memorandum dated May 28, 1976 containing supplemental data).

order of commuter potential, are:

<u>Group</u>	<u>Characterization</u>	<u>No. of Points</u>
Category A	Points which <u>will retain scheduled service by certificated carriers into the foreseeable future but where certificated carriers may ultimately be replaced by commuter or intrastate carriers if local service carriers convert to all-jet fleets.</u>	30
Category B	Points served by certificated carriers where <u>scheduled service will be continued and where the transition from certificated carriers to commuter or intrastate carriers may be hastened.</u>	50
Category C	Points served by certificated carriers where <u>scheduled service will probably be continued and where the transition from certificated carriers to commuter carriers may be hastened.</u>	18
Category D	Points served by certificated carriers where <u>scheduled service may or may not be continued and the transition from certificated carriers to either commuter service or abandonment of service may be hastened.</u>	17
Category E	Points served by certificated carriers where the continuation of <u>scheduled service is highly uncertain and where the transition from certificated service to either commuter service or abandonment will be hastened.</u>	16

Of the 131 points identified, 33 were also served by commuter carriers in 1975. Of the remaining points, it is estimated that at 31 service will eventually be provided by commuter carriers;

<u>Category</u>	<u>Not Now Served By Commuters</u>	<u>% Possibility of Transition</u>	<u>Probable New Commuter Points</u>
A	16	5	1
B	35	10	3
C	16	25	4
D	16	50	8
E	<u>15</u>	100	<u>15</u>
Total	<u>98</u>		<u>31</u>

The Civil Aeronautics Board has had for some time now an ongoing study on the subject of small community air service. The study also links the question of Federal support (subsidy) for the maintenance of service. In an earlier report,^{2/} the CAB set forth criteria for determining the selection of those cities to be supported as well as a proposed system for determining the supplier of air service.

More recently,^{3/} the Board has presented specific recommendations with regard to small community service. Both reports attach significant importance to the role of the commuter air carrier industry. The following is a condensation of the CAB's review of the historical background accompanying the report.

By 1959 the trunk carriers transferred nearly 200 marginal trunkline points -- small communities -- to the local service airlines, and these carriers became the mainstay of subsidized small-community service. But changes have occurred in the air transportation industry. The local service carriers have turned

^{2/} "Service To Small Communities," a staff study of the Bureau of Operating Rights, March 1972.

^{3/} Presentation of the U.S. Civil Aeronautics Board before the Subcommittee on Aviation, U.S. Senate, March 21, 1977.

their attention to large planes and larger markets. Consequently, service to smaller points has diminished because it is not economically feasible to provide high-frequency service with large jet aircraft to low-density points. At the same time, the commuter carrier segment of the industry has grown impressively in recent years. These carriers, operating in an essentially unregulated environment, and using equipment better suited to small community service, are the best hope for good service in the future. However, the law precludes subsidization of these carriers directly without an expensive and time-consuming certification process.

The Board testimony suggested that one method for obtaining improved small community service at lower subsidy cost would be to incorporate the noncertificated commuter carriers into the system. They operate appropriate equipment and their costs are lower than those of the certificated carriers. There are a number of communities now served on a subsidized basis by locals that could be served by commuters with little or no subsidy.

The Board's proposal included a tentative list of the communities which would initially be eligible for subsidy. A total of 150 mainland points are identified. The communities included are those currently named in carriers' certificates (either active or suspended points) and enplane 40 or fewer passengers per day.

The 150 points are broken down as follows:

Part I - 110 points presently receiving certificated service. These include 12 points served by Air Midwest and Air New England. Of the remaining 98 points, 24 were also served by commuter carriers in 1975. This leaves a potential transition of 74 additional points to commuter carriers.

Part II - 4 suspended points not receiving commuter service. (Two of these received some service in 1975). It is not likely that commuter carriers could operate successfully here.

Part III - 36 suspended points receiving commuter service.

Based only on those certificated cities enplaning less than 40 passengers a day, it would appear then, that there is a maximum potential of 74 additional communities which could be served by commuter carriers. (Appendix G).

B. Cities Not Currently Served

An analysis was made of those cities which have neither certificated nor commuter service at present, in order to ascertain the potential for commuter service.

Initially, a list of all such cities was compiled based on their population.^{4/} The qualifying minimum population was set at 25,000, except for some states in the west, midwest and southwest regions where the minimum was set at 15,000. The total number of such communities was 760. Further screening revealed that the overwhelming majority of these were suburbs of larger

^{4/} Per 1970 Census Data. From County and City Data Book, U.S. Department of Commerce, Bureau of the Census.

urban centers or were relatively close to existing airports. For this step, a driving distance of 60 miles or less was used as the elimination factor.^{5/} After elimination for proximity to existing air service, there remained 50 points with the potential for supporting commuter service. Together with the 74 points previously cited, the maximum number of additional commuter points would appear to be 124.

These points are assumed to have the same traffic-generating potential as the group of current non-hub exclusive commuter points. Accordingly, they were sub-grouped into similar categories (Table 9, groups 4 through 7), and assigned the same traffic-index relationship for the base year. The forecasts of enplanements for 1988 were then made on the basis of the change in the economic/isolation units. (Appendix G).

^{5/} This conforms roughly with the CAB standard of 90 minutes (at an average speed of 40 mph).

VII. PUERTO RICO

A. Enplanements

Total enplanements amounted to 861,000 in 1975. This represents an average annual growth of 5.3 percent from the level of 663,000 in 1970. (Table 11). The trend was erratic, exhibiting a roller-coaster profile between 1971 and 1975. San Juan alone accounted for almost 60 percent of the total enplanements, and together with Ponce and Mayaguez represented 87 percent of the total.

Of the nine carriers which reported operations in 1975, Puerto Rico International was by far the most dominant with almost 72 percent of the total enplanements. Next was Vieques Air Link and North Cay Airways with almost 11 percent each. These three carriers accounted for 92.5 percent of the total 1975 enplanements.

A trend forecast was made for each of the eight communities. For this purpose, a past period (sub-trend) was selected which seemed most indicative of future activity. The growth rate derived from this period, as adjusted by judgment, was then used for projecting from the 1975 base. The resulting forecasts are shown in Appendix H.

B. Passenger-Miles

Average trip length during the 6-year period remained almost unchanged. This suggests that each carrier was serving essentially the same markets during the period. Except for minor

PUERTO RICO
HISTORICAL COMMUTER ACTIVITY

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>Enplanements</u>						
Aguadilla	-	-	20,155	22,021	13,455	13,600
Arecibo	-	-	-	-	732	-
Culebra Is.	12,819	-	1,112	5,688	12,027	19,354
Dorado	1,499	3,276	-	-	-	-
Fajardo	11,004	12,446	16,981	13,938	15,373	13,917
Humacao	-	-	2,400	7,139	15,322	17,355
Mayaguez	76,521	105,212	119,788	109,316	110,654	111,310
Ponce	130,023	165,399	176,268	144,839	148,679	122,142
San Juan	426,396	484,782	607,737	548,728	566,082	516,244
Vieques Is.	4,760	72	8,792	23,386	44,872	47,323
	<u>663,022</u>	<u>771,187</u>	<u>953,233</u>	<u>875,055</u>	<u>927,196</u>	<u>861,245</u>
<u>Passenger-Miles</u>						
Aguadilla	-	-	1,491.4	1,629.4	995.6	1,006.6
Arecibo	-	-	-	-	32.2	-
Culebra Is.	679.4	-	56.5	294.6	522.2	850.7
Dorado	130.4	279.3	-	-	-	-
Fajardo	443.4	502.7	666.9	562.2	607.2	564.6
Humacao	-	-	60.0	182.4	395.1	460.2
Mayaguez	5,815.4	7,996.0	9,103.8	8,556.2	8,779.0	9,008.3
Ponce	6,092.9	7,773.7	8,284.5	6,801.8	6,981.9	5,731.6
San Juan	28,318.9	32,432.8	41,427.2	37,779.5	38,248.8	36,074.5
Vieques Is.	242.6	3.6	384.2	1,015.8	1,820.7	1,897.7
	<u>41,723.0</u>	<u>48,988.1</u>	<u>61,474.5</u>	<u>56,821.9</u>	<u>58,382.7</u>	<u>55,594.2</u>
Avg. Trip Length	62.9	63.5	64.5	64.9	63.0	64.6

SOURCE: CAB, Form 298.

TABLE 11
Page 1 of 1

changes, the average trip length for each market for 1975 was applied to the forecast enplanements to produce an estimated total of 111.5 million passenger miles in 1988.

C. Operations

The assumption is made that the fleet operated will remain basically the same, hence average capacity will change only slightly. Further, it is projected that average loads will not increase significantly. Puerto Rico International which accounted for 72 percent of the traffic in 1975, and operating 19-seat aircraft on the average, had a load factor of almost 52 percent.

Based on the experienced boarding factor computed for each point, total operations should number 511,100 in 1988. These are shown in Appendix H.

NOTES ON APPENDIX A

Appendix A presents the base year (1975) data arranged by states within regions.

Group codes are those described in Chapter V and summarized in Table 9. The symbol U (unclassified) are used for those points which enplaned less than 500 passengers in 1975. No forecasts were made for these points.

Where the carrier's reported data was incomplete, estimates were made. These are indicated by an asterisk (*).

SUMMARY OF COMMUTER CARRIERS' ACTIVITY
BY REGION - 1975

<u>Region</u>	<u>Enplanements</u>	<u>RPM (000)</u>	<u>Departures</u>
NEW ENGLAND	238,139	29,817.7	65,086
EASTERN	1,456,340	151,325.3	253,581
SOUTHERN ^{1/}	595,268	81,329.8	86,229
GREAT LAKES	382,432	59,894.7	97,007
CENTRAL	169,618	19,267.7	59,219
SOUTHWEST	593,829	61,594.3	114,071
ROCKY MOUNTAIN	163,062	23,272.4	36,718
WESTERN	853,152	79,683.8	168,133
NORTHWEST	<u>256,421</u>	<u>35,562.3</u>	<u>84,954</u>
U.S. Total ^{2/}	4,708,261	541,748.0	964,998

^{1/} Exclusive of Puerto Rico

^{2/} Forty-eight contiguous states

REGION: NEW ENGLAND

STATE: CONNECTICUT

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Bridgeport	10	BDR	6,622	822.6	2,317
Groton	4	GON	42,472	6,990.2	5,585
Hartford	2	BDL	12,654	2,301.8	2,834
New Haven	10	HVN	9,804	782.2	4,360
State Total			43,816	7,225.2	15,886

STATE: MAINE

Augusta	4	AUG	2,042*	316.6*	1,210*
Bangor	3	BGR	9,124	1,427.8	3,948
Bar Harbor	11	BHB	8,203	1,562.2	2,181
Portland	3	PWM	9,043	1,200.3	5,051
Presque Isle	9	PQI	6,280	1,340.6	1,008
Rockland	7	RKD	9,124	1,377.7	2,488
State Total			43,816	7,225.2	15,886

STATE: MASSACHUSETTS

Bedford	12	BED	509*	76.4*	479*
Boston	1	BOS	54,963	7,716.5	9,962
Hyannis	11	HYA	6,612*	198.8*	1,717
Martha's Vineyard	7	MVY	2,526*	69.6*	2,200*
Nantucket	7	ACK	6,022*	180.6*	3,342*
Pittsfield	6	PSF	6,683	815.4	1,198
Provincetown	7	PVC	11,391	512.5	1,281
State Total			88,706	9,569.8	20,179

REGION: NEW ENGLAND

STATE: NEW HAMPSHIRE

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Lebanon	U	LEB	182*	11.4*	182*
Whitefield	U	HIE	182*	11.4*	182*
State Total			364	22.8	364

STATE: RHODE ISLAND

Block Island	11	BID	6,392	123.6	2,195
Newport	4	NPT	4,586	99.0	3,557
Providence	3	PVD	4,009	72.9	1,893
Westerly State Airport	7	WST	6,251	106.2	2,032
State Total			21,238	401.7	9,677

STATE: VERMONT

Burlington	3	BTV	10,384	1,557.3	2,727
Rutland	4	RUT	2,079	144.1	1,157
State Total			12,463	1,701.4	3,884
Region Total			238,139	29,817.7	65,086

REGION: EASTERN

STATE: DELAWARE

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Dover	U	DOV	492*	30.4*	232*
Georgetown	U	GED	476*	35.8*	476*
Wilmington	6	ILG	6,358	792.0	2,160
State Total			7,326	858.2	2,868

STATE: DISTRICT OF COLUMBIA

National Airport	1	DCA	180,452	23,013.2	19,307
Dulles International	1	IAD	6,758	1,600.1	3,310
State Total			187,210	24,613.3	22,617

STATE: MARYLAND

Baltimore	2	BAL	58,485	4,771.7	13,916
Cumberland	6	CBE	5,808*	605.6*	2,848*
Easton	11	ESN	1,040*	42.6*	742*
Hagerstown	5	HGR	15,759	1,082.5	2,338
Oakland	12	WEC	588*	18.2*	316*
Ocean City	11	OCM	2,484*	259.8*	2,096*
Salisbury	5	SBY	29,779	2,607.0	4,140
State Total			113,943	9,387.4	26,396

STATE: NEW JERSEY

Asbury Park	7	FEL	5,589	883.7	1,199
Atlantic City	7	ACY	27,410	1,270.3	4,889
Cape May	7	WWD	6,140	382.1	1,258
Newark	1	EWR	46,792	4,913.2	9,331
Trenton	6	TTN	22,699	1,441.4	3,672
Other (2)			688	121.2	688*
State Total			109,318	9,011.9	21,037

REGION: EASTERN

STATE: NEW YORK

Airport	Code		Actual 1975			
	Group	Airport	En- planements	RPM (000)	De- partures	
Albany	2	ALB	37,484	4,597.7	4,933	
Binghamton	10	BGM	35,991	6,582.0	10,218	
Buffalo	2	BUF	10,188	1,122.1	1,702	
East Hampton	7	HTO	2,466*	212.0*	1,588*	
Elmira/Corning	9	ELM	4,593	869.2	1,580	
Glens Falls	12	GFL	840*	49.2*	840*	
Islip	11	ISP	4,406	528.8	1,533	
Ithaca/Cortland	12	ITH	787*	106.9*	1,025*	
Jamestown	4	JHW	25,167	2,738.5	787*	
Massena	6	MSS	4,069	577.1	1,318	
Montauk	U	MTP	390*	40.4*	390*	
New York (Flushing)	}	FLU	5,596*	513.2*	1,652*	
New York (JFK)		1	JFK	58,717	5,600.1	10,183
New York (LGA)			LGA	14,505	1,608.2	3,963
Ogdensburg	6	OGS	3,320	391.7	1,958	
Oneonta	6	CNH	3,491	457.3	609	
Plattsburg	4	PLB	9,971	1,284.7	2,929	
Poughkeepsie	4	POU	29,652	3,812.1	5,703	
Saranac Lake/Lake Placid	7	SLK	4,452	495.1	1,762	
Syracuse	2	SYR	24,738	2,760.0	2,793	
Utica/Rome	10	UCA	1,300*	249.0*	774*	
Watertown	6	ART	5,652	409.4	2,277	
White Plains	1	HPN	12,764	1,803.5	5,384	
State Total			300,539	36,808.2	68,359	

REGION: EASTERN

STATE: PENNSYLVANIA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Allentown/Bethlehem/Easton	3	ABE	20,681	2,300.4	6,073
Altoona	6	AOO	17,667	1,798.1	2,477
Dubois	6	CUJ	12,047	1,011.9	4,775
Harrisburg/Middleton	3	MDT	25,285	2,532.7	5,415
Hazelton	6	HZL	1,412	136.9	1,133
Johnstown	6	JST	20,702	1,552.6	2,689
Lancaster	6	LNS	26,712	1,944.9	4,870
Oil City/Franklin	6	FKL	8,075	516.7	1,215
Philadelphia (Int'l.)	1	PHL	260,747	24,056.4	29,398
Philadelphia (NE)	1	PNE	23,592	1,546.6	3,143
Philipsburg/State College	4	PSB	20,906	2,478.3	2,731
Pittsburgh	1	PIT	142,783	13,335.4	15,566
Reading	6	RDG	29,862	1,871.4	5,383
Scranton/Wilkes-Barre	3	AVP	19,384	1,998.7	5,234
Williamsport	10	IPT	14,854	2,091.5	2,200
Other (2)			472	159.6	472*
State Total			645,181	59,332.1	92,774

