Case Study

American Airlines
DFW 12th Complex

case written by
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It is July 5 and American Airlines' schedules department is finalizing the levels of service for the September 12th schedule. Perhaps the most pressing issue facing Managing Director Walter Aue is what to do about the group of flights comprising the new 12th (2300) complex at the Dallas/Ft. Worth (DFW) hub.

The 12th complex--a complex (or bank) is a group of flights arriving at a hub, remaining on the ground just long enough for passengers to make connections, and then departing--was started in the April 3rd schedule. At 24 flights, 13 new and 11 retimed (see Exhibit I), it is a considerably smaller complex than the 11 other DFW complexes, which typically consist of between 70 and 80 flights. The 12th complex also is not purely directional and thus is not as strong in terms of connecting opportunities.

The 12th complex was designed to strengthen flights that were misdirected into the westbound 2140 complex, and flights (such as Las Vegas, Phoenix and San Diego) which had no connecting opportunities. Since the April 3rd schedule, more flights had been added to the 12th complex to strengthen it [see Exhibit 2]. However, there is little data available on the performance of these flights.

The new trips added in April are all "added utilization" trips or "variable flying". No new airplanes had to be allocated to DFW in order to

make these trips possible. The 12th complex trips merely continue the aircraft's day of flying. For example, the Albuquerque trip was retimed to arrive in DFW at 2202. Previously, this aircraft would have remained overnight in DFW, and would have left DFW the next morning as part of the 0820 eastbound complex. Instead, the inbound Albuquerque flight now continues on to Little Rock, remains overnight there, flies out at 0630 the following morning on a balance trip, and arrives in DFW in time to pick up its 0820 complex departure. The balance trips for the 12th complex are shown in Exhibit 3. Added utilization trips are evaluated somewhat differently than other trips. Because no new equipment is needed in order to make them possible, the pertinent costs are variable costs only.

Hub traffic is often broken down into 3 parts: local, through, and connect. Local passengers travel on only one segment, either from or to the hub. For example, a passenger starting his trip in Dallas/Ft. Worth and ending it in San Antonio would be a local passenger. Through passengers travel through the hub on the same flight. For example, if Flight 1275 went from Albuquerque to DFW to Little Rock, passengers flying from Albuquerque to Little Rock would be through passengers. Connect passengers travel through the hub, starting on one flight from their home city, and connect to a different flight at the hub to get to their destination. A passenger flying from Albuquerque on Flight 1275 and connecting to the San Antonio flight in DFW would be a connect passenger.

When analyzing flights as individual segments, the traffic can be divided into 2 groups: onboard and upline/downline. Onboard traffic is the total traffic carried on a particular trip. Upline/downline traffic is a subset of onboard traffic made up of the through and connect passengers. As an

illustration, suppose there is a DFW complex made up of two flights: Flight 401 (Albuquerque-DFW-Little Rock) and Flight 402 (Los Angeles-DFW-San Antonio). [Note that this hub's direction is west to east.] The Albuquerque-DFW segment of Flight 401 has 100 passengers onboard; 40 locals, 35 going through to Little Rock, and 25 connecting to San Antonio. The local/through/connect breakdown is 40/35/25, the onboard number is 100, and the upline/downline number is 60. In addition, suppose the Los Angeles-DFW segment of Flight 402 has 150 onboard, and its local/through/connect breakdown is 80/45/25 (San Antonio is the through station and Albuquerque is the connect). Then the Los Angeles onboard number is 150 and the upline/downline number is 70. From this information, we also know that the DFW-San Antonio upline/downline number is 70 and the DFW-Little Rock upline/downline number is 60. Taking it one step further, if there are 75 local passengers on DFW-San Antonio and 65 local passengers on DFW-Little Rock, then the onboard numbers are 145 for San Antonio and 125 for Little Rock. The traffic breakdown for the 12th complex and its balance trips is shown in Exhibit 4.

Another traffic concept that is of importance here is "new business." New business is the amount of traffic an airline carries on a new flight that it would not have carried otherwise. To determine the amount of new business, an analyst must look at all the flights in the city pair and examine the total traffic carried before and after the new flight was added. Although a new flight may have an adequate load factor, it is conceivable that it may be unwarranted if the net increase in traffic carried is relatively small. For example, if a new flight had an average load factor of 60 percent on a 150 seat aircraft (i.e. 90 passengers), but the net change in traffic carried on all flights in that market was 30 passengers per day (after adjusting for

other changes, such as seasonality), then the new flight may be deemed unnecessary since it effectively has only a 20 percent load factor. The remaining 40 percent of the load factor is assumed to have been carried at the expense of other flights, diluting their profitability. Exhibit 5 gives traffic figures for the markets involved in the 12th complex.

