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**ALASKA EMPLOYMENT WITH
AND WITHOUT MARKAIR:
RANGE OF POTENTIAL EFFECTS**

PREPARED FOR

MarkAir

PREPARED BY

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ALASKA EMPLOYMENT WITH AND WITHOUT MARKAIR: RANGE OF POTENTIAL EFFECTS

This report calculates the potential range of employment impacts on the Alaska economy from the removal of Markair and Markair Express from all its markets in Alaska and the Lower 48 states.

An earlier analysis estimated that the combined operations of Markair and Markair Express currently support about 2,200 jobs in Alaska ("Memorandum on Selected Markair Economic Effects", December 9, 1994--copy attached as Appendix E.). That analysis also estimated that lower airfares after the Markair entry into the Anchorage--Seattle market (the corridor) saved Alaskan air travelers about \$75 million in 1992 and 1993. The resultant increase in consumer spending produced the equivalent of 600 support sector jobs in the trade and service sectors. (This fare reduction analysis has been amplified to include the effect of fuel price movements and other exogenous factors on airfares during this period. The calculated estimated saving was about 5% less using this information. This alternative analysis is attached as Appendix D.)

Of the 2,200 Alaska jobs potentially at risk if Markair and Markair Express were to cease operations, 1,091 are employees of these 2 companies and the remainder are in other businesses selling to Markair and Markair Express or benefiting from Markair and Markair Express employee consumer spending (Figure 1.). The Markair and Markair Express jobs are distributed across the 4 market areas that the airline serves in approximately the following amounts based on an allocation methodology presented in Appendix B.: (The 711 Markair jobs outside Alaska are not included in these figures.)

MARKAIR EXPRESS (421)--Commuter service connecting rural Alaska to regional hubs.

ALASKA (352)--Jet service interconnecting Anchorage, Fairbanks, and other regional hubs.

WESTCOAST (233)--Jet service connecting Anchorage and Seattle (The corridor) and continuing south to Los Angeles.

DENVER (99)--Jet service connecting selected east and west coast cities through a hub system centered in Denver.

If Markair and Markair Express were to cease operations the actual job loss would depend upon the responses of the other competitors in these markets (including

FIGURE 1

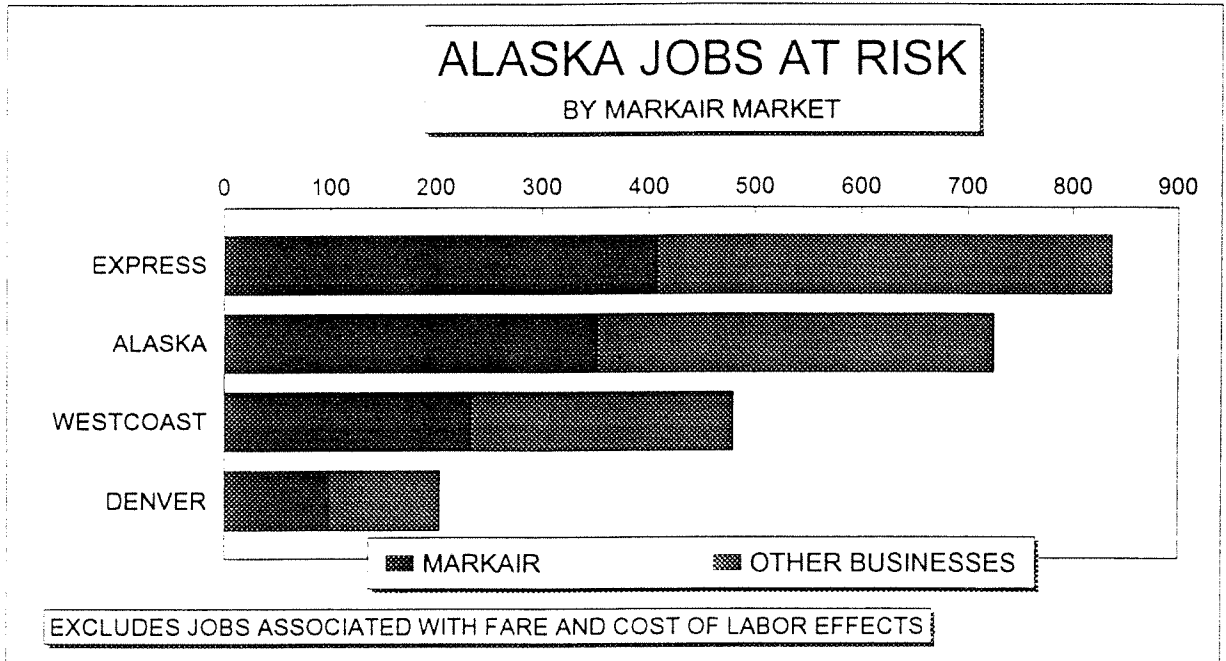
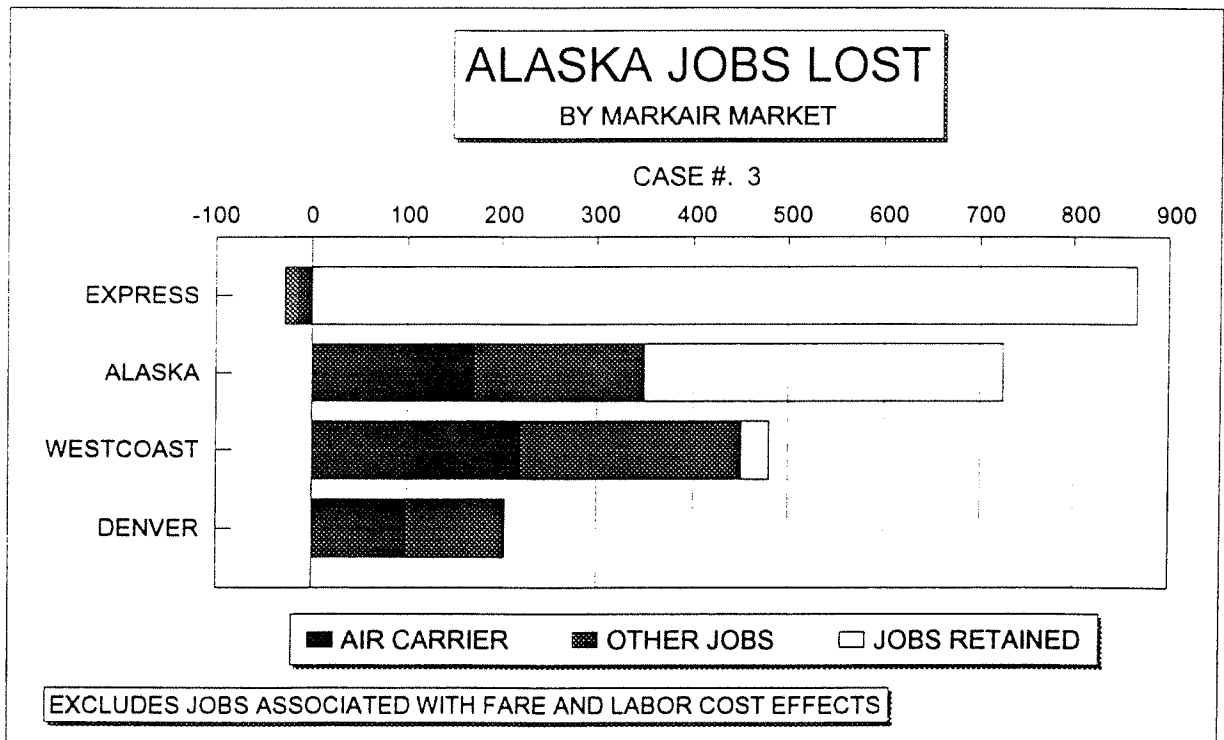


FIGURE 2



potential competitors). Because of the large number of markets served, the dynamic nature of the air transportation industry, and the small number of competitors in each market, it is impossible to forecast exact responses to a shutdown either for individual routes, market areas, or in the aggregate.

This report presents 5 cases based on different assumptions about the two main determinants of response in each market area--proportion of flights replaced by other carriers and relative employment needed to replace these flights. (These assumptions are discussed in Appendix C.)