REGION: EASTERN

STATE: VIRGINIA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Charlottesville	8	CHO	1,438*	111.4*	1,438*
Lynchburg	12	LYH	548*	80.2*	370*
Manassas	1	QCF	2,409	636.7	1,227
Norfolk	2	ORF	5,188*	764.8*	1,875
Pulaski	6	PSK	1,120*	45.8*	321
Richmond	3	RIC	21,962	4,106.8	2,160
Roanoke	3	ROA	1,120*	45.8*	646*
Other (1)			420	42.0	420*
State Total			34,205	5,833.5	8,457

STATE: WEST VIRGINIA

Charleston	3	CRW	10,024	1,509.9	1,310
Clarksburg/Fairmont	10	CKB	25,289	2,183.1	4,214
Elkins	6	EKN	3,120	410.7	1,370
Morgantown	8	MGW	20,129	1,361.4	4,123
Other (1)			56	15.6	56*
State Total			58,618	5,480.7	11,073
Region Total			1,456,340	151,325.3	253,581

REGION: SOUTHERN

STATE: ALABAMA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Auburn	4	AUO	1,198*	110.2*	791*
State Total			1,198	110.2	791

STATE: FLORIDA

Ft. Lauderdale	1	FLL	49,403	7,378.3	2,102
Ft. Myers	3	FMY	31,023	3,353.2	3,928
Gainesville	8	GNV	3,489	429.0	2,169
Jacksonville	2	JAX	6,504	963.3	1,766
Key West	7	EYW	40,700	5,395.6	3,724
Marathon	7	MTH	8,159	730.2	1,843
Marco Island	11	QAC	25,182	2,266.0	1,333
Miami	1	MIA	134,385	18,301.7	6,448
Naples	7	APF	56,819	6,664.8	3,349
Ocala	5	OCF	2,250	225.4	1,901
Orlando (Herndon)	2	ORL	7,355	1,441.7	2,564
Punta Gorda	7	PGD	2,677	222.9	1,453
Sarasota/Bradenton	3	SRQ	8,245	1,100.7	3,234
Tallahassee	3	TLH	2,788*	573.2*	492*
Tampa	1	TPA	75,043	9,550.2	8,274
Vero Beach	7	VRB	3,166*	391.6*	1,084*
West Palm Beach	2	PBI	25,450	3,631.0	1,454
Other (1)			8	1.6	8*
State Total			482,646	62,620.9	47,962

REGION: SOUTHERN

STATE: GEORGIA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Atlanta	1	ATL	25,131	5,831.2	3,009
Brunswick	7	SSI	15,390	3,746.5	1,639
Waycross	12	AYS	672*	136.4*	128*
State Total			41,193	9,714.1	4,776

STATE: KENTUCKY

Bowling Green	4	BWG	1,209*	124.3*	1,011
Frankfort/Lexington	3	LEX	2,476*	375.3*	1,754
Louisville	2	SDF	7,284*	795.3*	2,135
Owensboro	6	CWB	4,889*	468.8*	1,772
State Total			15,858	1,763.7	6,672

STATE: MISSISSIPPI

Columbus	12	UBS	586*	120.4*	408*
Gulfport/Biloxi	10	GPT	5,396	410.8*	2,420*
Jackson	3	JAN	3,228	419.6	1,096
Laurel/Hattiesburg	U	PIB	224*	23.6*	224*
McComb	U	MCB	120*	9.8*	100*
Meridian	U	MEI	172*	30.0*	144*
Natchez	5	HEZ	2,495	268.7	671
Pascagoula/Mobile	U	MOB	124*	13.2*	60*
Tupelo	U	TUP	460*	99.2*	194*
State Total			12,805	1,395.3	5,317

REGION: SOUTHERN

STATE: NORTH CAROLINA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Charlotte	2	CLT	5,984	538.7	3,181
Elizabeth City	12	ECG	805*	87.3*	805*
Greenville	4	PGV	2,763	243.5	2,270
Hickory	10	HKY	1,709	75.1	1,043
Morehead City/Beaufort	12	MRH	627*	78.9*	566
Raleigh/Durham	2	RDU	3,237	335.4	1,451
Southern Pines-Pinehurst	U	SOP	439	49.6	319
Wilmington	U	ILM	56*	15.6*	56*
Other (2)			584	116.0	584*
State Total			16,204	1,540.1	10,275

STATE: SOUTH CAROLINA

Anderson	12	AND	819	92.8	819*
Florence	9	FLO	3,510	347.4	1,306
Greenwood	5	GRD	1,616*	210.8*	1,684*
Hilton Head	11	HHH	7,580	1,808.9	1,354
State Total			13,525	2,459.9	5,163

STATE: TENNESSEE

Bristol/Kingsport/ Johnson City	U	TRI	488*	116.8*	200*
Chattanooga	3	CHA	712*	89.6*	345
Clarksville/Ft. Campbell/Hopkinsville	U	CKV	296*	15.6*	296*
Crossville	U	CSV	128*	10.4*	128*
Knoxville	3	TYS	1,419*	213.9*	667*
Memphis	2	MEM	1,317*	170.4*	675*
Nashville	2	BNA	7,343*	1,096.1*	2,834
Paris	U	PHT	136*	12.8*	128*
State Total			11,839	1,725.6	5,273
Region Total			595,268	81,329.8	86,229

REGION: GREAT LAKES

STATE: ILLINOIS

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Carbondale	4	MDH	12,447	1,265.0	2,352
Chicago (ORD)	1	ORD	136,299	23,776.0	24,569
Danville	6	DNV	11,750	1,456.9	1,440
Macomb	4	MQB	2,514	416.2	976
Quincy, Ill./Hannibal, Mo.	9	UIN	2,182	230.7	1,111
Springfield	3	SPI	2,551	433.1	636
Other (2)			284	54.0	284*
State Total			168,027	27,631.9	31,368

STATE: INDIANA

Bloomington	4	BMG	14,287	2,413.1	2,500
Fort Wayne	3	FWA	1,148*	166.8*	256*
Gary	12	GYG	676*	23.6*	676*
Indianapolis	2	IND	18,604	1,569.1	4,723
Michigan City	6	MGC	3,516	207.4	1,626
Muncie/Anderson/Newcastle	6	MIE	12,680	1,995.0	2,071
Plymouth	U	PLY	192*	20.0*	192*
South Bend	3	SBN	4,512	513.1	1,713
Terre Haute	5	HUF	21,952	3,004.3	3,547
Valparaiso	6	VPZ	1,066	62.8	1,066*
State Total			78,633	9,975.2	18,370

STATE: MICHIGAN

Battle Creek	12	BTL	980*	123.6*	352*
Detroit (City Airport)	1	DET	4,315	1,064.2	1,085
Houghton/Hancock	10	CMX	1,724*	732.4*	148*
State Total			7,019	1,920.2	1,585

REGION: GREAT LAKES

STATE: MINNESOTA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Ely	12	ELO	512*	111.6*	413*
Eveleth	6	EVM	1,752	313.6	1,714
Grand Rapids	7	GPZ	3,515	565.9	1,404
Minneapolis/St. Paul	1	MSP	17,973	3,068.5	5,586
New Ulm	5	ULM	1,363	109.5	541
Winona	5	ONA	1,747	245.2	1,385
State Total			26,862	4,414.3	11,043

STATE: OHIO

Cincinnati, O./ Covington, Ky.	2	CVG	872*	144.0*	789*
Cleveland	1	CLE	12,183	781.3	2,090
Galion	6	GQQ	3,260	218.4	1,949
Mansfield	6	MFD	8,559	462.1	3,898
State Total			24,874	1,605.8	8,726

STATE: WISCONSIN

Appleton-Outagamie	6	ATW	35,370	5,988.2	4,118
Ashland	6	ASX	1,897	537.7	618
Eagle River	12	EAV	584*	164.0*	584*
Eau Claire	9	EAU	2,964	529.8	3,018
Hayward	7	HYR	3,003	896.4	1,240
La Crosse	9	LSE	10,412	2,052.3	3,811
Marshfield	5	MFI	4,259	866.8	2,168
Milwaukee	2	MKE	2,438	491.0	1,622
Mosinee	U	CWA	184*	12.3*	184*
Sheboygan	5	SBM	3,214	397.8	1,884
Stevens Point	11	STE	1,823	355.0	1,823*
Sturgeon Bay	5	SUE	3,031	601.4	945
Wisconsin Rapids	5	ISW	7,838	1,454.6	3,900
State Total			77,017	14,347.3	25,915
Region Total			382,432	59,894.7	97,007

REGION: CENTRALSTATE: IOWA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Clinton	6	CWI	4,380*	617.6*	1,952*
Des Moines	2	DSM	2,333	319.6	1,561
Dubuque	9	DBQ	5,893	954.9	1,992
Fort Madison	6	QTM	1,005	195.8	976
Keokuk	5	EOK	1,398	287.2	976
Spencer	5	SPW	2,333	319.6	1,561
State Total			17,342	2,694.7	9,018

STATE: KANSAS

Dodge City	5	DDC	4,326	962.8	2,464
Emporia	12	EMP	982	101.1	598
Garden City	9	GCK	3,974	912.3	1,730
Great Bend	5	GBD	4,249	855.4	2,736
Hays	9	HYS	3,013	649.0	1,120
Hutchinson	5	HUT	1,638	258.3	1,577
Lawrence	4	LCR	7,637	252.0	4,371
Liberal	12	LBL	914*	208.2*	376*
Manhattan/Junction City/Fort Riley	8	MHK	16,495	1,733.3	5,498
Olathe	5	OJC	2,164	434.8	1,258
Salina	9	SLN	1,840	293.5	1,190
Topeka	8	TOP	16,897	844.8	2,914
Wichita	3	ICT	9,548	1,369.0	3,357
Other (1)			193	22.1	193*
State Total			73,870	8,896.6	29,189

REGION: CENTRAL

STATE: IOWA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Clinton	6	CWI	4,380*	617.6*	1,952*
Des Moines	2	DSM	2,333	319.6	1,561
Dubuque	9	DBQ	5,893	954.9	1,992
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Keokuk	5	EOK	1,398	287.2	976
Spencer	5	SPW	2,333	319.6	1,561
State Total			17,342	2,694.7	9,018

STATE: KANSAS

Dodge City	5	DDC	4,326	962.8	2,464
Emporia	12	EMP	982	101.1	598
Garden City	9	GCK	3,974	912.3	1,730
Great Bend	5	GBD	4,249	855.4	2,736
Hays	9	HYS	3,013	649.0	1,120
Hutchinson	5	HUT	1,638	258.3	1,577
Lawrence	4	LCR	7,637	252.0	4,371
Liberal	12	LBL	914*	208.2*	376*
Manhattan/Junction City/Fort Riley	8	MHK	16,495	1,733.3	5,498
Olathe	5	OJC	2,164	434.8	1,258
Salina	9	SLN	1,840	293.5	1,190
Topeka	8	TOP	16,897	844.8	2,914
Wichita	3	ICT	9,548	1,369.0	3,357
Other (1)			193	22.1	193*
State Total			73,870	8,896.6	29,189

REGION: CENTRAL

STATE: MISSOURI

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Cape Girardeau		CGI	1,824	213.4	1,000
Jefferson City		JEF	3,589	400.9	1,178
Kaiser		AIZ	335	42.9	335*
Kansas City		MCI	51,857	4,885.4	12,810
Kirksville		IRK	926	119.9	492
<hr/>					
St. Louis		STL	19,670	1,993.2	4,992
Sedalia		DMO	205	20.7	205*
State Total			78,406	7,676.4	21,012

STATE: NEBRASKA

-----NO POINTS REPORTED-----

State Total

Region Total

169,618 19,267.7 59,219

REGION: SOUTHWEST

STATE: ARKANSAS

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Fayetteville	8	FYV	12,676	1,694.6	1,579
Jonesboro	9	JBR	2,164*	437.0*	1,156*
Little Rock	3	LIT	11,327	1,631.7	1,238
Pine Bluff	5	PBF	1,862*	236.4*	1,172*
Texarkana	10	TXK	2,774*	499.2*	1,332*
State Total			30,803	4,498.9	6,477

STATE: LOUISIANA

Alexandria	9	ESF	1,680*	253.6*	868*
Baton Rouge	3	BTR	3,820*	368.8*	1,534*
Fort Polk	4	POE	20,760	2,826.9	3,225
Houma	U	HUM	314*	11.8*	314*
Lafayette	10	LFT	9,124	1,166.9	2,133
Lake Charles	9	LCH	3,324	520.6	1,468
New Orleans	1	MSY	30,811	3,806.4	5,639
Shreveport	3	SHV	14,009	1,635.1	1,873
State Total			83,842	10,590.1	17,054

STATE: NEW MEXICO

Albuquerque	2	ABQ	12,329	872.6	3,996
Los Alamos	4	QCA	11,450	698.4	2,155
Santa Fe	11	SAF	1,625*	371.3*	1,654
Taos	U	TSA	427*	77.3*	427*
State Total			25,831	2,019.6	8,232

REGION: SOUTHWEST

STATE: OKLAHOMA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Altus	12	AXS	864*	139.6*	616*
Lawton	12	LAW	704*	89.6*	704*
Oklahoma City	U	OKC	320*	30.8*	192*
Tulsa	2	TUL	2,371	297.9	601
State Total			4,259	557.9	2,113

STATE: TEXAS

Beaumont/Port Arthur	10	BPT	32,474	2,565.4	4,547
Big Spring	5	HCA	1,548*	384.0*	872*
Clear Lake City	11	CLC	39,751	1,272.0	6,894
College Station	4	CLL	17,235	2,502.2	4,417
Dallas (Regional)	1	DFW	120,931	15,217.8	19,084
Del Rio	5	DRT	1,762	267.8	606
Galveston	6	GLS	8,527	486.0	2,384
Houston (Int'l.)	1	IAH	104,438	6,895.3	17,825
Killeen	4	ILE	42,323	5,504.9	4,366
Lake Jackson	6	LJN	6,637	431.4	1,652
Longview	10	GGG	9,160	1,273.2	2,421
Midland/Odessa	U	MAF	88*	4.4*	88*
San Antonio	2	SAT	1,762	267.8	626
Temple	9	TPL	8,626	1,054.8	5,116
Tyler	10	TYR	11,988	1,222.7	2,421
Victoria	6	VCT	8,139	1,001.0	875
Waco	8	ACT	11,280	1,043.1	3,143
Wichita Falls	10	SPS	22,425	2,534.0	2,858
State Total			449,094	43,927.8	80,195
Region Total			593,829	61,594.3	114,071

REGION: ROCKY MOUNTAIN

STATE: COLORADO

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Aspen	11	ASE	35,597	4,002.8	4,680
Denver	1	DEN	64,696	8,694.1	8,039
Eagle	11	EGE	3,913	408.3	1,307
Fort Collins	12	FCC	938	55.0*	938*
Granby	12	WWI	717	42.2	895
Grand Junction	3	GJT	1,157	170.4	1,157*
Leadville	U	LXV	142	10.7	142*
Steamboat Springs/Craig	11	SBS	17,611	2,129.7	3,233
Other (2)			18	4.4	18*
State Total			124,789	15,517.6	20,400

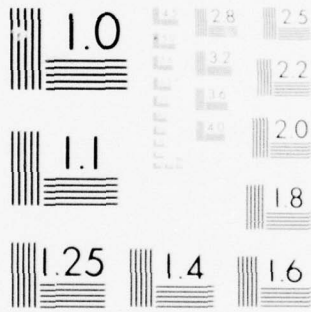
STATE: MONTANA

Billings	U	BIL	248*	72.8*	124*
State Total			248	72.8	124

STATE: NORTH DAKOTA

-----NO POINTS REPORTED-----

State Total -----



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

REGION: ROCKY MOUNTAIN

STATE: SOUTH DAKOTA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Rapid City	U	RAP	124*	36.4*	124*
State Total			124	36.4	124