Exhibit 6 gives financial data for March through May. The revenue for each segment is broken out into onboard and upline/downline. Onboard revenues include ticket revenues as well as revenues from freight, liquor sales, extra baggage, etc. Upline/downline revenues consist only of ticket revenues, and are explained below. The contribution figures are profit figures based on onboard revenues and are divided into variable and fully allocated. Both of these, in turn, are also given including upline/downline revenues. Variable contribution is the contribution towards profit after the variable expenses have been subtracted from revenues. Fully allocated contribution is the contribution towards profit after both variable and a portion of the airlines' fixed (unassignable) costs have been subtracted.

The upline/downline figures are useful in determining the marginal value of a trip. A proration, based on the local unrestricted coach fares, is used to distribute the revenue generated by a through or connect passenger between the segments making up his trip. When looking at a single segment, the onboard revenue is the prorated portion of the passenger's fare assigned to that segment, and the upline/downline revenue is the prorated portion of the fare allocated to any beyond segments. By looking at upline/downline figures, an analyst can see the effect on the entire system of cancelling a particular trip. That is, if a particular trip is cancelled, revenue from the through

and connect portions of a passenger's trip will also be lost. Thus, the value of a given segment is its contribution with upline/downline.

Analysts, however, must be very careful not to double count revenue when using upline/downline figures in a hub context. In groups of inbound and outbound flights, some of the onboard revenue of an inbound flight will also be represented as part of the upline/downline revenue of the outbound flights, and vice versa.

Profitability is undoubtedly the most important factor in evaluating the 12th complex. However, long term profitability cannot always be estimated by a simple extrapolation of current information. Other factors, such as the actions and strength of the competition, must also be taken into account. In this case, the two relevant competitive forces are the growth of Delta's hub at DFW, and the schedules of the other, major, east-west airlines.

Delta's last (2340) complex at DFW has 7 of 10 inbound cities and 5 of 7 outbound cities in common with American's 12th complex. This gives Delta the last trip of the day out of the 7 inbound airports, but gives American earlier and more desirable arrival times downline.

In terms of east-west competition, the 12th complex enables American to run later departures (1700) off the West Coast that have some connections. United's last connecting departures off the West Coast leave at 1500 for the Chicago 2145 bank. United does have some 1700 and 1800 departures, but these are local trips into Chicago and Denver.

Walter Aue is faced with having to decide what to do with the 12th complex. There is an historic drop in traffic in the Fall, and Walter is concerned that some of the weaker trips in the complex will suffer losses when the summer traffic peak dies out. Many of the trips appear to be building

well (increasing traffic over the first few weeks, as the public becomes aware of the new service). However, some of this could be due to seasonality rather than maturation of the trips.

Recently, certain factions in the Finance department have expressed skepticism regarding the 12th complex's success. This skepticism is viewed by the Schedules department as somewhat premature. Two months of financial data certainly is not giving the complex much of a chance. However, some of American's staff take the stand that the 12th complex is really just an adjustment rather than something new, and therefore feel that 2 months is an adequate trial since they do not expect the typical build in traffic experienced by new trips. There is also a disagreement on how the new complex should be evaluated; as a new and separate entity unto itself or as a retiming of existing service.

President Robert Crandall is aware of the disagreement surrounding the 12th complex and will be looking for some sort of resolution or explanation at the July 14 Officers Planning Meeting, when the schedule objectives for the September 12th schedule will be presented to upper management. Develop an analysis, with recommendations for schedule action, for Walter to present to Crandall.

Exhibit 1
The 12th Complex
April 3rd Schedule

Inbound	Arrival Times Previous	Current	Outbound	Departures Previous	Current
*Albuquerque	2027	2202	*Chicago	2143	2257
Amarillo	NEW	2219	*Corpus Christi	2148	2255
*Chicago	2047	2127	Houston (HOU)	NEW	2257
*El Paso	2027	2217	Houston (IAH)	NEW	2256
Houston (HOU)	NEW	2219	Kansas City	NEW	2256
Las Vegas	2221	2216	Little Rock	NEW	2255
*Los Angeles	2040	2213	New Orleans	NEW	2256
Lubbock	NEW	2218	Oklahoma City	NEW	2255
Midland/Odessa	NEW	2218	San Antonio	NEW	2256
*Orange County	2032	2215	Shreveport	NEW	2257
Phoenix	2154	2213			
San Antonio	NEW	2210			
San Diego	2235	2219			
*San Francisco	2052	2210			