Case #3 is the probably the most plausible (Figure 2). A loss of 974 Alaska jobs (473 air transport industry and 501 other industry jobs) results from a Markair and Markair Express shutdown under the following assumptions regarding each market area (loss of air transport industry jobs shown in parentheses):

MARKAIR EXPRESS (-14)--A slight increase in jobs. All service is replaced by competitors with the same employment requirements as Markair except that 14 reservation clerk jobs currently in Denver and Seattle are relocated to Alaska.

ALASKA (170)--All service would be replaced by the existing competition. Since the markets are thin (an average of two competitors per route) with low load factors, existing competitors could add flights without replacing all the lost employment associated with ticket agents, baggage handlers, etc.

WESTCOAST (219)--Service in the corridor would be reduced by two flights per day, requiring one less plane. This would be less than a 10% reduction in available seats and would slightly increase the load factor over this route. The replacement service would be Seattle based and consequently require only a small Alaska based staff to "turn the flights". Service south of Seattle would be replaced by other non-Alaska based carriers who would have no Alaska employment.

DENVER (99)--Service through this hub would be replaced by other non-Alaska based carriers who would have no Alaska employment.

Four other cases represent the likely employment loss under a range of assumptions about the responses of other carriers (Figures 3-6).

CASE	JOB LOSS	ASSUMPTIONS
Case #1.	393	Complete replacement of lost service in Alaska at current employment levels. Non-Alaska markets replaced by non-Alaska based carriers.
Case #2.	598	Case #1 except half of corridor flights replaced and serviced out of Seattle resulting in minimum employment in Anchorage.
Case #3.	974	Case #2 except employment required to provide Alaska hub replacement flights is 50% of Markair employment.
Case #4	1190	Case #3 except employment required to provide replacement of Markair Express flights is 75% of lost Markair Express jobs.
Case #5	1703	Case #4 except only 50% of Markair Express and Alaska hub service is replaced by competitors

These estimates were generated using a simple spreadsheet model (See Appendix A. for printouts.) with data supplied by Markair and the assumptions outlined in Appendices B. and C.

The most important assumption underlying this analysis is that these air transport markets are large enough to accommodate all current competitors. If this is a valid assumption then the basis for the calculations of job loss is reasonable. However if there are too many competitors chasing too few customers in some markets, some competitors would eventually leave and employment would fall. Then current employment levels would be above sustainable levels. Since the alternatives described in the 5 Cases represent sustainable market situations, the estimates of employment loss in the 5 Cases would be inflated if the comparison case were not sustainable.

This situation is similar to analyzing whether the entrance of new competition in grocery stores in Anchorage has added employment in the retail trade sector. If all can continue to operate at a profit, then the increase is permanent, but if the market is now overloaded with competition, at least part of the increase may be only temporary until there is a "shakeout" and someone drops out of the market. The question of when air transportation markets are in equilibrium is beyond this study. Furthermore what may be an equilibrium today may not be an equilibrium in the near future.