STATE: UTAH

Cedar City	10	CDC	2,940	576.1	2,155
Logan	U	LGU	458	31.6	168
Moab	6	CNY	2,057*	294.9*	1,544*
Price	U	PUC	417*	43.5*	417*
Provo	U	PVU	385*	82.4*	385*
Richfield	U	RIF	44*	6.4*	44*
Salt Lake City	2	SLC	22,516	4,939.3	5,981
St. George	5	SGU	3,269	723.7	2,551
Vernal	U	VEL	99*	12.7*	99*
Other (5)			102	21.4	102*
State Total			32,287	6,732.0	13,446

STATE: WYOMING

Casper	11	CPR	2,350*	258.4*	1,188*
Gillette	5	GCC	2,309	489.8	822
Laramie	U	LAR	130*	14.8*	130*
Rawlins	12	RWL	549	102.0	208
Rock Springs	U	RKS	68*	11.2*	68*
Saratoga	U	SAA	152*	23.4*	152*
Other (2)			56	14.0	56*
State Total			5,614	913.6	2,624
Region Total			163,062	23,272.4	36,718

REGION: WESTERN

STATE: ARIZONA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Flagstaff	9	FLG	2,133	296.1	1,819
Grand Canyon	11	GCN	45,374	7,565.3	6,627
Kingman	10	IGM	1,021	230.2	1,020
Lake Havasu City	11	LHU	2,137	308.9	1,876
Page	9	PGA	2,392	542.0	992
Phoenix	1	PHX	9,411	1,260.9	2,961
Prescott	5	PRC	1,119	137.8	1,119
Tucson	2	TUS	5,263	934.6	2,813
Winslow	U	INW	307*	41.3*	307*
Yuma	8	YUM	2,381	407.4	585
Other (3)			592	73.2	592*
State Total			72,130	11,797.7	20,711

REGION: WESTERN

STATE: CALIFORNIA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Avalon	11	AVX	71,147	2,033.5	12,995
Bakersfield	9	BFL	2,839	508.9	896
Bishop	11	BIH	1,430	185.1	660
Borrego Springs	12	OBR	821*	50.3*	517*
Burbank	1	BUR	6,119	1,319.7	1,378
Catalina Island	11	CIB	7,388	197.8	507
Chico	9	CIC	1,427	147.2	1,427
Concord	11	CCR	2,782	85.8	2,782
Crescent City	10	CEC	2,328*	141.0*	1,888*
El Centro	9	IPL	5,501	517.0	1,031
Eureka/Arcata	10	EKA	12,836*	2,114.0*	1,461
Fresno	3	FAT	11,029	1,631.8	3,306
Fullerton	6	FUL	12,779	319.1	5,874
Inyokern	4	IYK	5,657	695.8	826
Long Beach	1	LGB	41,593	2,432.6	8,032
Los Angeles	1	LAX	191,814	13,925.4	22,473
Mammoth Lakes	11	MMH	16,397	3,900.3	3,308
Marysville/Yuba City	U	MYV	167	29.7	167
Napa	5	APC	1,272	51.2	1,272
Novato	12	NOT	788*	33.2*	756*
Ontario/Riverside	3	ONT	54,949	2,947.7	7,201
Oxnard/Ventura	5	OXR	21,343	1,044.8	4,808
Palm Springs	3	PSP	6,223	767.7	1,723
Palmdale/Lancaster	6	PMD	3,147	160.4	1,388
Paso Robles	5	PRM	2,412	401.5	1,684
Red Bluff/Redding	9	RBL	3,489	445.9	1,776
Sacramento	3	SMF	18,776	3,426.2	3,153
San Diego	2	SAN	9,769	853.1	2,249
San Francisco	1	SFO	29,636	3,141.3	4,125
San Jose	3	SJC	7,107	1,069.6	3,341

REGION: WESTERN

STATE: CALIFORNIA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
San Luis Obispo	4	SBP	24,084	4,190.5	4,541
San Pedro	11	QAA	45,491	1,151.8	7,681
San Rafael	U	SRF	137	5.0	137
Santa Ana/Orange City	11	SNA	39,055	1,405.5	5,533
Santa Barbara/Santa Maria	3	SBA	33,471	3,928.9	6,482
Santa Rosa	5	STS	13,968	1,011.6	4,764
Two Harbors	11	TWH	6,006	174.9	1,171
Ukiah	12	UKI	808*	88.4*	740*
Visalia	12	VIS	635	120.4	635
Other (9)			2,169	162.7	2,169

State Total

718,789 56,460.0 136,550

REGION: WESTERN

STATE: NEVADA

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Elko	10	EKO	3,568	870.6	1,220
Ely	10	ELY	1,500	317.8	827
Las Vegas	1	LAS	54,712	9,595.2	7,704
Reno	2	RNO	2,147	598.7	815
Winnemucca	U	WMC	162*	22.8*	162*
Others			144	21.0	144*

State Total 62,233 11,426.1 10,872

Region Total 853,152 79,683.8 168,133

REGION: NORTHWEST

STATE: IDAHO

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En- planements</u>	<u>RPM (000)</u>	<u>De- partures</u>
Boise	3	BOI	11,382	1,751.0	2,070
Sun Valley/Hailey/ Ketchum	11	SUN	17,590	3,087.1	3,095
Twin Falls	9	TWF	2,916	510.0	969
Other (4)			177	32.3	177
State Total			32,065	5,380.4	6,311

STATE: OREGON

Astoria/Seaside	6	AST	3,193	269.8	1,660
Baker	5	BKE	1,818	436.3	1,764
Eugene	3	EUG	1,364*	144.4*	446*
La Grande	5	LGD	1,674	382.2	882
Medford	U	MFR	432*	34.8*	432*
Portland	2	PDX	23,823	3,978.4	10,427
Redmond	10	RDM	2,143	258.7	1,421
Salem	8	SLE	1,155	276.0	882
State Total			35,602	4,780.6	17,914

REGION: NORTHWEST

STATE: WASHINGTON

<u>Airport</u>	<u>Code</u>		<u>Actual 1975</u>		
	<u>Group</u>	<u>Airport</u>	<u>En-</u> <u>planements</u>	<u>RPM (000)</u>	<u>De-</u> <u>partures</u>
Bellingham	6	BLI	8,033	631.6	2,941
Bremerton	4	PWT	1,166	25.6	734
Ephrata/Moses Lake	5	EPH	3,845*	509.2*	1,989
Friday Harbor	11	FRH	7,369*	470.0*	2,412
Hoquiam	12	HQM	932*	78.1*	932*
Oak Harbor	6	OAB	6,333	367.3	1,820
Olympia	U	OLM	491*	21.1*	491*
Pasco/Kennewick/ Richland	10	PSC	21,994	3,451.8	6,502
Port Angeles	6	CLM	4,395	316.4	1,456
Pullman, Wash./ Moscow, Ida.	4	PUW	17,470	3,361.1	4,235
Seattle	1	BFI	61,866	8,451.8	24,524
Spokane	2	GEG	18,363	2,340.9	3,432
Walla Walla	4	ALW	16,101	2,873.7	4,798
Wenatchee	5	EAT	11,028	1,273.7	2,322
Yakima	9	YKM	9,195	1,222.6	1,968
Other (3)			173	6.4	173
State Total			188,754	25,401.3	60,729
Region Total			256,421	35,562.3	84,954

* Includes estimates for missing data (incomplete carrier report).

SOURCE: CAB Data Tapes of Commuter Air Carriers' Statistics.

NOTES ON APPENDIX B

Appendix B presents the growth rates used as well the boarding factors.

The forecast of population and income (based on the BEA area projections) are used in computing the total economic/isolation units which determine each point's allocation of the non-hub groups' total enplanements.

The boarding factors are used in computing operations. The 1988 values represent an increase of 15% over the base year (same rate used in national model).

For the new points, the values were computed from a regression equation based on the existing non-hub exclusive commuter points.

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 1
LARGE HUBS

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ATLANTA	0.0000	0.0000	1.0507	1.0469	8.40	9.66
BOSTON	0.0000	0.0000	1.0447	1.0353	5.50	6.32
CHICAGO	0.0000	0.0000	1.0420	1.0330	5.50	6.32
CLEVELAND	0.0000	0.0000	1.0421	1.0304	5.80	6.67
DALLAS/FT WORTH	0.0000	0.0000	1.0521	1.0351	6.30	7.24
DENVER	0.0000	0.0000	1.0518	1.0440	8.00	9.20
DETROIT	0.0000	0.0000	1.0406	1.0333	4.00	4.60
HOUSTON	0.0000	0.0000	1.0507	1.0434	5.90	6.78
KANSAS CITY	0.0000	0.0000	1.0450	1.0374	4.00	4.60
LAS VEGAS	0.0000	0.0000	1.0507	1.0420	7.10	8.16
LOS ANGELES	0.0000	0.0000	1.0440	1.0334	7.50	8.62
MIAMI/FT LAUDERDALE	0.0000	0.0000	1.0668	1.0496	21.50	24.72
MINNEAPOLIS/ST PAUL	0.0000	0.0000	1.0498	1.0399	3.20	3.68
NEWARK	0.0000	0.0000	1.0435	1.0347	5.00	5.75
NEW ORLEANS	0.0000	0.0000	1.0771	1.0328	5.50	6.32
NEW YORK	0.0000	0.0000	1.0392	1.0315	5.00	5.75
PHILADELPHIA	0.0000	0.0000	1.0416	1.0325	8.70	10.00
PHOENIX	0.0000	0.0000	1.0562	1.0468	4.00	4.60
PITTSBURGH	0.0000	0.0000	1.0372	1.0278	9.20	10.58
ST LOUIS	0.0000	0.0000	1.0411	1.0311	3.90	4.48
SAN FRANCISCO/OAKLAN	0.0000	0.0000	1.0415	1.0345	7.20	8.28
SEATTLE	0.0000	0.0000	1.0456	1.0357	2.50	2.87
TAMPA/ST PETERSB'	0.0000	0.0000	1.0676	1.0471	9.10	10.46
WASHINGTON	0.0000	0.0000	1.0489	1.0479	8.30	9.54

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 2
MEDIUM HUBS

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALBANY N Y	0.0000	0.0000	1.0407	1.0368	7.60	8.74
ALBUQUERQUE	0.0000	0.0000	1.0464	1.0390	3.10	3.56
BALTIMORE	0.0000	0.0000	1.0365	1.0340	4.20	4.83
BUFFALO	0.0000	0.0000	1.0302	1.0298	6.00	6.90
CHARLOTTE	0.0000	0.0000	1.0486	1.0424	1.90	2.18
CINCINNATI	0.0000	0.0000	1.0436	1.0346	1.10	1.26
DES MOINES	0.0000	0.0000	1.0463	1.0354	1.50	1.72
HARTFORD/SPRINGFIELD	0.0000	0.0000	1.0448	1.0347	4.60	5.29
INDIANAPOLIS	0.0000	0.0000	1.0449	1.0380	3.90	4.48
JACKSONVILLE	0.0000	0.0000	1.0468	1.0425	3.70	4.25
LOUISVILLE	0.0000	0.0000	1.0520	1.0522	3.40	3.91
MEMPHIS	0.0000	0.0000	1.0454	1.0413	2.00	2.30
MILWAUKEE	0.0000	0.0000	1.0391	1.0277	1.50	1.72
NASHVILLE	0.0000	0.0000	1.0494	1.0459	2.60	2.99
NORFOLK	0.0000	0.0000	1.0290	1.0355	2.80	3.22
ORLANDO	0.0000	0.0000	1.0527	1.0415	2.90	3.33
PORTLAND ORE	0.0000	0.0000	1.0445	1.0371	2.30	2.64
RALEIGH/DURHAM	0.0000	0.0000	1.0454	1.0454	2.20	2.53
RENO	0.0000	0.0000	1.0525	1.0493	2.60	2.99
SALT LAKE CITY	0.0000	0.0000	1.0422	1.0418	3.80	4.37
SAN ANTONIO	0.0000	0.0000	1.0319	1.0369	2.80	3.22
SAN DIEGO	0.0000	0.0000	1.0397	1.0405	4.30	4.94
SPOKANE	0.0000	0.0000	1.0376	1.0294	5.40	6.21
SYRACUSE	0.0000	0.0000	1.0431	1.0339	8.90	10.23
TUCSON	0.0000	0.0000	1.0439	1.0419	1.90	2.18
TULSA	0.0000	0.0000	1.0438	1.0351	3.90	4.48
W PALM BEACH	0.0000	0.0000	1.0572	1.0443	17.50	20.12

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 3
SMALL HUBS

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALLENTOWN	0.0000	0.0000	1.0392	1.0299	3.40	3.91
FANGOR	0.0000	0.0000	1.0294	1.0271	2.30	2.64
BATON ROUGE	0.0000	0.0000	1.0481	1.0389	2.50	2.87
BOISE	0.0000	0.0000	1.0421	1.0377	5.50	6.32
BURLINGTON VT	0.0000	0.0000	1.0554	1.0464	3.80	4.37
CHARLESTON W VA	0.0000	0.0000	1.0338	1.0350	7.70	8.85
CHATTANOOGA	0.0000	0.0000	1.0535	1.0421	2.10	2.41
EUGENE	0.0000	0.0000	1.0429	1.0332	3.10	3.56
FT MYERS	0.0000	0.0000	1.0776	1.0569	7.90	9.08
FT WAYNE	0.0000	0.0000	1.0449	1.0431	4.50	5.17
FRESNO	0.0000	0.0000	1.0312	1.0293	3.30	3.79
GRAND JUNCTION	0.0000	0.0000	1.0344	1.0318	1.00	1.15
HARRISBURG	0.0000	0.0000	1.0442	1.0392	4.70	5.40
INDIO/PALM SPRINGS	0.0000	0.0000	1.0442	1.0392	3.60	4.14
JACKSON/VICKSBURG	0.0000	0.0000	1.0439	1.0385	2.90	3.33
KNOXVILLE	0.0000	0.0000	1.0404	1.0378	2.10	2.41
LEXINGTON/FRANKFORT	0.0000	0.0000	1.0518	1.0470	1.40	1.61
LITTLE ROCK	0.0000	0.0000	1.0470	1.0440	9.10	10.46
ONTARIO/RIVERSIDE/SA	0.0000	0.0000	1.0520	1.0380	7.60	8.74
PORTLAND ME	0.0000	0.0000	1.0389	1.0338	1.80	2.07
PROVIDENCE	0.0000	0.0000	1.0439	1.0330	2.10	2.41
RICHMOND	0.0000	0.0000	1.0468	1.0398	10.20	11.73
ROANOKE	0.0000	0.0000	1.0485	1.0421	1.70	1.95
SACRAMENTO	0.0000	0.0000	1.0405	1.0375	6.00	6.90
SAN JOSE	0.0000	0.0000	1.0587	1.0454	2.10	2.41
SANTA BARBARA/S MARI	0.0000	0.0000	1.0524	1.0390	5.20	5.98
SARASOTA/BRADENTON	0.0000	0.0000	1.0822	1.0581	2.50	2.87
SCRANTON/WIL BARRE	0.0000	0.0000	1.0538	1.0179	3.70	4.25
SHREVEPORT	0.0000	0.0000	1.0392	1.0350	7.50	8.62
SOUTH BEND	0.0000	0.0000	1.0411	1.0325	2.60	2.99
SPRINGFIELD ILL	0.0000	0.0000	1.0498	1.0408	4.00	4.60
TALLAHASSEE	0.0000	0.0000	1.0560	1.0510	5.70	6.55
WICHITA	0.0000	0.0000	1.0274	1.0266	2.80	3.22