* denotes flights that were part of the 11th complex

Exhibit 2
12th Complex
Added Flights

Inbound	Type	Date Added	Outbound	Type	Date Added
St. Louis	NEW	June 1	St. Louis	NEW	June 1
Mexico City	NEW	June 30	Los Angeles	NEW	June 1
Nashville	NEW	July 1	Baton Rouge	NEW	June 1
Salt Lake City	NEW	July 1			
San Jose	NEW	July 1			
New York (LGA)	RETIMED	July 1			

Exhibit 3
12th Complex
Balance Trips

Inbound	Arrival in DFW	Outbound	Departure from DFW
Baron Rouge	0620	Amarillo	0829
Houston (IAH)	0559	Lubbock	0825
Kansas City	0746	Midland/Odessa	0820
Little Rock	0742		
Los Angeles	0240		
New Orleans	0744		
Oklahoma City	0740		
Shreveport	0740		

Exhibit 4
12th Complex and Balance Trips
Traffic Breakdown
March - June

ORIG/DEST	FLT. #	DPTRS	AVERAGE PAX/OPN	LOCAL PAX	CONNECT/ THROUGHS
MARCH, 1988					
12TH COMPLEX TRIPS					
Inbound					
ABQ DFW	188	31	79	51	28
ELP DFW	358	31	70	49	21
LAS DFW	1044	31	49	48	1
LAX DFW	306	31	219	156	63
ORD DFW	301	30	120	113	7
PHX DFW	920	31	72	70	2
SAN DFW	210	31	50	50	0
SFO DFW	264	31	166	113	53
SNA DFW	1188	24	84	47	37
Outbound					
DFW CRP	309	31	111	23	88
DFW ORD	518	31	62	14	48

Exhibit 4 - cont.
12th Complex and Balance Trips
Traffic Breakdown
March - June

ORIG/DEST	FLT. #	DPTRS	AVERAGE PAX/OPN	LOCAL PAX	CONNECT/ THROUGHS
APRIL, 1988					
==========					
12TH COMPLEX TRIPS					
Inbound					
ABQ DFW	1070	28	46	32	14
AMA DFW	1036	27	16	9	7
ELP DFW	518	28	56	36	20
HOU DFW	358	28	35	25	10
LAS DFW	1044	28	79	47	32
LAX DFW	306	30	174	133	41
LBB DFW	1064	28	21	17	4
MAF DFW	1072	26	19	15	4
ORD DFW	301	27	94	87	7
PHX DFW	920	30	89	67	22
SAN DFW	210	30	64	36	28
SAT DFW	1028	28	32	25	7
SFO DFW	264	29	142	105	37
SNA DFW	332	24	75	47	28
Outbound					
DFW CRP	332	27	79	17	62
DFW HOU	1036	27	41	11	30
DFW IAH	1064	24	31	6	25
DFW LIT	250	28	35	11	24
DFW MCI	1028	28	28	6	22
DFW MSY	210	27	51	11	40
DFW OKC	358	28	45	6	39
DFW ORD	518	30	59	13	46
DFW PHX	920	30	89	17	72
DFW SAT	1044	27	50	13	37
DFW SHV	1070	28	24	4	20
BALANCE TRIPS					
Inbound					
IAH DFW	534	25	12	4	8
LIT DFW	348	27	28	10	18
MCI DFW	923	26	25	9	16
MSY DFW	308	26	30	8	22
OKC DFW	1055	27	89	17	72
SHV DFW	80	27	17	2	15
Outbound					
DFW AMA	1035	26	40	25	15
DFW LBB	1051	28	37	26	11
DFW MAF	1055	27	40	22	18

Exhibit 4 - cont.
12th Complex and Balance Trips
Traffic Breakdown
March - June

ORIG/DEST	FLT. #	DPTRS	AVERAGE PAX/OPN	LOCAL PAX	CONNECT/ THROUGHS
MAY, 1988					
=========					
12TH COMPLEX TRIPS					
Inbound					
ABQ DFW	1070	31	54	35	19
AMA DFW	518	29	18	13	5
ELP DFW	250	31	59	39	20
HOU DFW	358	29	43	33	10
LAS DFW	1044	31	83	46	37
LAX DFW	306	31	190	141	49
LBB DFW	1064	31	24	17	7
MAF DFW	1036	29	23	16	7
ORD DFW	89	29	132	117	15
PHX DFW	920	30	78	59	19
SAN DFW	210	31	78	41	37
SAT DFW	1028	31	32	24	8
SFO DFW	264	31	135	102	33
SNA DFW	332	26	84	51	33
Outbound					
DFW CRP	332	30	79	20	59
DFW HOU	1036	29	55	15	40
DFW IAH	1064	31	38	7	31
DFW LIT	250	31	41	12	29
DFW MCI	1028	31	33	8	25
DFW MSY	210	31	48	10	38
DFW OKC	358	31	58	7	51
DFW ORD	518	30	47	13	34
DFW SAT	1044	31	54	12	42
DFW SHV	1070	31	33	6	27
BALANCE TRIPS					
Inbound					
IAH DFW	534	27	14	8	6
LIT DFW	348	31	30	11	19
MCI DFW	923	29	23	7	16
MSY DFW	308	31	37	10	27
OKC DFW	1055	30	83	18	65
SHV DFW	80	31	21	2	19
Outbound					
DFW AMA	1035	27	39	23	16
DFW LBB	1051	28	45	30	15
DFW MAF	1055	31	39	22	17