FIGURE 3

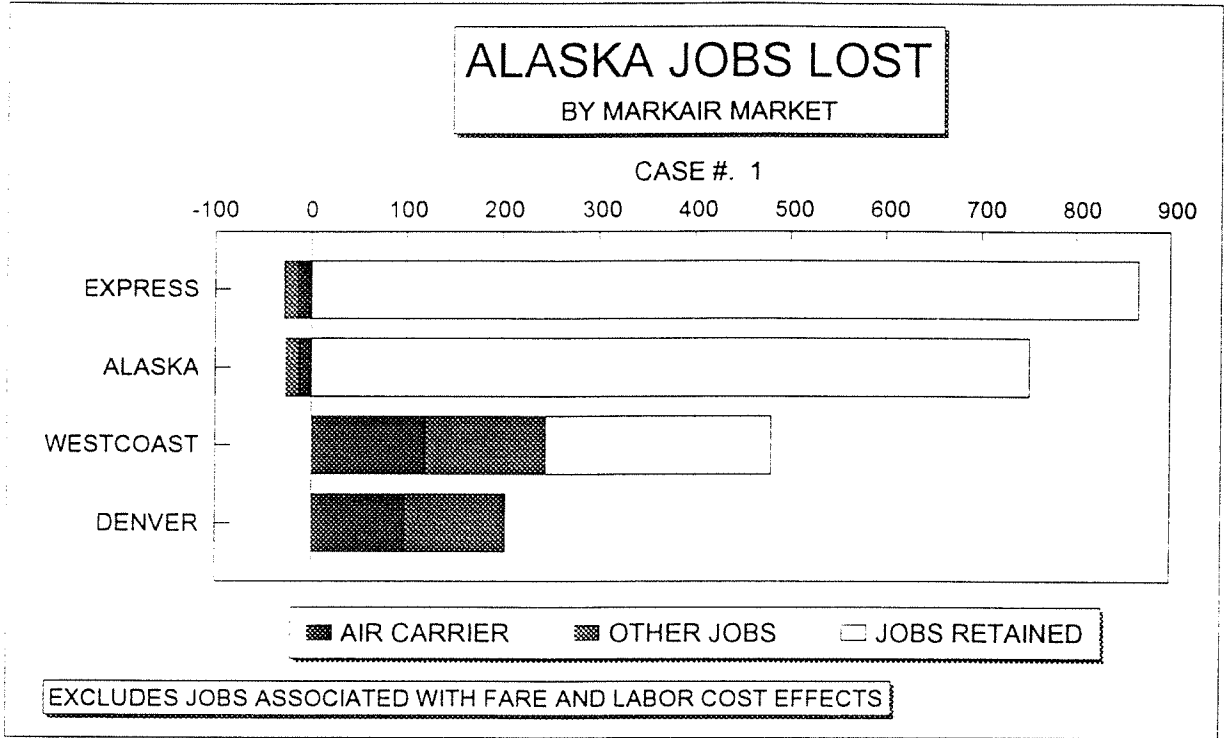


FIGURE 4

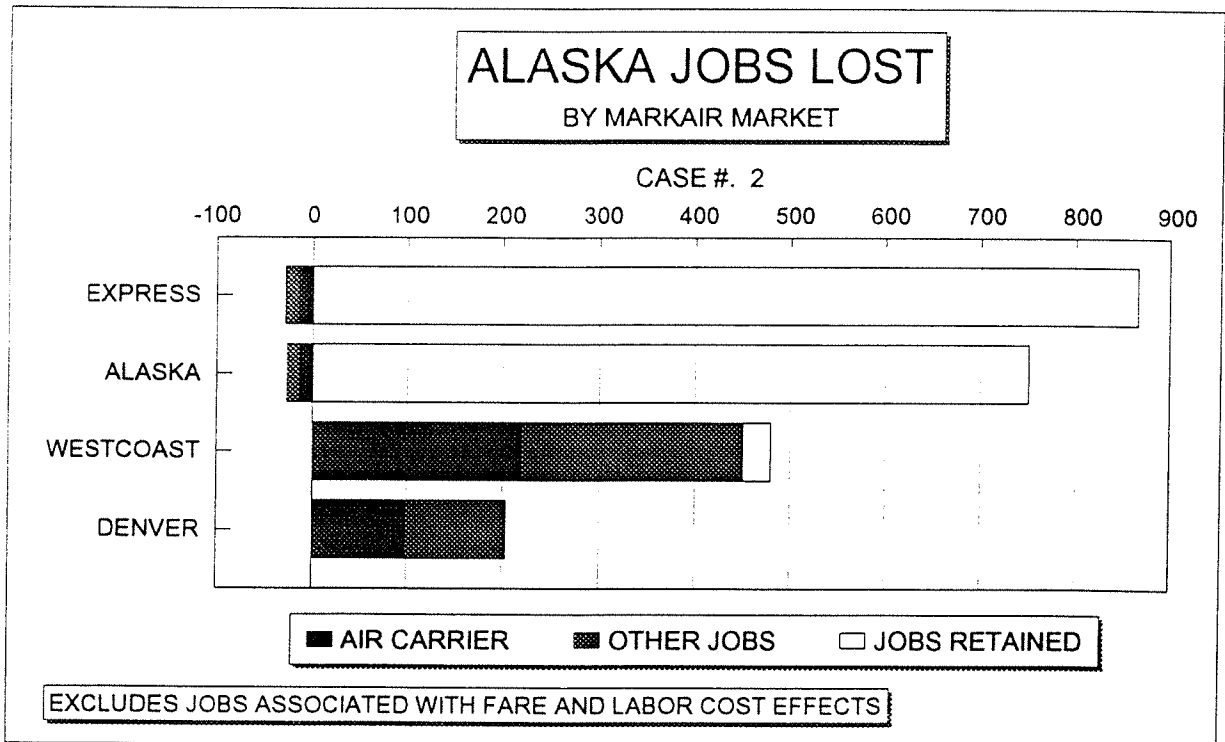


FIGURE 5

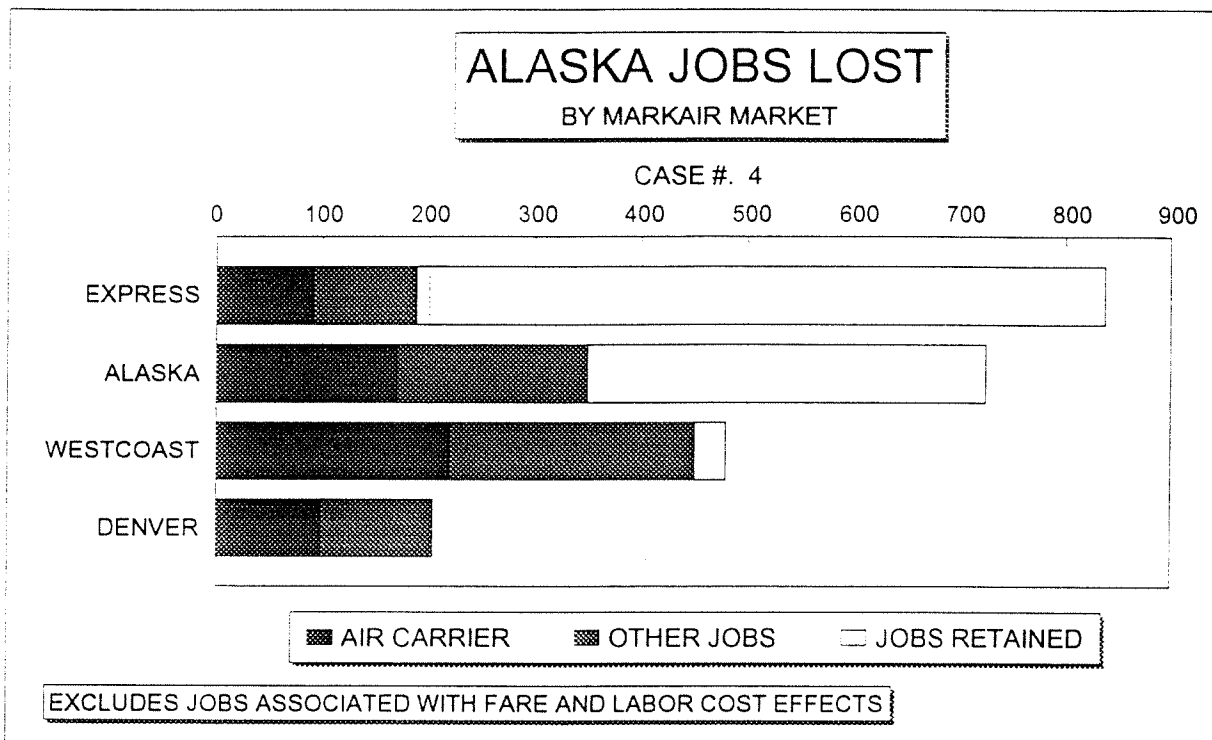
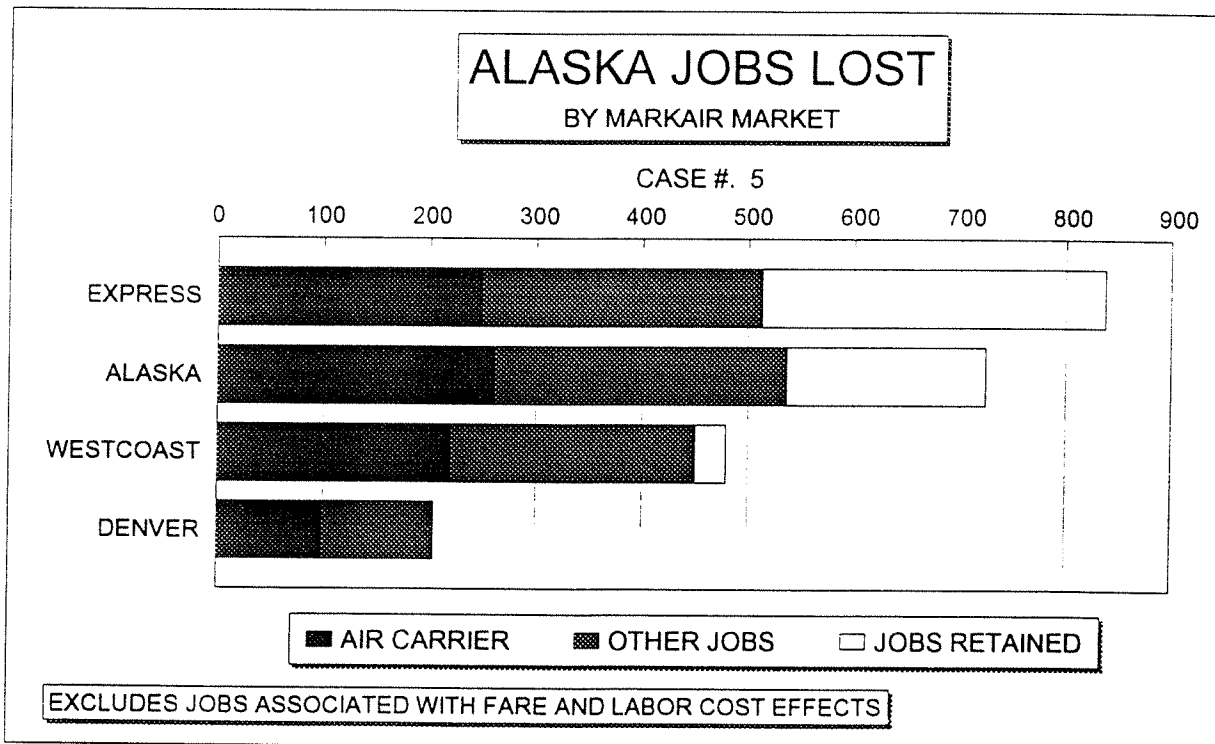


FIGURE 6



In addition to a reduction of employment in the delivery of air transport services, there may be three other economic effects if Markair were to shutdown:

1. Pressure on fares to rise
2. Reduction in service levels, frequency, or variety
3. Change in the total cost of air transportation

The employment estimates presented in the 5 Cases include only the potential loss of jobs associated with the restructuring of air transportation markets in the absence of Markair and Markair Express. There could be some reduction in employment if less competition resulted in higher fares. Higher fares would mean Alaskans would have less money to spend on other things and this would reduce employment in trade and services. Alternatively the higher fares might fall upon Alaska businesses and increase the cost of doing business in Alaska. This would also adversely impact employment in the state.

Any potential job loss from higher fares and the offsetting potential job gains from higher wages (explained below) are difficult to estimate. It is possible however to characterize the order of magnitude of these effects. Because of the large size of the corridor market (about \$500 million annually in revenues) even a small percent change in the average fare would have a noticeable effect on Alaska resident income and employment.

A considerable drop in the average revenue per passenger in the corridor occurred at the time Markair entered that market. The exact impact of that reduction on Alaskans is unknown since it is impossible to know what fares would have been in the absence of Markair. If fares had stayed at their 1990 level or increased at the rate of the air fare component of the Consumer Price Index, the average revenue per passenger would today be roughly \$100 higher.

If Markair were now to withdraw from the corridor there would be a tendency for average revenue per passenger to increase because there would be fewer competitors and thus less pressure to keep costs and prices low. It is unlikely that revenues would return to the levels prior to Markair entry because the experience of the last three years has put downward pressure on costs and increased awareness of the competitive potential in the corridor. Although studies suggest that fares rise in markets when a major competitor withdraws, they may be documenting a temporary phenomenon given the ease of entry of competitors into lower 48 markets.