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 4

NON-HUPS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- INSTITUTIONAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
AUBURN ALA	0.9998	1.0068	1.0313	1.0300	1.50	1.72
AUGUSTA GA	1.0005	1.0020	1.0314	1.0307	1.70	1.95
BLOOMINGTON IND	1.0151	1.0129	1.0340	1.0269	5.70	6.55
BOWLING GREEN	1.0116	1.0138	1.0333	1.0304	1.20	1.38
BREMERTON	0.9983	1.0060	1.0405	1.0261	1.60	1.84
CARBONDALE	1.0020	1.0020	1.0369	1.0280	5.30	6.09
COLLEGE STATION	0.9989	1.0061	1.0346	1.0298	3.90	4.48
FT POLK LA	1.0036	1.0040	1.0395	1.0303	6.40	7.36
GROTON-NEW LONDON	1.0103	1.0084	1.0365	1.0256	7.60	8.74
GREENVILLE N C	1.0069	1.0079	1.0342	1.0296	1.20	1.38
INYOKERN CAL	0.9920	1.0011	1.0376	1.0264	6.80	7.82
JAMESTOWN N Y	0.9994	1.0015	1.0348	1.0271	7.20	8.28
KILLEEN TEX	0.9815	0.9938	1.0398	1.0294	9.70	11.15
LAWRENCE KAN	0.9976	1.0015	1.0328	1.0279	1.70	1.95
LOS ALAMOS	0.9990	1.0041	1.0387	1.0286	5.30	6.09
MACOMB ILL	1.0032	1.0050	1.0346	1.0272	2.60	2.99
NEWPORT	1.0149	1.0135	1.0389	1.0265	1.30	1.49
PHILLIPSBURG-ST COLL	1.0034	1.0036	1.0390	1.0284	7.70	8.85
PLATTSEBURG	1.0039	1.0014	1.0325	1.0297	3.40	3.91
POUGHKEEPSIE	1.0083	1.0090	1.0347	1.0254	5.20	5.98
PULLMAN	0.9991	0.9973	1.0322	1.0270	4.10	4.71
FUTLAND	1.0047	1.0025	1.0384	1.0307	1.80	2.07
SAN LUIS OBISPO	1.0059	1.0064	1.0353	1.0254	5.30	6.09
WALLA WALLA	0.9978	0.9991	1.0329	1.0267	3.40	3.91

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 5
NON-HUBS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- AGRICULTURAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
FAKER	0.9977	0.9991	1.0408	1.0267	1.00	1.15
BIG SPRING	0.9793	0.9954	1.0318	1.0252	1.80	2.07
DEL RIO	1.0003	1.0039	1.0367	1.0292	2.90	3.33
DODGE CITY	1.0236	0.9949	1.0342	1.0257	1.80	2.07
EPHRATA	0.9991	0.9973	1.0322	1.0270	1.20	1.38
GILLETTE	0.9951	0.9994	1.0328	1.0263	2.80	3.22
GREAT BEND	0.9943	0.9942	1.0234	1.0274	1.60	1.84
GREENWOOD SC	1.0098	1.0095	1.0337	1.0282	1.00	1.15
HAGERSTOWN	1.0076	1.0075	1.0336	1.0261	6.70	7.70
HUTCHINSON	1.0236	0.9949	1.0341	1.0257	1.00	1.15
KEOKUK	1.0035	1.0034	1.0346	1.0282	1.40	1.61
LA GRANDE ORE	0.9978	0.9991	1.0329	1.0267	1.90	2.18
MARSHFIELD WIS	1.0040	1.0057	1.0407	1.0274	2.00	2.30
MOSES LAKE	0.9991	0.9973	1.0322	1.0270	2.60	2.99
NAPA	1.0099	1.0092	1.0358	1.0279	1.00	1.15
NATCHEZ	1.0035	1.0040	1.0395	1.0303	3.70	4.25
NEW ULM	1.0021	1.0062	1.0417	1.0281	2.50	2.87
OCALA	1.0134	1.0105	1.0339	1.0281	1.20	1.38
OLATHE	0.9977	1.0015	1.0327	1.0279	1.70	1.95
OXNARD	1.0060	1.0064	1.0353	1.0254	4.40	5.06
PASO ROBLES	1.0060	1.0064	1.0353	1.0254	1.40	1.61
PINE BLUFF	1.0069	1.0066	1.0296	1.0301	1.60	1.84
PRESCOTT	1.0051	1.0113	1.0314	1.0255	1.00	1.15
SALISBURY	1.0075	1.0075	1.0336	1.0261	7.20	8.28
SANTA ROSA	1.0099	1.0092	1.0358	1.0279	2.90	3.33
SHEBOYGAN	1.0018	1.0033	1.0375	1.0283	1.70	1.95
SPENCER	1.0013	1.0006	1.0385	1.0269	1.50	1.72
ST GEORGE	1.0123	1.0112	1.0357	1.0275	1.30	1.49
STURGEON BAY	1.0017	1.0033	1.0375	1.0283	3.20	3.68
TERRE HAUTE	1.0079	1.0020	1.0347	1.0294	6.20	7.13
WENATCHEE	0.9991	0.9973	1.0322	1.0270	4.70	5.40
WINONA	0.9998	1.0006	1.0377	1.0287	1.30	1.49
WISCONSIN RAPIDS	1.0040	1.0057	1.0407	1.0274	2.00	2.30

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 6
NON-HUBS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- INDUSTRIAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALTOONA	1.0073	1.0060	1.0357	1.0275	7.10	8.16
ASHLAND	0.9939	0.9971	1.0337	1.0296	3.10	3.56
ASTORIA	1.0111	1.0077	1.0354	1.0274	1.90	2.18
APPLETON	1.0018	1.0033	1.0375	1.0283	8.60	9.89
BELLINGHAM	0.9983	1.0060	1.0405	1.0261	2.70	3.10
CLINTON IOWA	0.9999	1.0022	1.0353	1.0261	2.20	2.53
CUMBERLAND	1.0042	1.0002	1.0382	1.0284	2.00	2.30
DANVILLE ILL	1.0047	1.0042	1.0295	1.0272	8.20	9.43
DUPOIS	1.0034	1.0036	1.0390	1.0284	2.50	2.87
ELKINS	1.0077	1.0029	1.0279	1.0302	2.30	2.64
EVELETH	0.9939	0.9971	1.0337	1.0296	1.00	1.15
FT MADISON	1.0035	1.0034	1.0346	1.0282	1.00	1.15
FULLETON	1.0059	1.0064	1.0353	1.0254	2.20	2.53
GALION	1.0043	1.0034	1.0373	1.0268	1.70	1.95
GALVESTON	1.0114	1.0069	1.0377	1.0291	3.60	4.14
HAZELTON	1.0165	1.0132	1.0374	1.0290	1.20	1.38
JOHNSTOWN	1.0042	1.0002	1.0382	1.0284	7.70	8.85
LAKE JACKSON TEX	1.0114	1.0069	1.0377	1.0291	4.00	4.60
LANCASTER	1.0047	1.0060	1.0357	1.0308	5.50	6.32
MANSFIELD	1.0043	1.0034	1.0373	1.0268	2.20	2.53
MASSENA	1.0053	1.0031	1.0384	1.0277	3.10	3.56
MICHIGAN CITY	1.0124	1.0103	1.0348	1.0264	2.20	2.53
MUNCIE	1.0108	1.0038	1.0325	1.0264	6.10	7.01
MOAB	0.9977	1.0040	1.0368	1.0277	1.30	1.49
OAK HARBOR	1.0003	1.0041	1.0405	1.0261	3.50	4.02
OGDENSEUPG	1.0053	1.0031	1.0364	1.0277	1.70	1.95
OIL CITY	1.0117	1.0060	1.0346	1.0278	6.60	7.59
ONEONTA	1.0053	1.0031	1.0364	1.0277	5.70	6.55
OWENSEPOO	1.0086	1.0055	1.0299	1.0289	2.80	3.22
PALMDALE	1.0059	1.0064	1.0353	1.0396	2.30	2.64
PITTSFIELD	1.0039	1.0014	1.0325	1.0297	5.60	6.44
PORT ANGELES	1.0003	1.0041	1.0405	1.0261	3.00	3.45
PULASKI VA	1.0137	1.0088	1.0314	1.0287	3.50	4.02
READING	1.0078	1.0052	1.0357	1.0272	5.50	6.32
TRENTON	1.0078	1.0052	1.0357	1.0272	6.20	7.13
VALPARAISO	1.0124	1.0103	1.0523	1.0264	1.00	1.15
VICTORIA	1.0003	1.0040	1.0367	1.0292	9.30	10.69
WATERBURY	1.0053	1.0031	1.0364	1.0277	2.50	2.87
WILMINGTON	1.0078	1.0052	1.0357	1.0272	2.90	3.33

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 7

NON-HUBS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- RECREATIONAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ASEBURY PARK	1.0083	1.0090	1.0347	1.0254	4.70	5.40
ATLANTIC CITY	1.0078	1.0052	1.0357	1.0272	5.60	6.44
BRUNSWICK GA	1.0135	1.0094	1.0339	1.0281	5.30	6.09
CAPE MAY	1.0078	1.0052	1.0357	1.0272	4.90	5.63
EAST HAMPTON	1.0084	1.0090	1.0338	1.0254	1.60	1.84
GRAND RAPIDS MINN	1.0056	1.0056	1.0406	1.0279	2.50	2.87
HAYWARD WIS	1.0058	1.0046	1.0372	1.0285	2.40	2.76
KEY WEST	1.0250	1.0213	1.0325	1.0244	10.90	12.53
MARATHON	1.0250	1.0213	1.0325	1.0244	4.40	5.06
MARTHA'S VINEYARD	1.0149	1.0135	1.0369	1.0265	1.10	1.26
NANTUCKET	1.0149	1.0135	1.0369	1.0265	1.80	2.07
NAPLES	1.0240	1.0213	1.0325	1.0244	17.00	19.55
PROVINCETOWN	1.0149	1.0135	1.0369	1.0265	8.90	10.23
PUNTA GORDA	1.0160	1.0111	1.0368	1.0293	1.80	2.07
ROCKLAND	0.9979	1.0033	1.0388	1.0278	3.70	4.25
SARANAC LAKE	1.0039	1.0014	1.0325	1.0297	2.50	2.87
VERO BEACH	1.0251	1.0213	1.0325	1.0244	2.90	3.33
WESTERLY P I	1.0149	1.0135	1.0369	1.0265	3.10	3.56

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 8

NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- INSTITUTIONAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
CHARLOTTESVILLE	1.0097	1.0068	1.0307	1.0289	1.00	1.15
FAYETTEVILLE ARK	1.0048	1.0045	1.0357	1.0284	8.00	9.20
GAINESVILLE	1.0134	1.0108	1.0339	1.0281	1.60	1.84
JEFFERSON CITY	0.9977	1.0015	1.0365	1.0299	3.00	3.45
MANHATTAN	0.9976	1.0015	1.0328	1.0279	3.00	3.45
MORGANTOWN	1.0077	1.0029	1.0279	1.0302	4.90	5.63
SALEM ORE	1.0111	1.0076	1.0354	1.0274	1.30	1.49
TOPEKA	0.9976	1.0015	1.0328	1.0279	5.80	6.67
WACO	0.9814	0.9938	1.0398	1.0294	3.60	4.14
YUMA	1.0051	1.0113	1.0314	1.0255	4.10	4.71

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 9
NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- AGRICULTURAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALEXANDRIA LA	0.9951	0.9951	1.0312	1.0310	1.90	2.18
FAKERSFIELD	0.9919	1.0011	1.0318	1.0264	3.20	3.68
CHICO	1.0011	1.0037	1.0326	1.0269	1.00	1.15
DUPUQUE	1.0008	1.0011	1.0436	1.0285	3.00	3.45
EAU CLAIRE	1.0058	1.0046	1.0372	1.0285	1.00	1.15
EL CENTRO	1.0060	1.0064	1.0353	1.0254	5.30	6.09
ELMIRA-CORNING	0.9996	1.0014	1.0389	1.0278	2.90	3.33
FLAGSTAFF	1.0052	1.0113	1.0314	1.0255	1.20	1.38
FLORENCE S C	1.0091	1.0083	1.0336	1.0299	2.70	3.10
GARDEN CITY KAN	0.9764	0.9949	1.0342	1.0257	2.30	2.64
HAYS	0.9942	0.9942	1.0234	1.0274	2.70	3.10
JONESBORO	1.0056	1.0052	1.0364	1.0298	1.90	2.18
LA CROSSE	0.9998	1.0006	1.0377	1.0223	2.70	3.10
LAKE CHARLES	0.9878	0.9986	1.0361	1.0287	2.30	2.64
PAGE	1.0051	1.0113	1.0314	1.0255	2.40	2.76
PRESQUE ISLE	0.9904	0.9984	1.0393	1.0288	6.20	7.13
QUINCY	1.0036	1.0035	1.0346	1.0282	2.00	2.30
RED FLUFF	1.0010	1.0059	1.0353	1.0267	2.00	2.30
SALINA	0.9942	0.9942	1.0234	1.0274	1.50	1.72
TEMPLE	0.9814	0.9938	1.0398	1.0294	1.70	1.95
TWIN FALLS	0.9948	1.0050	1.0392	1.0269	3.00	3.45
YAKIMA	0.9978	0.9991	1.0329	1.0265	4.70	5.40

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 10

NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- INDUSTRIAL

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
BEAUMONT	1.0142	1.0039	1.0389	1.0312	7.10	8.16
BINGHAMTON	0.9996	1.0014	1.0389	1.0278	3.50	4.02
BRIDGEPORT	1.0084	1.0090	1.0338	1.0254	2.90	3.33
CAPE GIRARDEAU	1.0097	1.0050	1.0283	1.0304	1.80	2.07
CEDAR CITY	1.0123	1.0112	1.0357	1.0275	1.40	1.61
CLARKSEURG W VA	1.0077	1.0029	1.0279	1.0302	6.00	6.90
CRESCENT CITY	1.0076	1.0038	1.0299	1.0269	1.20	1.38
ELKO	1.0184	1.0188	1.0292	1.0254	2.90	3.33
ELY	1.0184	1.0188	1.0292	1.0254	1.80	2.07
EUREKA	1.0076	1.0038	1.0299	1.0269	2.30	2.64
GULFPORT	1.0075	1.0077	1.0391	1.0300	2.20	2.53
HANCOCK-HOUGHTON	1.0018	1.0033	1.0375	1.0283	5.60	6.44
HICKORY	1.0118	1.0094	1.0336	1.0271	1.60	1.84
KINGMAN	1.0052	1.0113	1.0314	1.0255	1.00	1.15
LAFAYETTE LA	0.9878	0.9986	1.0361	1.0289	4.30	4.94
LONGVIEW	1.0136	1.0092	1.0384	1.0297	3.80	4.37
NEW HAVEN	1.0103	1.0083	1.0366	1.0256	2.20	2.53
PASCO	0.9978	0.9991	1.0329	1.0267	3.40	3.91
REDMOND	1.0111	1.0077	1.0354	1.0274	1.50	1.72
TEXARKANA	0.9978	1.0022	1.0330	1.0308	2.10	2.41
TYLER	1.0136	1.0092	1.0384	1.0297	5.00	5.75
UTICA	1.0053	1.0031	1.0364	1.0277	1.70	1.95
WICHITA FALLS	0.9902	0.9976	1.0368	1.0282	7.80	8.97
WILLIAMSPORT	1.0035	1.0036	1.0390	1.0294	6.80	7.82

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 11
NON-HUES -- UNCLASSIFIED