Exhibit 4 - cont.
12th Complex and Balance Trips
Traffic Breakdown
March - June

ORIG/DEST	FLT. #	DPTRS	AVERAGE PAX/OPN
JUNE, 1988			
==========			
12TH COMPLEX TRIPS			
Inbound			
ABQ DFW	229	21	45
AMA DFW	1250	21	18
ELP DFW	250	20	57
HOU DFW	1070	21	35
LAS DFW	370	21	104
LAX DFW	306	20	69
LBB DFW	1064	19	25
MAF DFW	1036	21	23
ORD DFW	89	21	124
PHX DFW	920	21	67
SAN DFW	210	21	69
SAT DFW	1154	21	89
SFO DFW	264	21	128
SNA DFW	332	17	81
STL DFW	81	21	28
Outbound			
DFW BTR	1154	20	18
DFW CRP	229	21	68
DFW HOU	1036	21	55
DFW IAH	1064	21	38
DFW LAX	81	18	28
DFW LIT	250	21	41
DFW MCI	332	21	29
DFW MSY	210	21	52
DFW OKC	358	21	44
DFW ORD	518	21	35
DFW SAT	1044	21	54
DFW SHV	1070	21	30
DFW STL	370	21	30
BALANCE TRIPS			
Inbound			
BTR DFW	1055	19	13
IAH DFW	520	21	16
LAX DFW	478	20	40
LIT DFW	348	21	38
MCI DFW	923	20	31
MSY DFW	832	20	31
OKC DFW	242	21	30
SHV DFW	80	21	26
Outbound			
DFW AMA	1035	19	45
DFW LBB	1051	20	46
DFW MAF	1055	20	54

Exhibit 5
Total Traffic Figures
12th Complex Markets
March - May

DATE	SEGMENT	DPTRS	ONBOARD YIELD	LOAD FACTOR	AVERAGE PAX/OPN	SEGMENT	DPTRS	ONBOARD YIELD	LOAD FACTOR	AVERAGE PAX/OPN
MAR 1988	DFW ABQ	186	11.7	75.7	108	ABQ DFW	185	11.6	73.2	106
APR 1988		180	11.9	66.2	98		178	11.7	62.7	93
MAY 1988		185	12.1	72.1	107		186	11.9	66.0	99
MAR 1988	DFW AMA	91	15.8	60.5	90	AMA DFW	92	16.2	65.3	97
APR 1988		143	16.4	49.2	71		141	16.4	50.9	73
MAY 1988		150	16.1	53.0	76		148	16.2	50.8	73
MAR 1988	DFW CRP	124	18.0	62.5	89	CRP DFW	123	18.3	64.6	92
APR 1988		118	18.3	58.6	83		119	18.7	63.8	91
MAY 1988		123	19.1	57.2	81		124	19.4	60.3	86
MAR 1988	DFW ELP	185	12.5	64.1	112	ELP DFW	186	12.9	64.9	113
APR 1988		180	13.0	62.3	112		179	12.9	64.0	114
MAY 1988		184	13.3	65.3	119		185	13.2	62.7	114
MAR 1988	DFW HOU	275	19.6	82.3	119	HOU DFW	277	19.7	81.4	118
APR 1988		294	20.2	68.5	99		294	20.1	66.4	96
MAY 1988		308	20.9	69.9	100		304	20.8	69.2	99
MAR 1988	DFW IAH	275	21.1	66.4	107	IAH DFW	276	21.9	68.9	108
APR 1988		293	22.0	54.4	88		289	22.7	55.2	88
MAY 1988		297	22.2	54.0	87		295	23.1	55.0	87
MAR 1988	DFW LAS	184	8.0	70.1	168	LAS DFW	183	8.2	68.7	166
APR 1988		178	8.2	72.6	175		177	8.3	71.7	173
MAY 1988		185	8.3	67.7	162		185	8.4	73.8	177
MAR 1988	DFW LAX	245	11.3	73.8	186	LAX DFW	217	11.1	77.9	207
APR 1988		236	11.8	67.7	170		209	12.0	70.0	189
MAY 1988		245	11.9	72.3	183		214	12.0	72.6	195
MAR 1988	DFW LBB	124	14.9	64.3	96	LBB DFW	123	15.3	62.7	94
APR 1988		148	15.9	48.1	69		146	16.1	47.6	68
MAY 1988		151	15.9	54.1	77		153	16.0	50.5	72
MAR 1988	DFW LIT	124	15.8	70.2	100	LIT DFW	124	15.5	70.9	101
APR 1988		148	15.7	55.7	79		147	16.1	54.9	78
MAY 1988		154	15.9	57.4	81		155	15.7	54.8	78
MAR 1988	DFW MAF	124	16.0	68.1	86	MAF DFW	123	16.1	66.9	85
APR 1988		145	16.3	50.7	66		146	16.5	49.6	65
MAY 1988		152	16.7	54.8	72		153	16.7	52.3	69