If average revenue in the corridor were to increase by 5% as a result of a reduction in competition, the annual cost to travelers would increase about \$25 million over the \$500 million currently expended. Since about half the corridor traffic is Alaska residents, their loss in purchasing power would be about \$12.5 million--the equivalent of a loss of

100 jobs. If the 5% increase included the Alaska hubs there would be an additional loss of about \$1 million if revenues were \$50 million in these markets. This would add an additional 10 jobs to the estimate of loss.

Any effect of higher fares on employment would be somewhat offset if higher fares resulted in higher industry wage rates. For example if the average wage in air transportation increased by 2.5%, the Alaska air transportation payroll of about \$180 million would increase about \$4.5 million. The spending of this additional income would add 36 jobs to the economy and offset some of the loss from higher fares.

If less competition resulted in a reduction in service over some routes there would be a loss of economic value to consumers but measuring that loss is beyond the scope of this analysis.

If employment serving Alaska markets were less without Markair and Markair Express, the total cost of air transportation in Alaska markets would be less, assuming all service providers have the same cost of service. If employment declined it would be the result of the spreading of a smaller total fixed cost (and its associated employment)--administration, marketing, sales, etc.--over the same passenger base. With lower total costs, fares could fall in the presence of competition, but lower costs would not produce lower fares in the absence of competitive pressure.

However if the Markair or Markair Express cost of service were less than its competition, the average cost of service could increase if Markair (or Markair Express) left the market, even in a competitive environment. This would be the case if another carrier replaced the lost service at a higher incremental cost than the average cost of Markair service.

Furthermore if the fares in a market were based on the cost of the lowest cost competitor, fares could increase even if the total and average cost of service declined. This report has made no attempt to calculate the relative cost of service of different carriers in the markets served by Markair and Markair Express. Consequently the employment impact of changes in fares due to this potential effect has not been quantified.

**ALASKA EMPLOYMENT WITH AND WITHOUT MARKAIR:
RANGE OF POTENTIAL EFFECTS**

APPENDIX A.

MODEL OUTPUT

MARKAIR CLOSURE: JOB LOSS CALCULATION

CASE #. 1

	SUM	MARKAIR EXPRESS	MARKAIR			
			Intrastate Alaska	West coast	Denver Hub	
Total Jobs	1802	339	1463			
instate	1091	339	752			
out	711		711			
reallocated jobs: the location of total jobs required to serve market						
instate	1091	407	352	233	99	
outside	711	14	13	335	349	
total	1802	421	365	568	448	
jobs required to replace						
instate	900	421	365	114	0	
outside	902	0	0	454	448	
total	1802	421	365	568	448	
% service replaced		100%	100%	100%	100%	
% of average jobs required		100%	100%	100%	100%	
Ak air carrier industry jobs	1091	407	352	233	99	
Ak air industry jobs replaced	900	421	365	114	0	
Ak air industry jobs lost	191	-14	-13	119	99	
Ak indirect and induced jobs lost	202	-15	-14	126	105	
Subtotal: OPERATIONS JOB LOSS	393	-29	-27	245	204	
Average fare increase			5%	5%		
Current size of market (million \$ of fares)		\$50	\$50	\$500		
Increase in revenues (million \$)		\$0.00	\$2.50	\$25.00		
% traffic resident		75%	50%	50%		
Added cost to residents (million \$)		\$0.00	\$1.25	\$12.50		
Subtotal: INCREASED COST OF LIVING JOB LOSS	110	0	10	100	-	
Higher Wage offset (million \$)				\$4.50		
Subtotal: HIGHER WAGE JOB GAIN	-36	0	0	-36		
NET JOB LOSS		467	-29	-17	309	204

MARKAIR CLOSURE: JOB LOSS CALCULATION

CASE #. 2

	SUM	MARKAIR EXPRESS	MARKAIR														
			Intrastate Alaska	West coast	Denver Hub												
Total Jobs	1802	339	1463														
instate	1091	339	752														
out	711		711														
reallocated jobs: the location of total jobs required to serve market																	
instate	1091	407	352	233	99												
outside	711	14	13	335	349												
total	1802	421	365	568	448												
jobs required to replace																	
instate	900	421	365	114	0												
outside	902	0	0	454	448												
total	1802	421	365	568	448												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">% service replaced</td> <td style="width: 15%;">100%</td> <td style="width: 15%;">100%</td> <td style="width: 15%;">100%</td> <td style="width: 15%;">50%</td> <td style="width: 10%;">100%</td> </tr> <tr> <td>% of average jobs required</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>25%</td> <td>100%</td> </tr> </table>						% service replaced	100%	100%	100%	50%	100%	% of average jobs required	100%	100%	100%	25%	100%
% service replaced	100%	100%	100%	50%	100%												
% of average jobs required	100%	100%	100%	25%	100%												
Ak air carrier industry jobs	1091	407	352	233	99												
Ak air industry jobs replaced	800	421	365	14	0												
Ak air industry jobs lost	291	-14	-13	219	99												
Ak indirect and induced jobs lost	307	-15	-14	231	105												
Subtotal: OPERATIONS																	
JOB LOSS	598	-29	-27	450	204												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Average fare increase</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;">5%</td> <td style="width: 15%;">5%</td> <td style="width: 10%;"></td> </tr> </table>						Average fare increase			5%	5%							
Average fare increase			5%	5%													
Current size of market (million \$ of fares)		\$50	\$50	\$500													
Increase in revenues (million \$)		\$0.00	\$2.50	\$25.00													
% traffic resident		75%	50%	50%													
Added cost to residents (million \$)		\$0.00	\$1.25	\$12.50													
Subtotal: INCREASED COST																	
OF LIVING JOB LOSS	110	0	10	100	-												
Higher Wage offset (million \$)				\$4.50													
Subtotal: HIGHER WAGE																	
JOB GAIN	-36	0	0	-36													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">NET JOB LOSS</td> <td style="width: 15%;">672</td> <td style="width: 15%;">-29</td> <td style="width: 15%;">-17</td> <td style="width: 15%;">514</td> <td style="width: 10%;">204</td> </tr> </table>						NET JOB LOSS	672	-29	-17	514	204						
NET JOB LOSS	672	-29	-17	514	204												

MARKAIR CLOSURE: JOB LOSS CALCULATION

CASE #. 3

	SUM	MARKAIR EXPRESS	MARKAIR												
			Intrastate Alaska	West coast	Denver Hub										
Total Jobs	1802	339	1463												
instate	1091	339	752												
out	711		711												
reallocated jobs: the location of total jobs required to serve market															
instate	1091	407	352	233	99										
outside	711	14	13	335	349										
total	1802	421	365	568	448										
jobs required to replace															
instate	900	421	365	114	0										
outside	902	0	0	454	448										
total	1802	421	365	568	448										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">% service replaced</td> <td style="width: 15%;">100%</td> <td style="width: 15%;">100%</td> <td style="width: 15%;">50%</td> <td style="width: 15%;">100%</td> </tr> <tr> <td>% of average jobs required</td> <td>100%</td> <td>50%</td> <td>25%</td> <td>100%</td> </tr> </table>						% service replaced	100%	100%	50%	100%	% of average jobs required	100%	50%	25%	100%
% service replaced	100%	100%	50%	100%											
% of average jobs required	100%	50%	25%	100%											
Ak air carrier industry jobs	1091	407	352	233	99										
Ak air industry jobs replaced	618	421	183	14	0										
Ak air industry jobs lost	473	-14	170	219	99										
Ak indirect and induced jobs lost	500	-15	179	231	105										
Subtotal: OPERATIONS JOB LOSS	974	-29	349	450	204										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Average fare increase</td> <td style="width: 15%;"></td> <td style="width: 15%;">5%</td> <td style="width: 15%;">5%</td> <td style="width: 15%;"></td> </tr> </table>						Average fare increase		5%	5%						
Average fare increase		5%	5%												
Current size of market (million \$ of fares)		\$50	\$50	\$500											
Increase in revenues (million \$)		\$0.00	\$2.50	\$25.00											
% traffic resident		75%	50%	50%											
Added cost to residents (million \$)		\$0.00	\$1.25	\$12.50											
Subtotal: INCREASED COST OF LIVING JOB LOSS	110	0	10	100	-										
Higher Wage offset (million \$)				\$4.50											
Subtotal: HIGHER WAGE JOB GAIN	-36	0	0	-36											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">NET JOB LOSS</td> <td style="width: 15%;">1048</td> <td style="width: 15%;">-29</td> <td style="width: 15%;">359</td> <td style="width: 15%;">514</td> <td style="width: 15%;">204</td> </tr> </table>						NET JOB LOSS	1048	-29	359	514	204				
NET JOB LOSS	1048	-29	359	514	204										