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ASPEN COLO	0.9977	1.0040	1.0368	1.0277	7.60	8.74
AVALON CAL	1.0060	1.0064	1.0353	1.0254	5.80	6.67
BAR HARBOR	0.9904	0.9984	1.0393	1.0288	3.80	4.37
BISHOP	1.0060	1.0064	1.0353	1.0254	2.20	2.53
BLOCK ISLAND F I	1.0149	1.0135	1.0369	1.0265	2.90	3.33
CASPER	0.9951	0.9994	1.0328	1.0263	2.00	2.30
CLEAR LAKE CITY TEX	1.0114	1.0069	1.0377	1.0291	5.80	6.67
CONCORD CAL	1.0099	1.0092	1.0358	1.0279	1.00	1.15
EAGLE	0.9977	1.0040	1.0368	1.0277	3.00	3.45
EASTON MD	1.0076	1.0075	1.0336	1.0261	1.40	1.61
FRIDAY HARBOR WA	0.9983	1.0060	1.0405	1.0261	3.10	3.56
GRAND CANYON	1.0051	1.0113	1.0314	1.0255	6.80	7.82
HILTON HEAD	0.9825	1.0036	1.0389	1.0276	5.60	6.44
HYANNIS	1.0149	1.0135	1.0369	1.0265	3.90	4.48
ISLIP N Y	1.0084	1.0090	1.0338	1.0254	2.90	3.33
LAKE HAVASU ARIZ	1.0051	1.0113	1.0314	1.0255	1.10	1.26
MAMMOTH LAKES	1.0060	1.0064	1.0353	1.0254	5.00	5.75
MARCO ISLAND FLA	1.0160	1.0111	1.0368	1.0293	18.90	21.73
OCEAN CITY MD	1.0076	1.0075	1.0336	1.0261	1.20	1.38
SAN PEDRO CAL	1.0060	1.0064	1.0353	1.0254	5.90	6.78
SANTA ANA CAL	1.0060	1.0064	1.0353	1.0254	7.10	8.16
SANTA FE N M	0.9990	1.0040	1.0387	1.0286	1.00	1.15
STEAMBOAT SPGS COLO	0.9977	1.0040	1.0368	1.0277	5.40	6.21
STEVENS POINT WIS	1.0040	1.0057	1.0407	1.0274	1.00	1.15
SUN VALLEY	0.9948	1.0050	1.0392	1.0269	5.70	6.55
TWO HARBORS CAL	1.0060	1.0064	1.0353	1.0254	5.10	5.86

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 12
NON-HUBS WITH LESS THAN 1000 COMMUTER PASSENGERS IN 1975

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALTUS	1.0025	1.0046	1.0340	1.0288	1.40	1.61
ANDEFSON S C	1.0098	1.0095	1.0337	1.0284	1.00	1.15
BATTLE CREEK	1.0088	1.0042	1.0356	1.0279	2.80	3.22
BEDFORD MASS	1.0149	1.0135	1.0387	1.0277	1.10	1.26
BORREYO SPGS CAL	1.0092	1.0160	1.0320	1.0241	1.60	1.84
COLUMBUS MISS	1.0072	1.0044	1.0336	1.0302	1.40	1.61
EAGLE RIVER WIS	1.0040	1.0057	1.0407	1.0272	1.00	1.15
ELIZABETH CITY N C	0.9948	1.0043	1.0341	1.0298	1.00	1.15
ELY MINN	0.9939	0.9971	1.0337	1.0296	1.20	1.38
EMPORIA KAN	0.9976	1.0015	1.0328	1.0279	1.60	1.84
FT COLLINS COLO	1.0139	1.0077	1.0304	1.0268	1.00	1.15
GARY	1.0088	1.0042	1.0356	1.0279	1.00	1.15
GLENS FALLS N Y	1.0039	1.0014	1.0325	1.0289	1.00	1.15
GRANBY COLO	1.0139	1.0077	1.0304	1.0268	1.00	1.15
HOQUIAM WASH	1.0003	1.0041	1.0405	1.0261	1.00	1.15
ITHACA/CORTLAND	1.0053	1.0068	1.0307	1.0289	1.00	1.15
KIRKSVILLE	0.9977	1.0015	1.0365	1.0299	1.90	2.18
LAWTON OK	0.9906	0.9975	1.0368	1.0284	1.00	1.15
LIBERAL KAN	0.9764	0.9949	1.0342	1.0257	2.40	2.76
LYNCHEBURG	1.0137	1.0088	1.0314	1.0287	1.50	1.72
MOREHEAD CITY N C	0.9946	1.0073	1.0363	1.0282	1.10	1.26
NOVATO CAL	1.0099	1.0092	1.0358	1.0279	1.00	1.15
OAKLAND MD	1.0042	1.0002	1.0382	1.0284	1.90	2.18
RAWLINS WYO	0.9949	1.0054	1.0370	1.0279	2.60	2.99
UKIAH CAL	1.0099	1.0092	1.0358	1.0279	1.10	1.26
VISALIA	1.0003	1.0041	1.0405	1.0261	1.00	1.15
WAYCROSS GA	1.0134	1.0108	1.0339	1.0281	5.30	6.09

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 13
POTENTIAL COMMUTER POINTS WITH NO CURRENT SERVICE

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ARDMORE OK	1.0048	1.0045	1.0357	1.0284	3.66	4.20
ATHENS OH	1.0091	1.0071	1.0351	1.0280	3.17	3.64
AUSTIN/ALF LEA MN	1.0007	1.0031	1.0381	1.0259	2.96	3.40
EERLIN NH	1.0047	1.0025	1.0384	1.0307	2.73	3.14
ELYTHEVILLE ARK	1.0056	1.0052	1.0364	1.0298	3.05	3.51
BOULDER COL	1.0139	1.0077	1.0304	1.0268	4.23	4.87
CADILLAC MICH	1.0058	1.0056	1.0406	1.0280	2.91	3.35
CHILLICOTHE MO	0.9976	1.0015	1.0328	1.0279	2.80	3.22
CHILLICOTHE OH	1.0007	1.0071	1.0414	1.0259	3.18	3.66
CLARKSDALE MISS	1.0056	1.0052	1.0364	1.0298	3.18	3.66
COLUMBUS/SEYMOUR IN	1.0151	1.0129	1.0340	1.0269	5.36	6.17
COSHOCTON OH	1.0043	1.0034	1.0373	1.0268	3.51	4.04
DANBURY CONN	1.0084	1.0090	1.0338	1.0254	8.01	9.21
DYERSBURG TN	1.0056	1.0052	1.0364	1.0298	2.69	3.09
EAGLE PASS TX	1.0003	1.0040	1.0367	1.0292	2.95	3.39
FOND DU LAC WIS	1.0056	1.0052	1.0364	1.0298	2.83	3.25
FREEPORT ILL	1.0075	1.0063	1.0353	1.0259	2.83	3.26
HEMET CA	1.0060	1.0064	1.0353	1.0254	3.31	3.80
HOPKINSVILLE KY	1.0116	1.0138	1.0333	1.0266	2.53	2.91
HUNTSVILLE TX	1.0114	1.0069	1.0373	1.0268	3.10	3.56
JACKSONVILLE ILL	1.0069	1.0063	1.0321	1.0272	3.35	3.85
JOLIET ILL	1.0124	1.0103	1.0523	1.0264	5.11	5.88
KANKAKEE ILL	1.0124	1.0103	1.0523	1.0264	5.36	6.16
LAKELAND/BARTOW FL	1.0160	1.0111	1.0368	1.0293	3.89	4.48
LAMAR CO	0.9870	1.0007	1.0365	1.0285	2.94	3.38
LIMA OH	1.0092	1.0068	1.0402	1.0320	5.72	6.58
LOMPAC CA	1.0060	1.0064	1.0353	1.0254	2.84	3.27
MCCOME/MAG MISS	1.0035	1.0040	1.0395	1.0303	3.24	3.73
MINERAL WELLS TX	1.0035	1.0058	1.0421	1.0284	3.81	4.38
MORGAN CITY LA	0.9878	0.9986	1.0361	1.0287	3.85	4.43
NACOGDOCHES TX	1.0136	1.0092	1.0384	1.0297	2.81	3.23
NATCHITOCHE LA	0.9972	0.9994	1.0400	1.0308	2.62	3.01
NORTH ADAMS MA	1.0039	1.0014	1.0325	1.0297	2.77	3.19
PAMPA TX	0.9844	0.9872	1.0388	1.0246	3.12	3.59
PLAINVIEW TX	0.9844	0.9872	1.0388	1.0246	2.79	3.21
POPLAR BLUFF MO	1.0097	1.0050	1.0283	1.0304	3.61	4.15
PORTSMOUTH OH	1.0109	1.0073	1.0350	1.0309	4.90	5.64
RICHMOND IND	1.0151	1.0129	1.0340	1.0269	4.50	5.18

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

*GROUP 13
POTENTIAL COMMUTER POINTS WITH NO CURRENT SERVICE*

<i>CITY</i>	<i>ANNUAL GROWTH RATES</i>				<i>BOARDING FACTORS</i>	
	<i>POPULATION</i>		<i>INCOME</i>		<i>1975</i>	<i>1988</i>
	<i>75-80</i>	<i>80-88</i>	<i>75-80</i>	<i>80-88</i>		
<i>ROME GA</i>	1.0157	1.0130	1.0357	1.0287	4.39	5.05
<i>ST CLOUD MN</i>	1.0021	1.0062	1.0417	1.0281	4.52	5.20
<i>SANTA CRUZ CA</i>	1.0099	1.0092	1.0358	1.0279	4.88	5.61
<i>STERLING COL</i>	1.0139	1.0077	1.0304	1.0268	3.17	3.65
<i>STILLWATER OK</i>	1.0048	1.0045	1.0357	1.0284	3.85	4.43
<i>STROUDSBURG/POC PA</i>	1.0078	1.0052	1.0357	1.0272	2.07	2.38
<i>TOMS RIVER NJ</i>	1.0078	1.0052	1.0357	1.0272	3.68	4.23
<i>VINCENNES IND</i>	1.0086	1.0049	1.0358	1.0279	2.91	3.34
<i>VINELAND NJ</i>	1.0078	1.0052	1.0357	1.0272	5.48	6.30
<i>WARNER ROBINS GA</i>	1.0041	1.0054	1.0349	1.0300	2.77	3.19
<i>WINCHESTER VA</i>	1.0149	1.0120	1.0343	1.0287	3.01	3.46
<i>ZANESVILLE OH</i>	1.0091	1.0071	1.0351	1.0280	3.66	4.20

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 14

POTENTIAL COMMUTER POINTS NOW SERVED BY A CERTIFICATED AIRLINE

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
ALAMOGORDO NM	0.9958	1.0038	1.0361	1.0265	2.76	3.17
ALAMOSA COL	0.9897	1.0007	1.0365	1.0285	2.46	2.83
ALLIANCE NEB	0.9866	0.9934	1.0153	1.0265	2.15	2.47
ALPENA MICH	1.0074	1.0074	1.0301	1.0278	3.21	3.69
ATHENS GA	1.0157	1.0130	1.0358	1.0287	4.75	5.46
BECKLEY WVA	0.9956	0.9934	1.0339	1.0301	2.45	2.81
BELOIT/JANESVILLE WI	1.0090	1.0086	1.0375	1.0279	3.53	4.06
BEMIDJI MN	0.9998	1.0006	1.0377	1.0233	2.34	2.69
BLOOMINGTON ILL	1.0030	1.0052	1.0311	1.0272	4.39	5.05
BLYTHE CA	1.0059	1.0064	1.0353	1.0396	2.30	2.64
BRAINERD MN	1.0021	1.0062	1.0417	1.0281	2.82	3.24
BROOKINGS SD	0.9992	0.9997	1.0377	1.0280	2.38	2.74
CARLSBAD NM	0.9958	0.9963	1.0361	1.0265	2.21	2.54
CHADRON NEB	0.9896	0.9934	1.0153	1.0265	2.22	2.55
CLOVIS NM	1.0004	0.9945	1.0336	1.0286	5.29	6.08
COLUMBUS NEB	1.0004	1.0004	1.0389	1.0264	2.82	3.24
CORTEZ COL	0.9977	1.0040	1.0368	1.0277	1.96	2.26
DANVILLE VA	1.0137	1.0088	1.0314	1.0287	3.40	3.91
DEVILS LAKE ND	0.9912	0.9975	1.0221	1.0281	2.40	2.76
EL DORADO/CAMDEN ARK	0.9936	0.9975	1.0386	1.0294	4.04	4.64
ENID OK	1.0025	1.0046	1.0340	1.0288	4.49	5.17
FAIRMONT MN	1.0021	1.0062	1.0417	1.0281	2.57	2.95
FORT DODGE IOWA	1.0017	1.0004	1.0385	1.0269	4.23	4.86
FORT LEONARD WOOD MO	1.0056	1.0052	1.0364	1.0298	3.53	4.06
GADSDEN ALA	1.0072	1.0044	1.0336	1.0302	4.23	4.87
GALLUP NM	0.9990	1.0041	1.0387	1.0286	2.63	3.03
GLASGOW MONT	0.9895	0.9992	1.0347	1.0262	1.94	2.23
GLENDIVE MONT	0.9958	0.9967	1.0336	1.0270	2.02	2.32
GREENBRIER WVA	0.9956	0.9934	1.0339	1.0301	3.19	3.66
GREENWOOD MISS	0.9936	0.9975	1.0386	1.0294	2.28	2.63
GUNNISON COL	0.9977	1.0040	1.0368	1.0277	1.98	2.28
HARRISON ARK	1.0057	1.0025	1.0363	1.0309	2.60	2.99
HASTINGS NEB	0.9951	0.9984	1.0295	1.0268	2.37	2.72
HOBBS NM	0.9958	0.9962	1.0361	1.0265	3.00	3.44
HOT SPRINGS VA	1.0149	1.0120	1.0328	1.0287	1.90	2.18
HAVRE MONT	0.9895	0.9992	1.0347	1.0262	2.76	3.17
HURON SD	0.9992	0.9997	1.0377	1.0280	2.49	2.87
INTL FALLS MN	0.9939	0.9971	1.0337	1.0296	2.96	3.41

GROWTH RATES AND PASSENGER BOARDING FACTORS USED IN FORECASTS

GROUP 14

POTENTIAL COMMUTER POINTS NOW SERVED BY A CERTIFICATED AIRLINE

CITY	ANNUAL GROWTH RATES				BOARDING FACTORS	
	POPULATION		INCOME		1975	1988
	75-80	80-88	75-80	80-88		
JACKSON MICH	1.0088	1.0042	1.0356	1.0279	3.54	4.07
JAMESTOWN ND	0.9904	0.9948	1.0326	1.0290	3.16	3.63
KEAFNEY NEP	0.9951	0.9984	1.0295	1.0268	2.42	2.78
LEWISTOWN MONT	0.9895	0.9992	1.0347	1.0262	2.36	2.71
LONDON/CORFIN KY	1.0073	1.0098	1.0378	1.0289	2.68	3.08
LOVELL/POWELL/CODY W	0.9958	0.9967	1.0336	1.0270	2.82	3.24
MANISTEE/LUDINGTON M	1.0058	1.0056	1.0406	1.0280	2.60	2.99
MANKATO MN	1.0021	1.0062	1.0417	1.0281	5.30	6.09
MARINETTE/MEN MICH	1.0018	1.0033	1.0375	1.0283	2.62	3.01
MARION/HEFFIN ILL	1.0056	1.0052	1.0364	1.0298	2.07	2.38
MATTOON/CHARLES ILL	1.0047	1.0042	1.0295	1.0272	3.54	4.07
MCALESTER OK	1.0099	1.0055	1.0361	1.0314	3.98	4.57
MCCOOK NEB	0.9951	0.9984	1.0295	1.0268	2.25	2.59
MERCED CA	1.0013	1.0047	1.0343	1.0268	2.60	2.99
MILES CITY MONT	0.9958	0.9967	1.0336	1.0270	2.09	2.40
MITCHELL SD	0.9992	0.9997	1.0377	1.0280	2.22	2.56
MOULTRIE GA	1.0041	1.0056	1.0356	1.0294	2.19	2.52
MOUNT VERNON ILL	1.0056	1.0052	1.0364	1.0298	3.13	3.60
NORFOLK NEP	0.9990	0.9964	1.0379	1.0281	3.12	3.59
OTTAWA ILL	1.0124	1.0103	1.0348	1.0264	3.41	3.93
PONCA CITY OK	1.0048	1.0045	1.0357	1.0284	4.23	4.87
ROCKFORD ILL	1.0075	1.0063	1.0353	1.0259	12.39	14.24
ROCKY MOUNT NC	1.0069	1.0079	1.0342	1.0296	3.38	3.89
SAULTE STE MARIE MIC	1.0074	1.0074	1.0301	1.0278	3.56	4.10
SIDNEY MONT	0.9866	0.9917	1.0335	1.0278	1.87	2.15
SIDNEY NEP	0.9866	0.9934	1.0153	1.0265	2.01	2.32
SILVER CITY NM	0.9958	1.0038	1.0361	1.0265	2.46	2.83
THIEF RIVER FALLS MN	0.9912	0.9975	1.0221	1.0281	2.19	2.52
TUPELO MISS	1.0072	1.0044	1.0336	1.0302	4.00	4.60
UNIVERSITY/OXFORD MI	1.0056	1.0052	1.0364	1.0298	2.70	3.10
WATERTOWN SD	0.9860	0.9948	1.0323	1.0287	2.36	2.72
WILLISTON ND	0.9866	0.9917	1.0335	1.0278	3.08	3.54
WOLF POINT MONT	0.9866	1.0083	1.0335	1.0278	2.12	2.43
WORLAND WY	0.9958	0.9967	1.0336	1.0270	2.13	2.45
WORTHINGTON MN	0.9992	0.9997	1.0377	1.0280	2.22	2.56
YANKTON SD	0.9990	0.9964	1.0379	1.0281	2.50	2.88

NOTES ON APPENDIX C THROUGH G

Appendices C through G present the enplanements and operations forecasts for the groups shown on Table 9. These are:

- Appendix C: Hubs
- D: Non-Hubs
- E: Special Areas
- F: Small Points
- G: Potential New Points.