Exhibit 5 - cont.
Total Traffic Figures
12th Complex Markets
March - May

DATE	SEGMENT	DPTRS	ONBOARD YIELD	LOAD FACTOR	AVERAGE PAX/OPN	SEGMENT	DPTRS	ONBOARD YIELD	LOAD FACTOR	AVERAGE PAX/OPN
MAR 1988	DFW MCI	123	20.2	74.8	108	MCI DFW	124	20.2	72.4	104
APR 1988		146	21.8	57.9	84		144	22.0	57.2	83
MAY 1988		154	21.4	56.4	80		149	21.4	56.2	80
MAR 1988	DFW MSY	155	13.9	75.0	130	MSY DFW	155	14.1	76.3	133
APR 1988		177	13.7	67.1	117		176	14.2	62.1	108
MAY 1988		180	14.3	60.0	104		185	14.0	65.6	114
MAR 1988	DFW OKC	274	24.6	74.2	107	OKC DFW	273	24.4	71.4	103
APR 1988		295	25.6	59.1	87		293	25.0	58.8	86
MAY 1988		305	25.0	63.0	93		305	24.8	60.8	90
MAR 1988	DFW ORD	338	15.7	60.5	124	ORD DFW	334	16.1	66.0	128
APR 1988		323	16.7	62.1	123		323	17.6	58.1	116
MAY 1988		327	16.8	62.0	123		333	17.2	61.0	119
MAR 1988	DFW PHX	185	12.8	76.5	143	PHX DFW	184	12.8	72.5	137
APR 1988		179	14.1	63.0	120		179	13.4	67.1	127
MAY 1988		185	14.1	59.6	111		185	13.7	60.8	114
MAR 1988	DFW SAN	154	10.5	76.8	144	SAN DFW	155	10.6	73.7	138
APR 1988		150	10.8	72.0	135		148	10.7	73.3	137
MAY 1988		155	11.1	80.4	135		155	11.2	76.4	129
MAR 1988	DFW SAT	304	19.7	73.8	136	SAT DFW	305	20.0	70.4	130
APR 1988		325	20.4	67.0	113		324	20.4	65.7	110
MAY 1988		337	20.5	67.8	109		337	20.1	67.8	109
MAR 1988	DFW SFO	184	9.3	75.6	166	SFO DFW	185	9.2	74.8	154
APR 1988		179	9.9	73.8	160		176	10.0	72.4	146
MAY 1988		184	9.9	71.2	162		183	10.0	70.2	146
MAR 1988	DFW SHV	119	25.5	43.0	61	SHV DFW	86	28.9	50.0	69
APR 1988		143	25.5	35.0	49		112	28.4	33.5	49
MAY 1988		153	25.6	33.7	48		122	28.1	34.5	52
MAR 1988	DFW SNA	142	11.7	80.3	114	SNA DFW	143	12.3	82.1	117
APR 1988		140	13.0	78.5	111		139	13.6	74.9	106
MAY 1988		149	12.9	80.8	115		145	13.7	77.2	110