MARKAIR CLOSURE: JOB LOSS CALCULATION

CASE #. 4

	SUM	MARKAIR EXPRESS	MARKAIR			
			Intrastate Alaska	West coast	Denver Hub	
Total Jobs	1802	339	1463			
instate	1091	339	752			
out	711		711			
reallocated jobs: the location of total jobs required to serve market						
instate	1091	407	352	233	99	
outside	711	14	13	335	349	
total	1802	421	365	568	448	
jobs required to replace						
instate	900	421	365	114	0	
outside	902	0	0	454	448	
total	1802	421	365	568	448	
% service replaced		100%	100%	50%	100%	
% of average jobs required		75%	50%	25%	100%	
Ak air carrier industry jobs	1091	407	352	233	99	
Ak air industry jobs replaced	513	316	183	14	0	
Ak air industry jobs lost	579	91	170	219	99	
Ak indirect and induced jobs lost	612	96	179	231	105	
Subtotal: OPERATIONS JOB LOSS	1190	188	349	450	204	
Average fare increase			5%	5%		
Current size of market (million \$ of fares)		\$50	\$50	\$500		
Increase in revenues (million \$)		\$0.00	\$2.50	\$25.00		
% traffic resident		75%	50%	50%		
Added cost to residents (million \$)		\$0.00	\$1.25	\$12.50		
Subtotal: INCREASED COST OF LIVING JOB LOSS	110	0	10	100	-	
Higher Wage offset (million \$)				\$4.50		
Subtotal: HIGHER WAGE JOB GAIN	-36	0	0	-36		
NET JOB LOSS		1264	188	359	514	204

MARKAIR CLOSURE: JOB LOSS CALCULATION

CASE #. 5

	SUM	MARKAIR EXPRESS	MARKAIR												
			Intrastate Alaska	West coast	Denver Hub										
Total Jobs	1802	339	1463												
instate	1091	339	752												
out	711		711												
reallocated jobs: the location of total jobs required to serve market															
instate	1091	407	352	233	99										
outside	711	14	13	335	349										
total	1802	421	365	568	448										
jobs required to replace															
instate	900	421	365	114	0										
outside	902	0	0	454	448										
total	1802	421	365	568	448										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">% service replaced</td> <td style="width: 15%;">50%</td> <td style="width: 15%;">50%</td> <td style="width: 15%;">50%</td> <td style="width: 15%;">100%</td> </tr> <tr> <td>% of average jobs required</td> <td>75%</td> <td>50%</td> <td>25%</td> <td>100%</td> </tr> </table>						% service replaced	50%	50%	50%	100%	% of average jobs required	75%	50%	25%	100%
% service replaced	50%	50%	50%	100%											
% of average jobs required	75%	50%	25%	100%											
Ak air carrier industry jobs	1091	407	352	233	99										
Ak air industry jobs replaced	263	158	91	14	0										
Ak air industry jobs lost	828	249	261	219	99										
Ak indirect and induced jobs lost	875	263	276	231	105										
Subtotal: OPERATIONS JOB LOSS	1703	512	536	450	204										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Average fare increase</td> <td style="width: 15%;"></td> <td style="width: 15%;">5%</td> <td style="width: 15%;">5%</td> <td style="width: 15%;"></td> </tr> </table>						Average fare increase		5%	5%						
Average fare increase		5%	5%												
Current size of market (million \$ of fares)		\$50	\$50	\$500											
Increase in revenues (million \$)		\$0.00	\$2.50	\$25.00											
% traffic resident		75%	50%	50%											
Added cost to residents (million \$)		\$0.00	\$1.25	\$12.50											
Subtotal: INCREASED COST OF LIVING JOB LOSS	110	0	10	100	-										
Higher Wage offset (million \$)				\$4.50											
Subtotal: HIGHER WAGE JOB GAIN	-36	0	0	-36											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">NET JOB LOSS</td> <td style="width: 15%;">1777</td> <td style="width: 15%;">512</td> <td style="width: 15%;">546</td> <td style="width: 15%;">514</td> <td style="width: 15%;">204</td> </tr> </table>						NET JOB LOSS	1777	512	546	514	204				
NET JOB LOSS	1777	512	546	514	204										

**ALASKA EMPLOYMENT WITH AND WITHOUT MARKAIR:
RANGE OF POTENTIAL EFFECTS**

APPENDIX B.

**METHODOLOGY FOR ALLOCATION OF MARKAIR
AND MARKAIR EXPRESS JOBS BY MARKET**

METHODOLOGY FOR ALLOCATION OF MARKAIR AND MARKAIR EXPRESS JOBS BY MARKET

PART A. MARKAIR EXIT: WHERE WOULD THE JOB LOSS SHOW UP

The following assumptions have been used in determining the number of Alaska jobs which are at risk from the loss of operations in each of the 4 markets served by Markair/Markair Express.

- 1 Markair/Markair Express operates in 4 major markets and its total employment can be allocated among operations in each of those markets. These markets are as follows:

Markair Express market in rural Alaska connecting small communities to regional hubs. This market is served by approximately 50 small aircraft.

Markair urban Alaska market connecting Anchorage with most larger cities in Alaska outside Southeast. This market is served by 2 jets.

Markair Westcoast market connecting Anchorage to the west coast through the "corridor" to Seattle and on to California. This market is served by 5 jet aircraft. Of these 2 are assigned to the Seattle-Anchorage corridor.

Markair Denver Hub market connecting cities on the east and west coasts through Denver. There are 7 jet aircraft assigned to this market.

- 2 The current employment profile for Markair and Markair Express is as follows:

Markair Express			339
Markair			1463
Alaska		752	
Anchorage	639		
Other	113		
Outside		711	
Denver	340		
Seattle	316		
Other	55		
Combined Total			1802

Alaska
Outside

1091
711

- 3 Markair does some things for Markair Express. For example Markair administration includes the administration of Markair Express. Consequently some of Markair employment should be assigned to Markair Express in order to realistically reflect the total employment required to provide Markair Express service.
This assignment is made on the basis of traffic volumes.
- 4 Portions of Markair employment in Anchorage service the Westcoast and Denver Hub markets. Again administration is a good example. Some of Markair Alaska employment should be assigned to Markair lower 48 markets in order to realistically reflect the total employment required to provide service in these markets and the fact that if Markair withdrew from those lower 48 markets there would be a loss of jobs in Alaska.
This assignment is made on the basis of the number of jet aircraft operating in each market.
- 5 The allocation matrix for Anchorage jobs to markets served is as follows:

CALCULATION OF JOBS IN ANCHORAGE ATTRIBUTABLE TO EACH MARKET

	ALLOCATION MATRIX				JOB ALLOCATION				CHECK	MARKAIR West replacement	
	MARKAIR EXPRESS	Alaska	MARKAIR West	Denver	MARKAIR EXPRESS	Alaska	MARKAIR West	Denver			
TRAFFIC	30	23	57	91							
ANCHORAGE JOBS 639											
pilots	64		1	0.2		42.8	21.2		64	21	
inflt	65		1	0.2		43.5	21.5		65	22	
tckts	42	1	1	0.2	19.6	15	7.43		42	7	
res	49	1	1	0.2	22.8	17.5	8.67		49	9	
maint	81		1	1		23.3	57.7		81	0	
srvc	35		1	0.2		23.4	11.6		35	12	
cargo	43		1	0.2		28.8	14.3		43	14	
flt ser	18		1	0.2		12	5.97		18	6	
ramp	56		1	0.2		37.4	18.6		56	19	
gen	10		1	0.2		6.69	3.31		10	3	
war	4		1	0.2		2.67	1.33		4	1	
mrktg	24	1	1	1	1	3.58	2.75	6.81	10.9	24	0
sales	17	1	1	1	1	2.54	1.95	4.82	7.7	17	0
admin	131	1	1	1	1	19.6	15	37.1	59.3	131	0
ALLOCATED ANCHORAGE JOBS						68.1	273	220	77.9	639	114

- 6 Also the maintenance facility in Fairbanks services the entire jet fleet and so its employment should be allocated across all three jet markets. This is done on the basis of the number of aircraft in each market.
- 7 A small portion of employment in Seattle and Denver in reservations should be attributed to the Alaska market. We arbitrarily allocate 20 employees in each location to the Alaska market.
- 8 The allocation of employment associated with such activities as administration and sales among individual markets must be somewhat arbitrary. The assumption we have made is that Markair could be split into 4 separate companies, each serving a single market, and the current Markair work force could be split among those companies so that current service levels could be maintained.