The methodology for computing the enplanements forecasts is described in Chapter V.

The operations forecasts are computed as follows:

$$2 \left(\frac{\text{Enplanements}}{\text{Boarding Factor}^*} \right)$$

* See Appendix B.

The FAA Region/State Codes shown are a combination of two single digit codes. The first digit is the region. The states (second digit) are numbered alphabetically within regions.

These are:

1. New England Region
 1. Connecticut
 2. Maine
 3. Massachusetts
 4. New Hampshire
 5. Rhode Island
 6. Vermont
2. Eastern Region
 1. Delaware
 2. District of Columbia
 3. Maryland
 4. New Jersey
 5. New York
 6. Pennsylvania
 7. Virginia
 8. West Virginia
3. Southern Region
 1. Alabama
 2. Florida
 3. Georgia
 4. Kentucky
 5. Mississippi
 6. North Carolina
 7. South Carolina
 8. Tennessee
4. Great Lakes Region
 1. Illinois
 2. Indiana
 3. Michigan
 4. Minnesota
 5. Ohio
 6. Wisconsin
5. Central Region
 1. Iowa
 2. Kansas
 3. Missouri
 4. Nebraska
6. Southwest Region
 1. Arkansas
 2. Louisiana
 3. New Mexico
 4. Oklahoma
 5. Texas
7. Rocky Mountain Region
 1. Colorado
 2. Montana
 3. North Dakota
 4. South Dakota
 5. Utah
 6. Wyoming
8. Western Region
 1. Arizona
 2. California
 3. Nevada
9. Northwest Region
 1. Idaho
 2. Oregon
 3. Washington

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

LARGE HUBS

AIRPORT	FAA REGION- STATE	COMMUTER PASSENGERS 1975	TOTAL PERSONAL INCOME 1975	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(MILLIONS)	(000)		
ATLANTA	33	25,131	9776,400	69,428	176.26	14374
BOSTON	13	54,963	21621,300	134,973	145.57	42679
CHICAGO	41	136,299	45542,400	324,582	138.14	102635
CLEVELAND	45	12,183	11183,100	28,447	133.50	8530
DALLAS/FT WORTH	65	120,931	14105,700	307,165	154.00	84794
DENVER	71	64,696	7904,800	175,727	171.62	38201
DETROIT	43	4,315	26143,400	10,231	137.09	4448
HOUSTON	65	104,438	12733,400	280,898	168.96	82800
KANSAS CITY	53	51,857	7537,900	129,613	149.94	56354
LAS VEGAS	83	54,714	1800,500	145,588	166.09	35661
LOS ANGELES	82	239,526	41563,700	577,688	141.18	133957
MIAMI/FT LAUDERDALE	32	183,788	13059,000	559,259	204.30	45238
MINNEAPOLIS/ST PAUL	44	17,973	11069,600	46,857	160.71	25466
NEWARK	24	46,792	12952,400	113,721	143.03	39555
NEW ORLEANS	62	30,811	5521,400	86,458	180.61	27339
NEW YORK	25	91,582	58028,900	212,691	132.24	73980
PHILADELPHIA	26	284,339	30905,700	673,212	136.76	134575
PHOENIX	81	9,411	6171,000	26,667	183.35	11594
PITTSBURGH	26	142,783	11944,300	319,116	123.50	60324
ST LOUIS	53	19,670	12033,800	45,958	133.65	20494
SAN FRANCISCO/OAKLAN	82	29,636	20350,500	71,228	140.34	17205
SEATTLE	93	61,866	10710,900	153,053	147.39	106472
TAMPA/ST PETERSBURG	32	75,043	6614,700	224,879	199.67	42977
WASHINGTON	22	189,619	20803,300	523,361	176.01	109662
TOTAL (AVERAGE)	0	2052,366	17503,254	5240,800	155.35	1319314

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

MEDIUM HUBS	FAA REGION- STATE	COMMUTER PASSENGERS 1975	TOTAL PERSONAL INCOME 1975	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
AIRPORT		(000)	(MILLIONS)	(000)		
ALBANY N Y	25	37.484	4497.600	93.764	150.14	21456
ALBUQUERQUE	63	12.329	1688.700	32.236	161.47	18085
BALTIMORE	23	58.485	10639.200	140.300	139.89	58095
BUFFALO	25	10.188	6878.200	22.947	125.23	6651
CHARLOTTE	36	5.984	3226.500	16.230	171.22	14856
CINCINNATI	45	0.872	8366.400	2.175	149.37	3438
DES MOINES	51	2.333	1839.800	5.930	154.18	6876
HARTFORD/SPRINGFIELD	11	12.654	5932.900	31.762	151.01	12008
INDIANAPOLIS	42	18.604	6152.700	47.925	157.61	21371
JACKSONVILLE	32	6.504	2757.600	17.503	169.11	8227
LOUISVILLE	34	7.284	4653.700	21.639	197.08	11069
MEMPHIS	38	1.317	4044.600	3.488	164.86	3033
MILWAUKEE	46	2.438	8570.000	5.640	131.32	6539
NASHVILLE	38	7.343	3720.800	20.535	179.66	13736
NORFOLK	27	5.188	3506.400	12.142	134.03	7541
ORLANDO	32	7.355	2891.000	20.201	174.66	12115
PORTLAND ORE	92	23.823	5994.500	60.828	155.33	45995
RALEIGH/DURHAM	36	3.237	2454.300	8.847	173.32	6994
RENO	83	2.147	903.900	6.254	191.28	4183
SALT LAKE CITY	75	22.516	3504.300	58.955	161.84	26982
SAN ANTONIO	65	1.762	4351.300	4.228	139.93	2626
SAN DIEGO	82	9.769	8183.800	25.022	156.14	10120
SPOKANE	93	18.363	1475.200	42.734	132.72	13763
SYRACUSE	25	24.738	3279.700	61.210	147.43	11961
TUCSON	81	5.263	2104.300	13.904	164.18	12727
TULSA	64	2.371	2849.300	5.941	150.58	2649
W PALM BEACH	32	25.450	2820.800	72.959	186.68	7251
TOTAL (AVERAGE)	0	335.801	4343.981	855.300	154.70	370347

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

SMALL HUBS

AIRPORT	FAA REGION- STATE	COMMUTER PASSENGERS 1975	TOTAL PERSONAL INCOME 1975	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
ALLENTOWN	26	20,681	3351,800	48,162	132.88	24535
BANGOR	12	9,124	568,700	19,828	117.32	14993
BATON ROUGE	62	3,821	1914,200	9,955	160.54	6925
BOISE	91	11,382	433,800	28,551	150.84	9028
BURLINGTON VT	15	10,384	478,600	29,669	185.72	13579
CHAPLETON W VA	28	10,024	1227,900	23,660	136.04	5344
CHATTANOOGA	38	0,712	1790,300	1,951	173.98	1616
EUGENE	92	1,364	1104,000	3,317	143.20	1861
FT MYERS	32	31,023	793,000	106,541	243.43	23454
FT WAYNE	42	1,148	1934,300	3,042	165.01	1176
FRESNO	82	11,029	2003,200	24,596	123.01	12962
GRAND JUNCTION	71	1,157	258,100	2,672	130.93	4647
HARISBURG	26	25,285	4248,400	64,811	156.32	23982
INDIO/PALM SPRINGS	82	6,223	3606,400	15,951	156.32	7706
JACKSON/VICKSBURG	35	3,228	303,400	8,218	154.58	4928
KNOXVILLE	38	1,419	1997,100	3,533	148.99	2526
LEXINGTON/FRANKFORT	34	2,476	1432,900	6,987	182.17	8679
LITTLE ROCK	61	11,327	1753,400	30,530	169.53	5835
ONTARIO/IVERSIDE/ISA	82	54,949	5832,800	144,841	163.59	33144
PORTLAND ME	12	9,043	1155,300	21,674	139.68	20942
PROVIDENCE	15	4,009	2349,800	9,782	143.99	8101
RICHMOND	27	21,962	3150,600	57,262	160.73	9763
ROANOKE	27	1,120	1034,500	2,996	167.54	3065
SACRAMENTO	82	18,775	4694,200	46,663	148.54	13525
SAN JOSE	82	7,107	7534,100	20,468	188.00	16951
SANTA BARBARA/S MARI	82	33,471	1478,700	85,078	166.14	29792
SARASOTA/BRADENTON	32	8,245	937,700	29,189	254.02	20305
SCRANTON/WIL BARRE	26	19,384	2841,700	44,071	127.36	20715
SHREVEPORT	62	14,009	1534,500	33,939	142.27	7870
SOUTH BEND	42	4,512	1348,500	10,820	139.80	7237
SPRINGFIELD ILL	41	2,551	1002,300	6,799	166.53	2956
TALLAHASSEE	32	2,788	647,900	8,274	196.77	2524
WICHITA	52	9,548	2085,500	20,469	114.38	12714
TOTAL (AVERAGE)	0	373,280	2031,139	978,300	162.08	383881

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- INSTITUTIONAL

AIRPORT	FAA REGION-STATE	COMMUTER PASSENGERS 1975	POPULATION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH PERCENT 75-88	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)	(MIN)			(000)		
AUBURN ALA	31	1,198	26.7	3791	50	51	79	2,191	82.89	2540
AUGUSTA GA	12	2,042	25.0	4682	45	82	79	2,333	14.24	2386
BLOOMINGTON IND	42	14,287	50.9	4550	65	151	263	29,262	104.82	8928
BOWLING GREEN	34	1,209	62.6	4314	70	189	334	2,510	107.64	3638
BREVERTON	93	1,166	39.2	6147	25	60	94	2,133	82.93	2318
CARONDALE	41	12,447	29.1	4411	120	154	236	22,410	80.04	7354
COLLEGE STATION	65	17,235	51.3	4642	105	286	391	27,702	60.73	12353
FT FOLK LA	62	20,760	48.3	4155	90	120	293	59,195	185.14	16086
GROTON-NEW LONDON	11	42,472	77.0	5167	85	338	557	82,140	93.40	18796
GREENVILLE N C	36	2,673	33.0	3991	45	59	98	5,165	93.24	7486
INYOERN CAL	82	5,657	24.9	4345	120	146	186	8,471	49.75	2167
JAMESTOWN N Y	25	25,167	44.0	4236	85	158	235	43,791	74.00	10578
KILLEEN TEX	65	42,323	97.7	4034	85	222	445	99,609	135.35	17859
LAWRENCE KAN	52	7,637	63.0	4827	45	137	200	13,124	71.85	13426
LOS ALAMOS	63	11,450	15.0	6617	115	114	178	20,928	82.78	6867
MACOMBE ILL	41	2,514	21.6	4351	90	85	131	4,584	82.32	3066
NEWFORT	15	4,586	40.0	5521	50	124	197	8,554	86.53	11444
PHILIPSBURG-ST COLL	26	20,906	72.3	4277	70	216	343	38,901	86.08	8786
PLATTSBURG	25	9,971	41.0	3851	100	158	241	17,892	79.44	9152
POUGHKEEPSIE	25	29,652	45.0	4794	110	237	385	56,470	90.44	18886
PULLMAN	93	17,470	42.2	4557	100	192	272	28,960	65.77	12284
FUTLAND	16	2,079	19.8	3828	110	83	134	3,918	88.45	3785
SAN LUIS OBISPO	82	24,084	32.8	4690	165	254	400	44,526	84.88	14611
WALLA WALLA	93	16,101	40.8	5103	60	125	178	26,931	67.26	13775
TOTAL (AVERAGE)	0	335,086	1043.2	4579 ^{1/2}	84	156	248	651,700	94.49	228573

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMPUTER PASSENGERS AND OPERATIONS IN 1988

NON-HURS SERVED EXCLUSIVELY BY COMPUTER AIRLINES -- AGRICULTURAL

AIRPORT	REGION- STATE	FAA COMPUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME 1975	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GFOWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)	(MIN)			(000)		
BAKER	92	1.818	9.1	3756	145	50	73	3,495	92.26	6079
RIG SPRING	65	1.548	39.9	4395	65	114	141	2,491	60.93	2407
DEL RIO	65	1.762	22.9	3215	165	121	189	3,565	102.34	2138
DODGE CITY	52	4.326	24.4	5041	70	86	135	8,786	103.10	8469
EPHRATA	93	1.245	14.6	4809	80	56	79	2,285	83.52	3311
GILLETTE	76	2.309	9.2	5226	135	65	91	4,213	82.46	2617
GREAT BEND	52	4.249	25.0	5404	80	108	140	7,136	67.94	7756
GREENWOOD SC	37	1.616	23.9	4472	90	98	161	3,429	112.19	5963
HAGERSTOWN	23	15.759	50.0	4190	110	230	368	32,723	107.65	8494
HUTCHINSON	52	1.638	36.6	4892	40	72	112	3,325	103.00	5783
KEOKUK	51	1.398	16.8	4421	60	45	69	2,812	101.14	3493
LA GRANDE ORE	92	1.674	15.0	4151	90	56	80	3,100	85.17	2837
MARSHFIELD WIS	46	4.259	20.0	4780	100	96	155	8,952	110.19	7784
MOSES LAKE	93	2.600	15.0	4809	100	72	102	4,771	83.52	3192
NAPA	82	1.272	47.2	4721	80	178	299	2,775	118.19	4827
NATCHEZ	35	2.495	18.0	3776	105	71	116	5,248	110.34	2467
NEW ULM	44	1.363	17.7	4302	60	46	74	2,878	111.19	2002
OCALA	32	2.250	30.0	3838	50	58	99	5,008	122.59	7258
OLATHE	52	2.164	23.6	7372	35	61	89	4,117	90.25	4212
OXNARD	82	21.343	126.0	4792	50	302	476	43,705	104.77	17275
PASO FORLES	82	2.412	20.4	4690	35	33	53	4,939	104.77	6136
PINE BLUFF	61	1.862	100.0	3827	50	191	306	3,871	107.88	4207
PRESOTT	81	1.119	13.5	3936	115	61	98	2,329	108.14	4051
SALISBURY	23	29.779	58.0	4417	145	371	594	61,835	107.65	14936
SANTA ROSA	82	13.968	62.0	5127	75	238	400	30,477	118.19	18277
SHEBOYGAN	46	3.214	102.0	4922	60	301	469	6,500	102.25	6650
SPENCER	51	2.333	11.1	5779	115	74	111	4,578	96.25	5308
ST GEORGE	75	3.269	18.0	3362	135	82	141	7,307	123.52	9775
STURGEON BAY	46	3.031	22.5	3927	60	53	82	6,127	102.15	3330
TERRE HAUTE	42	21.952	80.9	4387	80	284	449	45,070	105.31	12642
WENATCHEE	93	11.028	25.0	4666	175	204	288	20,238	83.52	7489
WINONA	44	1.747	27.2	4026	50	55	83	3,438	96.77	4599
WISCONSIN RAPIDS	46	7.838	20.0	4210	60	51	82	16,474	110.19	14326
TOTAL (AVERAGE)	0	180.640	1145.5	4544 ^{1/}	87	121	188	368,000	103.72	220110