Exhibit 6
12th Complex
Financial Results
March - May

ORIG/DEST	FLT. #	DPTRS	ONBOARD YIELD	AVERAGE PAX/OPN	PER OPERATION ($) TOTAL ONBOARD REVENUE	UP/DOWN REVENUE	VARIABLE CONTRIB	FULLY ALLOCATED CONTRIB	VAR. W/ UP/DOWN CONTRIB	F/A W/ UP/DOWN CONTRIB	(%) VARIABLE CONTRIB MARGIN	FULLY ALLOCATED CONTRIB MARGIN	VAR. W/ UP/DOWN CONTRIB MARGIN	F/A W/ UP/DOWN CONTRIB MARGIN
MARCH, 1988														
12TH COMPLEX TRIPS														
Inbound														
ABQ DFW	188	31	11.7	79	6,200	1,428	276	(1,841)	1,372	(744)	4.4	(29.7)	18.0	(9.8)
ELP DFW	358	31	12.3	70	5,658	1,169	568	(1,446)	1,495	(520)	10.0	(25.6)	21.9	(7.6)
LAS DFW	1044	31	11.8	49	7,140	55	436	(2,976)	478	(2,935)	6.1	(41.7)	6.6	(40.8)
LAX DFW	306	31	13.0	219	41,131	3,468	21,621	14,283	24,377	17,038	52.6	34.7	54.7	38.2
ORD DFW	301	30	18.1	120	20,471	7,712	9,468	4,089	15,886	10,507	46.3	20.0	56.4	37.3
PHX DFW	920	31	17.5	72	12,875	276	3,737	(819)	3,969	(588)	29.0	(6.4)	30.2	(4.5)
SAN DFW	210	31	15.5	50	10,764	127	3,069	(84)	3,174	22	28.5	(0.8)	29.1	0.2
SFO DFW	264	31	10.9	166	31,322	3,115	16,364	9,720	18,818	12,173	52.2	31.0	54.6	35.3
SNA DFW	1188	24	14.0	84	16,685	2,890	8,433	4,760	10,764	7,091	50.5	28.5	55.0	36.2
Outbound														
DFW CRP	309	31	17.0	111	7,896	9,432	3,707	1,794	11,327	9,414	46.9	22.7	65.4	54.3
DFW ORD	518	31	12.6	62	7,428	3,746	2,267	(404)	5,252	2,580	30.5	(5.4)	47.0	23.1
SYSTEM			11.6	96	12,708	6,174	4,527	1,228	9,415	6,116	35.6	9.7	49.9	32.4