In fact such a split could result in the loss of economies of scale of operations so that additional employment would be required to provide the same level of service. On the other hand if some operations were taken over by other existing companies, the employment necessary to provide comparable service could be smaller than the current level.

- 9 We apply these allocation rules to the following picture of where Markair jobs are currently located.

	Markair Express	Markair Alaska	Markair Westcoast	Markair Denver
JOBS BY LOCATION				
Anchorage	138	639		
Other Ak	201	113		
Outside Centers			316	340
Outside Other			26	29
Total jobs	1802	339	752	342

- 10 This reallocation gives us JOBS BY LOCATION BY MARKET SERVED as follows:

	MARKET SERVED			
	Markair Express	Markair Alaska	Markair Westcoast	Markair Denver
LOCATION OF JOB				
Anchorage	206	273	220	78
Other Alaska	201	79	13	21
Outside Centers	14	13	309	320
Outside Other			26	29
Total	1802	421	365	568

- 11 This allocation is summarized in the following table.

THIS TABLE REPRESENTS THE LOCATION OF JOB LOSS ASSOCIATED WITH THE EXIT OF MARKAIR FROM EACH OF ITS 4 MARKETS

	Markair Express	Markair Alaska	Markair Westcoast	Markair Denver	sum
ALASKA	407	352	233	99	1091
OUTSIDE	14	13	335	349	711
	421	365	568	448	1802

PART B. MARKAIR SERVICE REPLACEMENT: WHERE WOULD THE JOBS SHOW UP

The location of replacement employment would not necessarily be the same as the location of job loss if the operations to serve particular markets were replaced. Thus a separate table describes the location of replacement employment.

- 12 We assume a non-Alaska headquarters for a replacement company taking over the Markair Westcoast and Denver Hub markets. Consequently there is no Alaska employment associated with the Denver Hub and the Alaska employment associated with the Westcoast market is restricted to providing the incremental services for the Anchorage-Seattle corridor. The allocation is shown in the last column of the matrix in #5 above.

THIS TABLE REPRESENTS THE LOCATION OF JOBS CREATED TO SERVICE THE MARKETS VACATED BY MARKAIR

	Markair Express	Markair Alaska	Markair Westcoast	Markair Denver	sum
ALASKA	421	365	114	0	900
OUTSIDE	0	0	454	448	902
	421	365	568	448	1802

There are 3 differences between these two tables.

- 1 Reservation activity in Denver and Seattle associated with the Alaska market would move back to Alaska
- 2 Only the portion of Westcoast market activity associated with the Anchorage-Seattle corridor would be located in Alaska. Activity associated with links South and East of Seattle would not occur in Alaska.
- 3 Markets served from the Denver Hub would not require Alaska employment.

**ALASKA EMPLOYMENT WITH AND WITHOUT MARKAIR:
RANGE OF POTENTIAL EFFECTS**

APPENDIX C.

**MARKET RESPONSE TO MARKAIR PULLOUT:
CONSIDERATIONS IN THE ESTIMATION OF JOBS**

MARKET RESPONSE TO MARKAIR PULLOUT : CONSIDERATIONS IN THE ESTIMATION OF JOBS

GENERAL

We assume the current market structure is viable in the sense that the current employment levels of Markair competitors are sustainable were Markair to remain as a competitor in its current markets. Another way to say this is that the markets can sustain the current levels of capacity which serve them. Were Markair to remain in these markets other carriers would continue to be viable.

We assume that all markets would continue to be served in the absence of Markair.

We assume individual markets are dynamic in the sense that there is no determinate number of carriers which works for each market. Under some conditions there might be a single carrier, under others 2 or more. Both could be stable in the sense that there would be no tendency for the competition to change the number of carriers.

The Markair structure is a unique result of the history of the company. It serves several types of markets from rural Alaska to transcontinental. It is unlikely that a competitor or entrepreneur would choose to take over the entire company in a sale. It is more likely that the company would be sold off in parts.

Different airline companies have different corporate philosophies. Even if Markair were sold as a single entity a new owner might choose to restructure the airline.

Competition puts downward pressure on costs and fares.

DENVER HUB MARKET

Whether some other carrier would replace Markair in the operation of its Denver Hub is immaterial for this analysis. This is because we assume any alternative carrier would not be an Alaska based airline. If that is the case any replacement employment would occur outside Alaska.

The loss of the Markair Denver Hub operations could increase the average cost of travel in the contiguous US if the Permanent Fund Dividend program were eliminated.

WESTCOAST MARKET INCLUDING THE CORRIDOR: ANCHORAGE--SEATTLE

Markair serves the Anchorage--Seattle market (corridor) with the equivalent of 2 jets--one based in Anchorage and the other in Seattle.

Whether some other carrier would replace Markair in the operation of its Westcoast market net of the corridor is immaterial for this analysis. This is because we assume any alternative carrier would not be an Alaska based airline. If that is the case any replacement employment would occur outside Alaska.

Different companies view the corridor differently. For example Morris Air, which served

the corridor in 1993, was purchased by Southwest Airlines and the new owner pulled Morris Air out of the corridor.

There are currently 21 flights daily from Anchorage to Seattle, 4 of which are Markair. The other carriers and the number of flights they offer are: Alaska--10, Delta--3, Continental--3, United--2, Northwest--1. The number of flights is likely to vary over the year in response to seasonal variation in the traffic.

If Markair left the corridor market the most likely scenarios are either that another carrier would enter the market to replace Markair, or the existing carriers would service the market. The existing carriers could serve the market with fewer, the same number, or more flights than they are currently offering.

If a new carrier entered the corridor it would most likely be a non-Alaska based carrier since there are no clear candidates within the state to step up to the corridor market.

A new non-Alaska competitor would put a minimum of staff into Anchorage to service one plane based in Anchorage and one in Seattle. The incremental employment associated with one plane based in Anchorage would be about 50 and the employment to service a flight coming north from Seattle would add about 25. This estimate is based on the Markair experience of expanding into the national market. In increasing its jet fleet from 9 to 15 between 1992 and 1994, Markair added about 250 employees. In addition the Alaska based employment of other corridor operators is relatively small. According to a 1992 report to the Alaska Department of Labor, Alaska employment levels were 289 for Delta, 112 for United, and 23 for Continental. Airlines with small operations might contract out some activities.

However any new firm operating only between Anchorage and Seattle would be at a distinct disadvantage to the existing carriers.

In theory all a carrier needs to enter a market is a plane and counter space, but there are advantages of incumbency which create a disincentive against the entry of new competitors into a market. These advantages include name recognition, frequent flier programs, the capacity to link to networks of flight offerings on either end of the corridor, and frequency of service.

In addition for the corridor there is the problem of the lack of information about the Alaska market.

For these reasons it seems most likely that an existing carrier would fill any void in the market left by the withdrawal of Markair. Alaska Airlines might be in the best position to move in because it can offer not only connecting flights in the lower 48, but it also has an extensive instate network providing a customer base for its corridor operations. The other airlines, because of their more limited presence, are less of a force in the market.

If Alaska were to replace the 4 daily Markair flights with their own flights, they would need to add a small number of additional employees since they already have an established instate operation. Based on the recent Markair expansions, the employment associated with adding planes to the fleet is roughly 50 per jet. Alaska Airlines already has a fully staffed facility at the Anchorage airport and would be in a position to absorb the additional flights with a small increase in ticket agents, cargo handlers, etc.