^{1/} WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

AIRPORT	REGION- STATE	FAA COMMUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
ALTOONA	26	17.667	81.2	4173	130	441	709	35,901	103.21	8794
ASHLAND	46	1.897	10.0	3613	80	29	41	3,380	78.19	1896
ASTORIA	92	3.193	10.2	4699	130	62	103	6,687	109.42	6121
APPLETON	46	35.370	217.0	4848	45	473	737	69,475	96.42	14050
BELLINGHAM	93	8.033	42.0	4978	105	220	342	15,799	96.68	10177
CLINTON IOWA	51	4.380	35.3	4565	60	97	144	8,216	87.59	6495
CUMBERLAND	23	5.808	28.2	3687	90	94	144	11,310	94.73	9835
DANVILLE ILL	41	11.750	46.3	5656	110	288	437	22,496	91.45	4771
DUBOIS	26	12.047	53.0	4031	120	145	407	42,580	253.45	29621
ELKINS	28	3.120	8.3	3538	90	26	41	6,095	95.34	4608
EVELETH	44	1.752	12.0	4359	30	16	22	3,122	78.19	5429
FT MADISON	51	1.005	14.3	4421	30	19	29	1,963	95.35	3414
FULLERTON	82	12.779	108.7	5731	45	280	442	25,401	98.77	20080
GALLION	45	3.260	13.4	4496	70	42	66	6,407	96.55	6555
GALVESTON	65	8.527	59.3	4761	75	212	358	18,208	113.54	8796
HAZELTON	26	1.412	29.7	4338	45	58	106	3,243	129.67	4700
JOHNSTOWN	26	20.702	96.0	4529	105	457	705	40,314	94.73	9105
LAKE JACKSON TEX	65	6.637	25.0	4970	90	112	189	14,172	113.54	6162
LANCASTER	26	26.712	150.0	5154	70	475	883	62,664	134.59	19815
MAUSFIELD	45	8.559	59.3	4945	70	205	320	16,822	96.55	13298
MASSENA	25	4.069	20.0	3823	60	46	73	8,117	99.49	4554
MICHIGAN CITY	42	3.516	40.8	4977	40	81	137	7,485	112.87	5917
MUNCIE	42	12.680	98.0	5004	65	319	501	25,151	98.35	7171
MOAF	75	2.057	4.9	3336	125	20	31	3,949	91.96	5283
OAK HARBOR	93	6.333	14.8	5178	100	77	119	12,392	95.68	6158
OGDENSBURG	25	3.320	13.8	3823	155	82	128	6,560	97.58	6711
OIL CITY	56	8.075	25.0	3982	110	110	180	16,721	107.07	4406
ONEONTA	25	3.491	17.6	3954	75	52	82	6,898	97.58	2105
OWENSEBORO	34	4.889	83.8	4572	45	172	274	9,790	100.24	6081
PALMDALE	82	3.147	13.7	5992	60	49	87	6,983	121.89	5280

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

AIRPORT	FAA REGION-STATE	COMMUTER PASSENGERS (000)		POPULATION (000)		PERSON INCOME 1975		DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988 (000)	GROWTH PERCENT 75-88	AIRCRAFT OPERATIONS 1988
		1975	1975	1975	1975	1975	1975						
PITTSFIELD	13	6.683	56.7	5236	60	178	272	12.893	92.93	4004			
PORT ANGELES	93	4.395	18.8	4940	150	139	216	8.600	95.68	4986			
PULASKI VA	27	1.120	30.9	3886	65	78	131	2.375	112.02	1180			
READING	26	29.862	172.0	5312	70	640	1024	60.307	101.95	19069			
TRENTON	24	22.699	111.2	5835	55	357	571	45.841	101.95	12859			
VALPARAISO	42	1.066	23.2	5665	60	79	145	2.468	131.49	4292			
VICTORIA	65	8.139	46.5	4283	110	219	341	16.007	96.67	2993			
WATERTOWN	25	5.652	29.6	4470	75	99	155	11.167	97.58	7769			
WILMINGTON	21	6.358	73.9	5534	35	143	229	12.840	101.95	7700			
TOTAL (AVERAGE)	0	332.161	1994.4	4905.1	80	172	280	690.800	107.97	312238			

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS SERVED EXCLUSIVELY BY COMMUTER AIRLINES -- RECREATIONAL

AIRPORT	REGION- STATE	FAA COMMUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME 1975	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)	(MIN)			(000)		
ASEBURY PARK	24	5.589	16.1	5775	55	51	83	11.674	108.88	4320
ATLANTIC CITY	24	27.410	47.8	4818	75	173	276	56.468	106.01	17537
BRUNSWICK GA	33	15.390	24.0	3985	85	167	138	16.350	6.24	5365
CAPE MAY	24	6.140	21.6	5044	60	65	105	12.649	106.01	4490
EAST HAMPTON	25	2.466	20.1	5361	65	70	113	5.131	108.07	5577
GRAND RAPIDS MINN	44	3.515	10.0	3669	100	37	60	7.397	110.45	5146
HAYWARD WIS	46	3.003	12.3	3607	150	67	107	6.203	106.56	4495
KEY WEST	32	40.700	29.5	5532	235	384	731	99.825	145.27	15927
MARATHON	32	8.159	5.6	4480	185	46	88	20.012	145.27	7910
MARTHA'S VINEYARD	13	2.526	7.7	5247	90	36	64	5.758	127.96	9104
NANTUCKET	13	6.022	5.5	4803	120	32	56	13.728	127.96	13263
NAPLES	32	56.819	69.4	5757	60	214	455	155.235	173.21	15881
PROVINCETOWN	13	11.31	10.6	5162	170	93	165	25.967	127.96	5074
PUNTA GORDA	32	2.677	22.2	4498	30	30	53	6.150	129.73	5942
ROCKLAND	12	9.124	8.4	4729	160	64	97	17.972	96.97	8447
SARANAC LAKE	25	4.452	10.0	3800	90	34	52	8.762	96.81	6095
VERO BEACH	32	3.166	22.6	4182	30	28	54	7.769	145.39	4659
WESTERLY R I	15	6.251	18.9	5024	55	52	92	14.250	127.96	7994
TOTAL (AVERAGE)	0	214.800	362.3	4949 ^{1/}	101	91	155	491.300	128.72	147227

^{1/} WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- INSTITUTIONAL

AIRPORT	FAA REGION-STATE	COMMUTER PASSENGERS 1975	POPULATION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)	(MIN)			(000)		
CHARLOTTSVILLE	27	1.438	58.1	4648	80	104	350	6.337	340.69	11021
FAYETTEVILLE ARK	61	12.676	158.0	4186	70	463	733	26.421	108.43	5744
GAINESVILLE	32	3.489	228.0	3909	85	758	1301	7.891	126.16	8577
JEFFERSON CITY	53	3.589	102.0	4504	145	666	1009	7.160	99.49	4151
MANHATTAN	52	16.495	90.0	4605	80	332	486	31.808	92.83	18439
MORGANTOWN	28	20.129	71.0	4416	55	172	267	41.037	103.87	14565
SALEM ORE	92	1.155	111.4	4339	55	266	441	2.522	118.39	3375
TOPEKA	52	16.897	156.0	5119	80	639	936	32.583	92.83	9770
WACO	65	11.280	156.0	4223	30	198	262	19.718	74.80	9526
YUMA	81	2.381	32.1	3923	80	101	161	5.023	110.97	2131
TOTAL (AVERAGE)	0	89.529	1162.6	4367	76	370	595	180.500	101.61	87297

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- AGRICULTURAL

AIRPORT	FAA REGION-STATE	COMMUTER PASSENGERS 1975	POPULATION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH PERCENT 75-88	AIRCRAFT OPERATIONS 1988
ALEXANDRIA LA	62	1,680	136.0	3681	135	676	944	3,095	84.22	2833
BAKERSFIELD	82	2,839	197.6	4345	145	1245	1737	5,225	84.06	2840
CHICO	82	1,427	45.0	4411	55	109	164	2,830	98.33	4922
DUBUQUE	51	5,893	91.0	4552	95	394	618	12,203	107.08	7074
EAU CLAIRE	46	2,964	64.0	4240	100	271	436	6,275	111.71	10913
EL CENTRO	82	5,501	86.0	3885	70	234	369	11,438	107.93	3753
ELMIRA-CORNING	25	4,593	225.0	4524	60	611	929	9,215	100.64	5526
FLAGSTAFF	81	2,133	31.6	4102	110	143	229	4,510	111.45	6537
FLORENCE S C	37	3,510	50.0	4000	105	210	351	7,729	120.19	4978
GARDEN CITY KAN	52	3,974	16.7	5251	60	53	65	6,473	62.87	4894
HAYS	52	3,013	25.0	5471	70	96	124	5,136	70.45	3308
JONESBORO	61	2,164	30.6	4009	85	104	169	4,628	113.84	4236
LA CROSSE	46	10,412	86.0	4020	85	294	423	19,790	90.07	12747
LAKE CHARLES	52	3,324	87.0	4263	70	260	362	6,106	83.69	4617
PAGE	81	2,392	10.0	4102	150	62	99	5,055	111.35	3663
PPESQUE ISLE	12	6,280	32.0	3702	225	267	382	11,860	88.85	3327
QUINCY	41	2,182	71.0	4922	100	349	542	4,462	104.51	3880
FED BLUFF	82	3,489	122.0	4656	75	426	659	7,120	104.07	6191
SALINA	52	1,840	48.3	5046	60	146	189	3,136	70.45	3636
TEMPLE	65	8,626	37.0	4019	60	89	118	15,106	75.12	15453
TWIN FALLS	91	2,916	84.0	4856	130	530	806	5,845	100.45	3389
YAKIMA	93	9,195	155.0	4084	100	633	901	17,262	87.73	6387
TOTAL (AVERAGE)	0	90,347	1730.8	4333	97	327	482	174,500	93.14	125106

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS SERVED BY CERTIFICATED AND COMMUTER AIRLINES -- INDUSTRIAL

AIRPORT	REGION- STATE	FAA COMMUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME 1975	INDEX 1975	INDEX 1975	INDEX 1975	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)	(MIN)				(000)		
BEAUMONT	65	32.474	348.6	4741	95	1570	2690	73.556	126.51	18017	
BINGHAMTON	25	35.991	216.0	4531	90	881	1340	72.386	101.12	35968	
BRIDGEPORT	11	6.622	206.0	7409	85	1297	2097	14.156	113.77	8489	
CAPE GIRARDEAU	53	1.824	54.0	4374	60	142	226	3.848	110.99	3718	
CEDAR CITY	75	2.940	9.8	3251	60	19	33	6.689	127.51	8309	
CLARKSBURG W VA	28	25.289	76.0	4140	90	283	438	51.773	104.73	15007	
CRESCENT CITY	82	2.328	15.6	4395	100	69	105	4.722	102.84	6844	
ELKO	83	3.568	8.4	5170	235	102	183	8.466	137.29	5077	
ELY	83	1.500	11.0	4235	270	126	226	3.559	137.29	3439	
EUREKA	82	12.836	106.0	4713	200	999	1533	26.036	102.84	19687	
GULFPORT	35	5.396	150.0	3757	105	592	1002	12.085	123.97	9554	
HANCOCK-HOUGHTON	43	1.724	38.1	2872	140	153	238	3.549	105.86	1102	
HICKORY	36	1.709	100.0	4774	80	382	638	3.773	120.79	4101	
KINGMAN	81	1.021	9.6	4219	125	51	81	2.164	111.96	3764	
LAFAYETTE LA	62	9.124	156.0	4282	90	601	838	16.826	84.42	6805	
LONGVIEW	65	9.160	77.5	4463	65	225	395	21.276	132.27	9737	
NEW HAVEN	11	9.804	131.2	5328	60	419	691	21.359	117.86	16885	
PASCO	93	21.994	100.0	5037	100	504	718	41.454	88.48	21204	
REDMOND	92	2.143	18.7	4541	170	144	240	4.704	119.49	5453	
TEXARKANA	61	2.774	105.0	3795	90	359	541	5.536	99.56	4585	
TYLER	65	11.988	102.0	4449	65	295	518	27.844	132.27	9685	
UTICA	25	1.300	388.9	4339	60	1012	1586	2.692	107.08	2754	
WICHITA FALLS	65	22.425	134.0	4631	60	372	520	41.440	84.80	9240	
WILLIAMSPORT	26	14.854	118.0	4332	110	562	899	31.405	111.42	8032	
TOTAL (AVERAGE)	0	240.788	2680.4	4687.1	109	465	741	501.300	108.19	237457	

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS -- UNCLASSIFIED

AIRPORT	FAA REGION- STATE	COMMUTER PASSENGERS 1975	TOTAL PERSONAL INCOME 1975	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(MILLIONS)	(000)		
ASPEN COLO	71	35.597	17.509	71.415	100.62	16342
AVALON CAL	82	78.535	22.770	163.228	107.84	48944
EAR HARBOR	12	8.203	15.348	15.485	88.77	7087
BISHOP	82	1.430	19.531	2.972	107.84	2350
BLOCK ISLAND R I	15	6.392	383.834	14.928	133.54	8952
CASPER	76	2.350	211.323	4.352	85.19	3784
CLEAR LAKE CITY TEX	65	39.751	5.713	88.710	123.16	26600
CONCORD CAL	82	2.782	671.114	6.161	121.46	10715
EAGLE	71	3.913	9.812	7.850	100.62	4551
EASTON MD	23	1.040	33.852	2.192	110.76	2723
FRIDAY HARBOR WA	93	7.369	20.656	15.147	105.55	8498
GRAND CANYON	81	45.374	10.665	95.855	111.25	24515
HILTON HEAD	37	7.580	5.327	14.170	86.94	4401
HYANNIS	13	6.612	41.008	15.442	133.54	6886
ISLIP N Y	25	4.406	281.452	9.392	113.17	5632
LAKE HAVASU ARIZ	81	2.137	13.079	4.515	111.25	7138
MAMMOTH LAKES	82	16.397	12.520	34.080	107.84	11854
MARCO ISLAND FLA	32	25.182	6.908	59.268	135.36	5454
OCEAN CITY MD	23	2.484	33.127	5.235	110.76	7587
SAN PEDRO CAL	82	45.491	515.312	94.549	107.84	27870
SANTA ANA CAL	82	39.055	1169.039	81.172	107.84	19883
SANTA FE N M	63	1.625	206.640	3.335	105.22	5800
STEAMBOAT SPGS COLO	71	17.611	25.260	35.331	100.62	11379
STEVENS POINT WIS	46	1.823	105.765	3.889	113.33	6764
SUN VALLEY	91	17.590	19.877	35.245	100.37	10754
TWO HARBORS CAL	82	6.006	5.992	12.483	107.84	4257
TOTAL (AVERAGE)	0	426.735	148.594	896.400	110.06	300717

FORECAST OF POTENTIAL COMPUTER PASSENGERS AND OPERATIONS IN 1988

NON-HUBS WITH LESS THAN 1000 COMPUTER PASSENGERS IN 1975

FAA REGION- STATE	COMPUTER PASSENGERS 1975 (000)	TOTAL PERSONAL INCOME 1975 (MILLIONS)	FORECAST PASSENGERS 1988 (000)	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
ALUTUS	64	130.453	1.752	102.83	2177
ANDERSON S C	37	142.560	1.783	117.68	3101
BATTLE CREEK	43	217.056	2.046	108.78	1271
BEDFORD MASS	13	82.688	1.195	134.75	1889
BORREYO SFGS CAL	82	5.194	1.799	119.13	1955
COLUMBUS MISS	35	208.571	1.226	109.17	1523
EAGLE RIVER WIS	46	6.867	1.228	110.29	2136
ELIZABETH CITY N C	36	120.040	1.580	96.31	2748
ELY MINN	44	23.474	0.941	83.85	1364
EMPORIA KAN	52	175.629	1.872	90.64	2035
FT COLLINS COLO	71	283.721	1.997	112.85	3472
GARY	42	900.272	1.411	108.78	2454
GLENS FALLS N Y	25	132.066	1.662	97.82	2890
GRANBY COLO	71	5.316	1.526	112.85	2654
HOUQUIAM WASH	93	50.159	1.882	101.89	3272
ITHACA/CORTLAND	25	213.541	1.622	106.16	2822
KIPKSVILLE	53	79.845	1.826	97.21	1672
LAWTON OK	64	377.068	1.284	82.43	2234
LIFEAL KAN	52	97.462	1.469	60.73	1065
LYNCHBURG	27	282.937	1.199	118.76	1390
MORRHEAD CITY N C	36	160.811	1.257	100.49	1987
NOVATO CAL	82	322.202	1.723	118.64	2996
OAKLAND MD	23	12.912	1.181	100.92	1081
RAWLINS WYO	76	34.246	1.087	97.99	727
UKIAH CAL	82	69.085	1.767	118.64	2793
VISALIA	82	374.131	1.282	101.89	2230
WAYCROSS GA	33	98.577	1.502	123.58	493
TOTAL (AVERAGE)	0	20.111	41.100	104.37	56431