Exhibit 6 - cont.
12th Complex
Financial Results
March - May

ORIG/DEST	FLT. #	DPTRS	ONBOARD YIELD	AVERAGE PAX/OPN	PER OPERATION ($) TOTAL ONBOARD REVENUE	UP/DOWN REVENUE	VARIABLE CONTRIB	FULLY ALLOCATED CONTRIB	VAR. W/ UP/DOWN CONTRIB	F/A W/ UP/DOWN CONTRIB	(%) VARIABLE CONTRIB MARGIN	FULLY ALLOCATED CONTRIB MARGIN	VAR. W/ UP/DOWN CONTRIB MARGIN	F/A W/ UP/DOWN CONTRIB MARGIN
MAY, 1988														
12TH COMPLEX TRIPS														
Inbound														
ABQ DFW	1070	31	11.5	54	4,189	946	(1,153)	(3,117)	(420)	(2,385)	(27.5)	(74.4)	(8.2)	(46.5)
AMA DFW	518	29	13.4	18	901	271	(2,301)	(3,686)	(2,084)	(3,469)	(255.3)	(409.0)	(177.8)	(295.9)
ELP DFW	250	31	11.6	59	4,457	1,225	347	(1,761)	1,342	(766)	7.8	(39.5)	23.6	(13.5)
HOU DFW	358	29	15.0	43	1,859	563	(1,435)	(2,708)	(982)	(2,254)	(77.2)	(145.7)	(40.5)	(93.1)
LAS DFW	1044	31	10.5	83	10,740	1,942	3,323	(32)	4,820	1,465	30.9	(0.3)	38.0	11.5
LAX DFW	306	31	15.0	190	41,370	3,331	21,516	14,425	24,225	17,135	52.0	34.9	54.2	38.3
LBB DFW	1064	31	12.8	24	1,032	352	(2,145)	(3,393)	(1,870)	(3,119)	(207.9)	(328.8)	(135.1)	(225.4)
MAF DFW	1036	29	13.1	23	1,072	332	(2,081)	(3,189)	(1,818)	(2,926)	(194.2)	(297.6)	(129.5)	(208.4)
ORD DFW	89	29	18.0	132	22,309	6,256	8,162	3,001	13,237	8,076	36.6	13.5	46.3	28.3
PHX DFW	920	30	18.4	78	14,522	1,357	4,897	(501)	5,976	579	33.7	(3.4)	37.6	3.6
SAN DFW	210	31	13.5	78	14,485	3,296	6,808	3,378	9,493	6,063	47.0	23.3	53.4	34.1
SAT DFW	1028	31	14.5	32	1,349	538	(1,687)	(3,095)	(1,253)	(2,661)	(125.1)	(229.5)	(66.4)	(141.1)
SFO DFW	264	31	12.8	135	29,666	2,411	15,448	8,881	17,387	10,820	52.1	29.9	54.2	33.7
SNA DFW	332	26	16.2	84	19,255	2,658	10,687	7,112	12,828	9,252	55.5	36.9	58.5	42.2
Outbound														
DFW CRP	332	30	18.6	79	6,086	6,809	2,493	718	8,040	6,266	41.0	11.8	62.3	48.6
DFW HOU	1036	29	17.9	55	2,854	4,310	(548)	(1,633)	2,929	1,846	(19.2)	(57.2)	40.9	25.8
DFW IAH	1064	31	21.9	38	2,197	3,744	(1,156)	(2,442)	1,891	605	(52.6)	(111.1)	31.8	10.2
DFW LIT	250	31	14.2	41	2,074	3,146	(986)	(2,575)	1,642	52	(47.5)	(124.2)	31.5	1.0
DFW MCI	1028	31	15.5	33	2,754	1,829	(474)	(2,466)	961	(1,030)	(17.2)	(89.5)	21.0	(22.5)
DFW MSY	210	31	12.9	48	3,221	3,563	(279)	(2,181)	2,561	658	(8.7)	(67.7)	37.8	9.7
DFW OKC	358	31	22.5	58	2,686	5,042	(481)	(1,653)	3,553	2,381	(17.9)	(61.5)	46.0	30.8
DFW ORD	518	30	12.8	47	5,702	2,782	629	(2,034)	2,839	175	11.0	(35.7)	33.5	2.1
DFW SAT	1044	31	17.5	54	2,761	4,345	(307)	(1,791)	3,197	1,712	(11.1)	(64.9)	45.0	24.1
DFW SHV	1070	31	26.1	33	1,915	3,253	(1,225)	(2,239)	1,467	453	(64.0)	(116.9)	28.4	8.8
BALANCE TRIPS														
Inbound														
IAH DFW	534	27	17.6	14	670	815	(2,411)	(3,558)	(1,759)	(2,905)	(360.1)	(531.3)	(118.5)	(195.7)
LIT DFW	348	31	15.2	30	1,628	2,135	(1,326)	(2,806)	435	(1,045)	(81.4)	(172.3)	11.6	(27.8)
MCI DFW	923	29	18.5	23	2,263	989	(1,023)	(2,990)	(271)	(2,238)	(45.2)	(132.1)	(8.3)	(68.8)
MSY DFW	308	31	13.4	37	2,573	2,284	(1,003)	(2,842)	788	(1,051)	(39.0)	(110.5)	16.2	(21.6)
OKC DFW	1055	30	25.3	83	4,326	7,008	581	(539)	6,172	5,051	13.4	(12.5)	54.5	44.6
SHV DFW	80	31	27.5	21	1,278	2,317	(1,670)	(2,553)	241	(643)	(130.6)	(199.8)	6.7	(17.9)
							0	0	0	0				
Outbound							0	0	0	0				
DFW AMA	1035	27	15.6	39	2,263	1,313	(1,197)	(2,438)	(150)	(1,391)	(52.9)	(107.7)	(4.2)	(38.9)
DFW LBB	1051	28	15.5	45	2,324	1,318	(1,208)	(2,611)	(183)	(1,586)	(52.0)	(112.3)	(5.0)	(43.5)
DFW MAF	1055	31	16.4	39	2,341	1,264	(960)	(2,432)	36	(1,436)	(41.0)	(103.9)	1.0	(39.8)
SYSTEM			12.0	89	12,376	5,808	4,389	1,226	9,017	5,854	35.5	9.9	49.6	32.2