It might make sense for the remaining carriers not to replace the lost Markair flights. The load factors on remaining flights would improve and this would reduce the average cost of service over the route. The fact that there are several carriers that have flights departing almost simultaneously suggests the carriers may be competing for passengers by adding flights at popular times to lure passengers from the competition. Fewer competitors could reduce this tendency.

Without replacement, capacity over the corridor would fall between 10%-15%. If the current load factor over the corridor were 60%, the drop in capacity would increase the load factor to 66%--a

level which could still be comfortably served without replacing the lost flights.

It is possible that, were Markair to vacate the market, total flights could increase, or they could further decline if the lack of competition allowed the remaining carriers to reduce their flights. These possibilities are much less likely than the case where none, some, or all of the lost Markair flights are replaced.

ALASKA MAINLINE

This market consists of a number of routes served by jets which can accommodate both passengers and freight. On most of these routes Alaska Airlines is the only competition. On a few routes there is a third carrier. Fairbanks is the most competitive Alaska market as measured by the number of carriers, with 4 providing service from Anchorage. Although some Alaska markets are served by only one carrier, such as Ketchikan served only by Alaska, Markair faces competition on all its routes.

If Markair were to give up these routes it seems unlikely that a competitor from Outside Alaska would move into the void, unless it also had access both to the corridor and to rural Alaska. Competition is more likely to come from within the state, from a carrier that already knows Alaska.

An Alaskan competitor could either be Alaska Airlines, which could become the sole carrier in these markets were Markair to leave, or one of the smaller commuter airlines operating in the state. Were Alaska Airlines to replace the Markair service in these markets it would still face potential competition from the smaller commuter airlines.

The load factors on these routes are often lower than the corridor and hub operations. This suggests that if Markair dropped out of the market the other existing carrier could handle the traffic without replacing any scheduled flights. Because there is always the threat of entry, a single carrier would need to structure the schedule and fares in each location to make it difficult for competition to develop. Frequency of departures is a device for discouraging competition.

Freight carried over these routes is not "time sensitive" like passengers and consequently regularly scheduled flights may not be necessary to accommodate freight traffic. Freight traffic could move on unscheduled flights allowing for better fleet utilization.

For this market there is uncertainty about the proportion of flights that would be taken over by other carriers if Markair left the market, and there is uncertainty about the employment required to provide the replacement service. If the replacement service were provided by existing firms, for example Alaska Airlines, the incremental employment would be much less than the average since they currently serve virtually all the Markair markets in Alaska.

If a commuter airline were to expand to fill a void left by the departure of Markair, the employment increase would also be incremental and less than the average.

MARKAIR EXPRESS

With a fleet of about 50 small planes, Markair Express provides commuter service linking smaller Alaska communities to the regional hubs served by Markair.

There are a number of small competitors in the markets served by Markair Express. Markair

Express has an advantage in that it can directly link passengers into the Markair network of flights.

We assume that existing commuter carriers are the most likely to fill the void left by withdrawal of Markair Express.

We assume that smaller commuter carriers operate with relatively low overhead compared to the major carriers, so adding flights would require almost as much employment as the average of existing flights.

**ALASKA EMPLOYMENT WITH AND WITHOUT MARKAIR:
RANGE OF POTENTIAL EFFECTS**

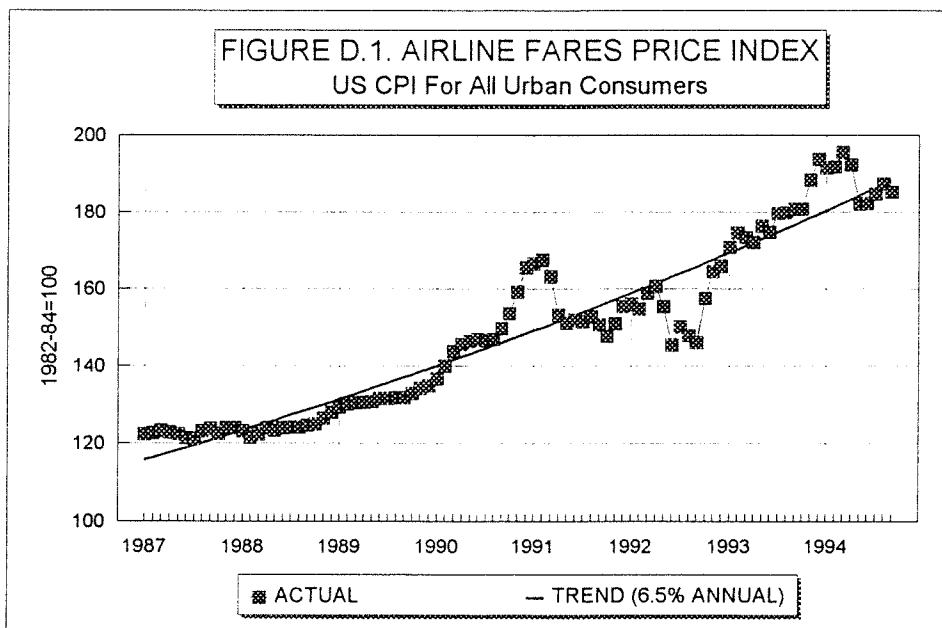
APPENDIX D.

**ALTERNATIVE ESTIMATE OF FARE REDUCTION IN
CORRIDOR MARKET**

ALTERNATIVE ESTIMATE OF FARE REDUCTION IN CORRIDOR MARKET

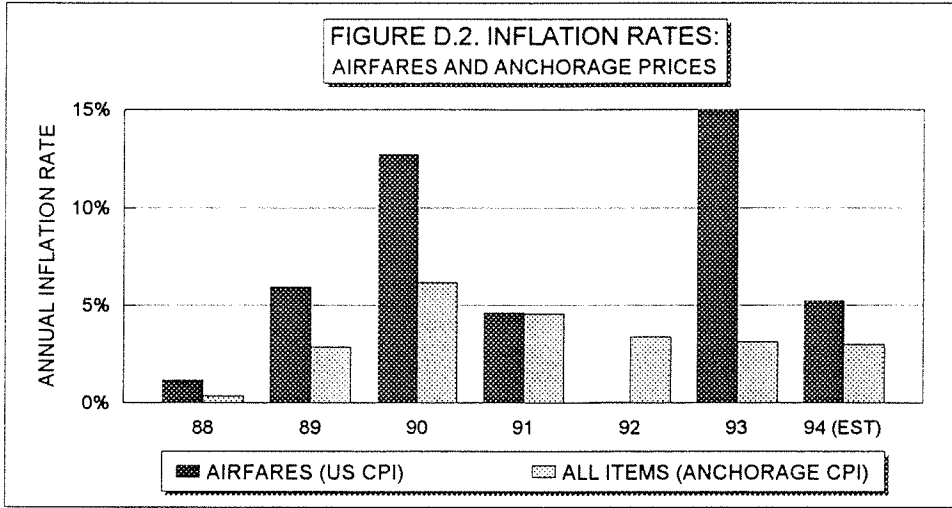
Air fares and average passenger revenues have fallen between Alaska and the lower 48 since Markair entered the market in late 1991. One way to estimate the consumer savings from lower fares is to compare the actual average revenue to estimated average revenue if fares had increased at the inflation rate reflected in the airline fare component of the Consumer Price Index.

The airline fare component of the US Consumer Price Index for All Urban Consumers has increased at a trended rate of 6.5% annually since 1987 although it shows substantial fluctuation around that trend (Figure D.1). In late 1991 for example the index jumped for a period of 6 months, reflecting higher air fares in response to higher oil prices brought on by the Iraq-Kuwaiti war. It subsequently fell back to the trend line and has since had two major movements--one below and one above the trend.