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

POTENTIAL COMMUTER POINTS WITH NO CURRENT SERVICE

AIRPORT	FAA REGION STATE	COMMUTER PASSENGERS 1975	POPULATION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)				(000)		
ARDMORE OK	64	4.151	24.6	3994	95	93	148	6,570	58.29	3125
ATHENS OH	45	3.087	31.1	3434	65	69	114	5,065	64.10	2783
AUSTIN/ALB LEA MN	44	2.639	35.5	4769	35	59	90	4,015	52.16	2360
BEFLIN NH	14	2.384	10.2	3920	120	48	77	3,828	60.60	2439
BLYTHEVILLE ARK	61	2.834	31.4	3384	50	64	103	4,594	62.11	2621
BOULDER COL	71	10.850	73.7	5482	30	121	198	17,741	63.51	7292
CADILLAC MICH	43	2.541	13.6	4002	105	57	94	4,162	63.80	2485
CHILLICOTHE MO	53	2.288	13.9	4342	85	51	75	3,351	46.45	2084
CHILLICOTHE OH	45	3.117	28.2	3822	65	70	112	4,975	59.60	2722
CLAFKSDALE MISS	35	3.115	31.7	2763	80	70	113	5,050	62.11	2763
COLUMBUS/SEYMOUR IN	42	8.731	52.7	4781	70	176	308	15,240	74.54	4940
COSHOCOTON OH	45	4.263	20.7	4152	100	86	134	6,640	55.78	3291
DANEURY CONN	11	15.098	68.6	7409	60	305	493	24,408	61.67	5301
DYERSBURG TN	38	2.049	17.6	3741	70	46	75	3,322	62.11	2151
EAGLE PASS TX	65	5.267	17.5	2035	165	59	92	8,210	55.88	4842
FOND DU LAC WIS	46	6.935	41.9	4213	30	53	86	11,242	62.11	6917
FREEMONT ILL	41	2.631	28.8	5281	35	53	85	4,191	59.30	2574
HEMET CA	82	3.394	36.4	5992	35	76	120	5,351	57.63	2814
HOPKINSVILLE KY	34	1.712	29.6	3719	35	38	66	2,941	71.79	2022
HUNTSVILLE TX	65	5.904	30.2	3645	60	66	109	9,796	65.93	5504
JACKSONVILLE ILL	41	3.484	25.6	5104	60	78	124	5,504	57.98	2858
JOLIET ILL	41	14.685	83.6	4089	48	164	301	26,944	83.48	9167
KANKAKEE ILL	41	8.710	52.8	4765	70	176	323	15,981	83.48	5189
LAKELAND/BARTOW FL	32	13.747	50.7	4599	45	105	187	24,537	78.50	10957
LAMAR COL	71	2.599	10.1	3849	150	58	82	3,667	41.09	2169
LIWA OH	45	9.581	55.1	4687	75	194	335	16,592	73.16	5047
LOWFAC CA	82	4.791	29.7	5154	35	54	84	7,552	57.63	4625
MCCOMB/MAG MISS	35	3.258	26.1	3306	85	73	119	5,275	61.92	2828
MINERAL WELLS TX	65	4.482	28.9	4647	75	101	165	7,346	63.88	3353
MORGAN CITY LA	62	5.084	25.5	3838	105	103	143	7,080	39.25	3198

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

POTENTIAL COMMUTER POINTS WITH NO CURRENT SERVICE

AIRPORT	REGION- STATE	FAA COMMUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)					(000)		
NACOGDOCHES TX	65	2.318	37.9	3929	35	52	91	4.071	75.65	2520
NATCHITOCHES LA	62	1.899	19.8	3076	70	43	65	2.890	52.19	1921
NORTH ADAMS MA	13	6.579	24.0	5236	40	50	77	10.061	52.91	6314
PAMPA TX	65	3.329	19.0	5070	70	67	82	4.079	22.52	2272
PLAINVIEW TX	65	2.282	21.6	4311	55	51	63	2.796	22.52	1741
POPLAR BLUFF MO	53	4.048	27.3	3922	85	91	145	6.459	59.56	3112
PORTSMOUTH OH	45	7.624	53.0	3875	75	154	261	12.925	69.53	4583
RICHMOND IND	42	6.650	63.3	4719	45	134	235	11.608	74.54	4485
ROME GA	33	6.394	35.5	4286	85	129	231	11.454	79.14	4533
ST CLOUD MN	44	6.020	52.2	3699	70	135	220	9.786	62.56	3766
SANTA CRUZ CA	82	6.792	44.0	4954	70	153	256	11.408	67.96	4069
STERLING COL	71	3.103	13.0	4677	115	70	114	5.074	63.51	2781
STILLWATER OK	64	9.207	36.7	3507	80	103	163	14.575	58.29	6577
STROUDSBURG/POC PA	26	2.102	7.2	4968	45	16	26	3.365	60.07	2829
TOMS RIVER NJ	24	12.363	23.1	4807	85	94	151	19.789	60.07	9358
VINCENNES IND	42	2.531	22.6	4186	60	57	92	4.083	61.27	2441
VINELAND NJ	24	8.096	53.0	5279	65	182	291	12.959	60.07	4114
WARNER ROBINS GA	33	4.495	39.5	4238	30	50	80	7.203	60.25	4519
WINCHESTER VA	27	2.741	22.4	4583	60	62	108	4.819	75.83	2789
ZANESVILLE OH	45	4.617	37.5	4150	60	93	153	7.576	64.10	3604
TOTAL (AVERAGE)	0	266.600	1678.0	4474 ^{1/}	69	91	149	438.147	64.35	198749

1/ WEIGHTED AVERAGE

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

POTENTIAL COMMUTER POINTS NOW SERVED BY A CERTIFICATED AIRLINE

AIRPORT	REGION- STATE	FAA COMMUTER PASSENGERS 1975	POPULA- TION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
ALAMOGORDO NM	63	7.184	24.9	4034	80	80	119	10,672	48.57	6729
ALAMOSA COL	71	2.527	10.3	3819	145	57	81	3,615	43.03	2555
ALLIANCE NEB	54	1.442	7.3	5554	80	32	38	1,700	17.91	1375
ALPENA MICH	43	5.143	15.4	3961	190	116	184	8,175	58.96	4434
ATHENS GA	33	10.561	62.2	4492	85	237	425	18,928	79.22	6928
BECKLEY WVA	28	2.753	23.0	3722	65	56	77	3,825	38.95	2720
BELOIT/JANESVILLE WI	46	6.978	90.6	3891	40	141	237	11,707	67.79	5770
BEMIDJI MN	44	2.329	11.4	3755	110	47	68	3,382	45.22	2517
BLOOMINGTON ILL	41	18.715	76.6	5457	50	209	320	28,607	52.85	11324
BLYTHE CA	82	1.952	8.4	4722	110	44	77	3,433	75.87	2600
BRAINERD MN	44	3.794	14.2	3860	155	85	139	6,167	62.56	3801
BROOKINGS SD	74	2.262	18.6	4199	65	51	76	3,373	49.12	2460
CARLESEAD NM	63	4.881	22.3	4169	40	37	52	6,829	39.91	5369
CHADRON NEB	54	1.687	10.1	3952	95	38	45	2,020	19.71	1582
CLOVIS NM	63	13.835	49.9	4149	135	279	396	19,607	41.72	6450
COLUNBUS NEB	54	3.786	20.2	4945	85	85	127	5,673	49.85	3500
CORTEZ COL	71	2.306	7.4	3389	70	18	27	3,508	52.15	3109
DANVILLE VA	27	6.469	52.3	3567	70	131	220	10,872	68.05	5564
DEVILS LAKE ND	73	2.314	8.9	5312	110	52	68	3,021	30.57	2190
EL DORADO/CAMDEN ARK	61	8.061	40.0	3774	120	181	262	11,659	44.64	5021
ENID OK	64	19.408	54.5	4423	90	217	338	30,242	55.82	11709
FAIRMONT MN	44	2.898	21.3	4698	65	65	106	4,710	62.56	3193
FORT DODGE IOWA	51	8.719	34.9	4679	120	196	296	13,176	51.12	5422
FORT LEONARD WOOD MO	53	12.625	44.2	3753	85	141	229	20,465	62.11	10083
GADSDEN ALA	31	8.748	88.3	3710	60	197	316	14,056	60.68	5773
GALLUP NM	63	3.124	16.0	2739	160	70	109	4,866	55.76	3217
GLASGOW MONT	72	0.701	5.4	4856	60	16	22	0,964	37.48	864
GLENDELE MONT	72	0.985	7.1	5161	60	22	31	1,371	39.22	1180
GREENBRIER WVA	28	14.937	28.5	3812	105	114	158	20,754	38.95	11331
GREENHOOD MISS	35	1.910	23.7	3289	55	43	62	2,762	44.64	2103

FORECAST OF POTENTIAL COMPUTER PASSENGERS AND OPERATIONS IN 1988

POTENTIAL COMPUTER POINTS NOW SERVED BY A CERTIFICATED AIRLINE

AIRPORT	FAA REGION-STATE	COMPUTER PASSENGERS 1975	POPULA-TION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	FORECAST INDEX PASSENGERS		GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
							1975	1988		
GUNNISON CO	71	0.841	6.0	3919	80	19	29	1,280	52.15	1125
HARRISON ARK	61	3.006	18.6	3819	95	68	108	4,811	60.02	3222
HASTINGS NEB	54	2.203	22.9	5398	40	50	68	3,033	37.65	2227
HOBBS NM	63	4.897	23.4	4589	85	99	138	6,846	39.80	3975
HOT SPRINGS VA	27	1.624	5.3	3612	65	12	22	2,835	74.56	2599
HAVE MONT	72	7.200	11.9	4846	140	80	111	9,898	37.48	6236
HUPON SD	74	2.637	20.7	4404	65	59	88	3,932	49.12	2745
INTL FALLS MN	44	12.628	19.4	3678	135	96	136	17,836	41.24	10472
JACKSON MICH	43	7.013	46.5	4688	65	142	227	11,247	60.38	5529
JAMESTOWN ND	73	4.966	17.5	5304	120	112	151	6,698	34.87	3691
KEAFNEY NEB	54	2.391	20.1	4456	60	54	74	3,292	37.65	2364
LEWISTOWN MONT	72	4.377	8.9	4053	135	49	67	6,018	37.48	4434
LONDON/CORBIN KY	34	3.676	27.6	2931	90	74	126	6,231	69.52	4041
LOVELL/POWELL/CODY W	76	3.785	13.5	5035	125	85	118	5,269	39.22	3251
MANISTEE/LUDINGTON M	44	3.346	19.8	3600	95	68	111	5,480	63.80	3670
MANKATO MN	44	12.480	50.9	5006	110	280	456	20,289	62.56	6659
MAFINETTE/MEN MICH	43	3.419	26.6	3457	75	69	108	5,323	55.69	3538
MARION/HERRIN ILL	41	1.296	25.6	4089	25	26	42	2,100	62.11	1763
MATTOON/CHARLES ILL	41	6.300	48.9	4822	60	142	215	9,560	51.75	4702
MALESTER OK	64	8.727	38.9	3780	120	176	296	14,647	67.83	6405
MCCOOK NEB	54	1.789	10.4	4813	80	40	55	2,462	37.65	1904
MERCED CA	82	8.883	36.9	4076	45	68	104	13,576	52.84	9083
MILES CITY MONT	72	1.227	8.1	4240	80	28	38	1,708	39.22	1422
MITCHELL SD	74	3.413	10.8	3939	90	38	57	5,089	49.12	3981
MOULTREE GA	33	1.580	17.0	3472	60	36	57	2,533	60.30	2011
MOUNT VERNON ILL	41	4.880	26.6	4575	90	110	178	7,911	62.11	4394
NORFOLK NEB	54	4.836	20.5	4820	110	109	158	7,028	45.33	3919
OTTAWA ILL	51	6.529	44.5	4945	60	132	223	11,016	68.72	5613
PONCA CITY OK	64	9.723	49.3	4430	90	196	311	15,391	58.29	6324

FORECAST OF POTENTIAL COMMUTER PASSENGERS AND OPERATIONS IN 1988

POTENTIAL COMMUTER POINTS NOW SERVED BY A CERTIFICATED AIRLINE

AIRPORT	FAA REGION-STATE	COMMUTER PASSENGERS 1975	POPULATION 1975	PERSON INCOME 1975	DRIVE TIME (MIN)	INDEX 1975	INDEX 1988	FORECAST PASSENGERS 1988	GROWTH 75-88 PERCENT	AIRCRAFT OPERATIONS 1988
		(000)	(000)	(000)				(000)		
ROCKFORD ILL	41	41.524	250.7	5577	60	839	1336	66,148	59.30	9288
ROCKY MOUNT NC	36	5.748	49.4	3738	70	129	213	9,467	64.68	4872
SAULTE STE MARIE MIC	43	12.863	40.0	3593	100	144	228	20,447	58.96	9979
SIDNEY MONT	72	0.462	5.1	3362	60	10	13	0,593	28.40	551
SIDNEY NEB	54	0.959	9.3	5176	45	22	25	1,131	17.91	977
SILVER CITY NM	63	2.800	12.1	4051	115	57	84	4,160	48.57	2944
THIEF RIVER FALLS MN	44	1.585	11.1	4938	65	36	47	2,070	30.57	1643
TUPELO MISS	35	7.925	47.8	4659	80	178	286	12,735	60.68	5537
UNIVERSITY/OXFORD MI	35	6.750	24.3	3656	85	75	122	10,942	62.11	7057
WATERTOWN SD	74	2.192	17.8	4613	60	49	65	2,881	31.40	2119
WILLISTON ND	73	4.709	18.0	4888	120	106	136	6,047	28.40	3411
WOLF POINT MONT	72	1.322	4.8	4020	155	30	44	1,938	46.64	1593
WOPLAND WY	76	1.385	7.3	4709	90	31	43	1,928	39.22	1571
WORTHINGTON MN	44	1.692	11.9	4277	75	38	57	2,523	49.12	1975
YANKTON SD	74	2.681	18.6	4047	80	60	88	3,896	45.33	2706
TOTAL (AVERAGE)	0	417.301	2125.4	4401 ^{1/2}	88	100	154	640,384	53.46	318391

1/ WEIGHTED AVERAGE

PUERTO RICO
FORECASTS OF COMMUTER ACTIVITY

<u>Year</u>	<u>Enplanements (000)</u>	<u>Passenger Miles (Millions)</u>	<u>Operations (000)</u>
1975	861.2	55.6	254.9
1976	908.7	58.7	269.0
1977	958.7	61.9	283.8
1978	1,011.6	65.3	299.5
1979	1,067.4	69.0	316.0
1980	1,126.2	72.8	333.4
1981	1,188.4	76.8	351.9
1982	1,253.5	81.0	375.6
1983	1,322.1	85.4	396.1
1984	1,394.5	90.1	412.9
1985	1,470.9	95.0	435.5
1986	1,551.5	100.2	459.3
1987	1,636.4	105.7	484.5
1988	1,726.2	111.5	511.1