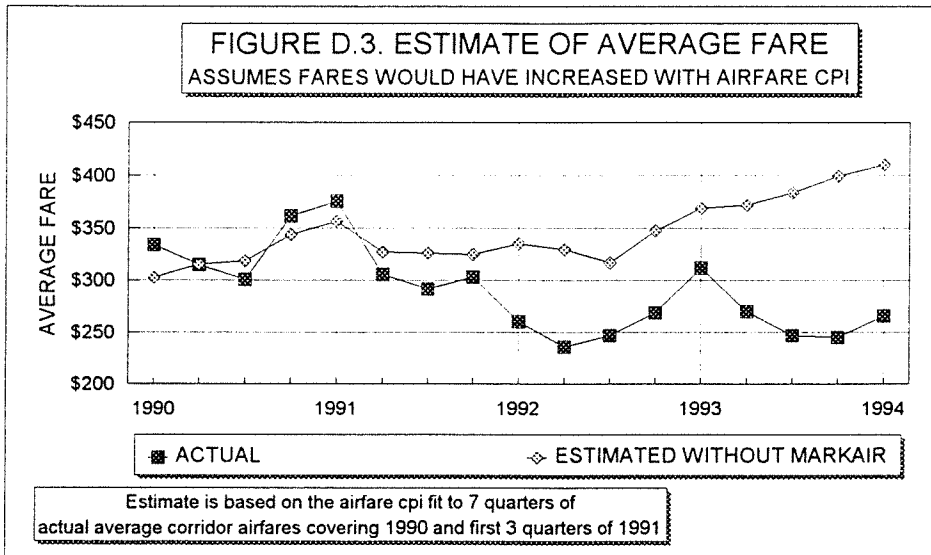
The rate of inflation in airline fares, 6.5%, has exceeded the overall rate of inflation for the same period. A comparison of the annual rate of inflation in Anchorage, as measured by the Anchorage Consumer Price Index, with the inflation in air fares shows that inflation in air fares has exceeded the inflation for all items each year since 1988 with the exception of 1992 when air fares were recovering from the oil price spike (Figure D.2).

The Bureau of Labor Statistics, which constructs the consumer price index, attempts to capture the influence of regular fares, discount fares, and deep discount fares in their methodology for calculation of the air fare index. Nonetheless the dynamic nature of fare structures clearly poses a challenge for them to keep their index current and accurate.



Average revenue per passenger in the corridor market during 1990 and the first 3 quarters of 1991 is correlated with movement of the consumer price index for air fares (.63) although the fit is not exact because the seasonal patterns in the corridor market are not the same as the national average pattern, and because of other possible unique characteristics of the corridor market. Nevertheless the average revenue generally follows the national trend during that period.

If the average passenger revenue in the corridor had increased at the rate of the consumer price index for air travel after the 3rd quarter of 1991, the estimated average fare would have been \$400 by the first quarter of 1994 compared to the actual average fare of \$266 (Figure D.3.). The difference in revenues per passenger using this method is \$83 for 1992 and \$114 for 1993 .



AIR FARE CPI: CALCULATION OF TREND										ESTIMATE		ESTIMATE		ESTIMATE		ESTIMATE		AVERAGE FARE DIFFERENCE		
										(trend)		(de-trended)		NOMINAL AVERAGE FARE INCREASE FROM 1990:1		NOMINAL AVERAGE FARE INCREASE FROM 1990:1		(nominal \$) (B-A)		
										(A.)		(B.)		FROM 1990:1		FROM 1990:1				
										ACTUAL NOMINAL AVERAGE FARE		NOMINAL AVERAGE FARE		NOMINAL AVERAGE FARE INCREASE FROM 1990:1		NOMINAL AVERAGE FARE INCREASE FROM 1990:1		AVERAGE FARE DIFFERENCE		
										LN AIRFARE CPI		LN AIRFARE CPI		LN AIRFARE CPI		LN AIRFARE CPI		EARLIER METHOD		
										RATIO ACTUAL/TREND		RATIO ACTUAL/TREND		RATIO ACTUAL/TREND		RATIO ACTUAL/TREND				
										TREND EST AIRFARE CPI		TREND EST AIRFARE CPI		TREND EST AIRFARE CPI		TREND EST AIRFARE CPI				
										EST LN AIRFARE CPI		EST LN AIRFARE CPI		EST LN AIRFARE CPI		EST LN AIRFARE CPI				
										AIRFARE CPI		AIRFARE CPI		AIRFARE CPI		AIRFARE CPI				
1987	1	122.80	4.811	4.758	116.46	1.054														
	2	122.14	4.805	4.773	118.32	1.032														
	3	122.74	4.810	4.789	120.21	1.021														
	4	123.45	4.816	4.805	122.13	1.011														
1988	1	122.33	4.807	4.821	124.08	0.986														
	2	123.77	4.818	4.837	126.06	0.982														
	3	124.37	4.823	4.853	128.07	0.971														
	4	126.47	4.840	4.868	130.12	0.972														
1989	1	129.93	4.867	4.884	132.19	0.983														
	2	131.00	4.875	4.900	134.30	0.975														
	3	131.70	4.881	4.916	136.45	0.965														
	4	133.93	4.897	4.932	138.63	0.966														
1990	1	140.13	4.943	4.948	140.84	0.995														
	2	146.23	4.985	4.963	143.09	1.022														
	3	147.67	4.995	4.979	145.37	1.016														
	4	159.40	5.071	4.995	147.69	1.079														
1991	1	165.70	5.110	5.011	150.05	1.104														
	2	152.10	5.025	5.027	152.44	0.998														
	3	151.63	5.021	5.043	154.88	0.979														
	4	151.30	5.019	5.058	157.35	0.962														
1992	1	156.50	5.053	5.074	159.86	0.979														
	2	153.87	5.036	5.090	162.41	0.947														
	3	148.00	4.997	5.106	165.01	0.897														
	4	162.60	5.091	5.122	167.64	0.970														
1993	1	172.83	5.152	5.138	170.32	1.015														
	2	174.37	5.161	5.154	173.04	1.008														
	3	180.07	5.193	5.169	175.80	1.024														
	4	187.63	5.234	5.185	178.61	1.051														
1994	1	192.93	5.262	5.201	181.46	1.063														
	2	185.57	5.223	5.217	184.35	1.007														
	3	185.77	5.224	5.233	187.30	0.992														
	4																			

1992 \$76.22
1993 \$108.30

1994 \$112.82
1995 \$78.98
1996 \$122.80
1997 \$81.45
1998 \$64.86
1999 \$103.76
2000 \$136.50
2001 \$153.63
2002 \$144.39

1992 \$36.43
1993 \$23.02
1994 \$78.81
1995 \$93.29
1996 \$88.42
1997 \$72.35
1998 \$81.45
1999 \$58.33
2000 \$101.60
2001 \$136.50
2002 \$153.63
2003 \$144.39

1992 0.00%
1993 4.35%
1994 5.14%
1995 13.75%
1996 18.24%
1997 8.54%
1998 8.21%
1999 7.97%
2000 11.68%
2001 9.80%
2002 5.61%
2003 16.03%
2004 23.33%
2005 24.43%
2006 28.50%
2007 33.90%
2008 37.68%

1992 \$304.44
1993 \$308.94
1994 \$313.52
1995 \$318.18
1996 \$322.91
1997 \$327.71
1998 \$332.59
1999 \$337.55
2000 \$342.59
2001 \$347.70
2002 \$352.90
2003 \$358.19
2004 \$363.55
2005 \$369.00
2006 \$374.54
2007 \$380.17
2008 \$385.89

1992 \$302.91
1993 \$315.74
1994 \$318.48
1995 \$343.40
1996 \$356.59
1997 \$326.97
1998 \$325.62
1999 \$324.57
2000 \$335.38
2001 \$329.40
2002 \$316.53
2003 \$347.41
2004 \$368.92
2005 \$371.84
2006 \$383.64
2007 \$399.39
2008 \$410.30

1992 0.00%
1993 4.23%
1994 5.14%
1995 13.37%
1996 17.72%
1997 7.15%
1998 7.50%
1999 10.72%
2000 8.75%
2001 4.50%
2002 14.69%
2003 21.79%
2004 22.76%
2005 26.65%
2006 31.85%
2007 35.45%

0.634 CORRELATION BETWEEN AVERAGE FARE AND AIR FARE CPI

Regression Output: FOR CALCULATION OF TIME TREND

Constant 4.742
Std Err of Y Est 0.042
R Squared 0.923
No. of Observations 31
Degrees of Freedom 29
X Coefficient(s) 1.016 quarterly growth
Std Err of Coef. 0.001 1.065 annualized growth