Exhibit 6 - cont.
12th Complex
Financial Results
March - May

ORIG/DEST	FLT. #	DPTRS	ONBOARD YIELD	AVERAGE PAX/OPN	PER OPERATION ($) TOTAL ONBOARD REVENUE	UP/DOWN REVENUE	VARIABLE CONTRIB	FULLY ALLOCATED CONTRIB	VAR. W/ UP/DOWN CONTRIB	F/A W/ UP/DOWN CONTRIB	(%) VARIABLE CONTRIB MARGIN	FULLY ALLOCATED CONTRIB MARGIN	VAR. W/ UP/DOWN CONTRIB MARGIN	F/A W/ UP/DOWN CONTRIB MARGIN
APRIL, 1988														
==========														
12TH COMPLEX TRIPS														
Inbound														
ABQ DFW	1070	28	11.8	46	3,672	781	(1,420)	(3,351)	(812)	(2,742)	(38.7)	(91.3)	(18.2)	(61.6)
AMA DFW	1036	27	13.4	16	786	328	(2,342)	(3,677)	(2,083)	(3,417)	(298.0)	(467.8)	(187.0)	(306.9)
ELP DFW	518	28	11.9	56	4,344	1,204	(252)	(2,441)	742	(1,447)	(5.8)	(56.2)	13.4	(26.1)
HOU DFW	358	28	14.8	35	1,495	433	(1,772)	(3,002)	(1,424)	(2,654)	(118.5)	(200.8)	(73.8)	(137.6)
LAS DFW	1044	28	10.7	79	10,494	1,698	3,578	(101)	4,892	1,214	34.1	(1.0)	40.1	10.0
LAX DFW	306	30	15.6	174	39,456	2,916	20,213	13,184	22,567	15,538	51.2	33.4	53.3	36.7
LBB DFW	1064	28	12.9	21	896	200	(2,249)	(3,475)	(2,090)	(3,315)	(250.9)	(387.7)	(190.5)	(302.2)
MAF DFW	1072	26	13.0	19	912	234	(2,182)	(3,263)	(1,994)	(3,074)	(239.2)	(357.8)	(174.0)	(268.3)
ORD DFW	301	27	20.0	94	17,695	4,865	6,795	1,212	10,767	5,186	38.4	6.9	47.7	23.0
PHX DFW	920	30	18.5	89	16,746	1,741	6,630	(415)	8,047	1,002	39.6	(2.5)	43.5	5.4
SAN DFW	210	30	14.1	64	12,383	2,682	5,669	2,239	7,858	4,427	45.8	18.1	52.2	29.4
SAT DFW	1028	28	15.8	32	1,454	407	(1,504)	(2,897)	(1,182)	(2,574)	(103.4)	(199.2)	(63.5)	(138.3)
SFO DFW	264	29	12.6	142	31,032	2,594	16,972	10,445	19,034	12,507	54.7	33.7	56.6	37.2
SNA DFW	332	24	17.1	75	18,254	2,902	10,306	6,685	12,689	9,069	56.5	36.6	60.0	42.9
Outbound														
DFW CRP	332	27	16.9	79	5,594	6,790	1,956	133	7,449	5,626	35.0	2.4	60.1	45.4
DFW HOU	1036	27	18.6	41	2,239	3,702	(1,027)	(2,323)	1,992	696	(45.9)	(103.7)	33.5	11.7
DFW IAH	1064	24	23.1	31	1,886	3,431	(1,343)	(2,666)	1,469	148	(71.2)	(141.3)	27.6	2.8
DFW LIT	250	28	14.6	35	1,836	3,072	(1,164)	(2,698)	1,412	(124)	(63.4)	(147.0)	28.8	(2.5)
DFW MCI	1028	28	17.2	28	2,567	1,832	(641)	(2,642)	839	(1,161)	(25.0)	(102.9)	19.1	(26.4)
DFW MSY	210	27	13.5	51	3,590	3,997	122	(1,799)	3,321	1,400	3.4	(50.1)	43.8	18.4
DFW OKC	358	28	23.7	45	2,185	4,154	(772)	(1,939)	2,558	1,390	(35.3)	(88.7)	40.4	21.9
DFW ORD	518	30	12.2	59	6,805	3,602	1,646	(1,354)	4,498	1,499	24.2	(19.9)	43.2	14.4
DFW PHX	920	30	18.5	89	16,746	1,741	6,630	(415)	8,047	1,002	39.6	(2.5)	43.5	5.4
DFW SAT	1044	27	17.2	50	2,479	4,061	(545)	(2,022)	2,722	1,244	(22.0)	(81.6)	41.6	19.0
DFW SHV	1070	28	26.6	24	1,421	2,386	(1,591)	(2,738)	362	(785)	(112.0)	(192.7)	9.5	(20.6)
BALANCE TRIPS														
Inbound														
IAH DFW	534	25	19.9	12	631	755	(2,598)	(3,793)	(1,978)	(3,172)	(411.6)	(600.8)	(142.7)	(228.9)
LIT DFW	348	27	16.0	28	1,595	2,070	(1,438)	(2,935)	270	(1,228)	(90.2)	(184.0)	7.4	(33.5)
MCI DFW	923	26	18.9	25	2,514	1,300	(1,096)	(3,086)	(101)	(2,091)	(43.6)	(122.8)	(2.6)	(54.8)
MSY DFW	308	26	13.0	30	2,068	2,035	(1,532)	(3,430)	76	(1,822)	(74.1)	(165.9)	1.9	(44.4)
OKC DFW	1055	27	24.8	89	4,542	7,940	651	(566)	6,999	5,782	14.3	(12.5)	56.1	46.3
SHV DFW	80	27	28.5	17	1,075	1,831	(1,966)	(3,046)	(467)	(1,546)	(182.9)	(283.3)	(16.1)	(53.2)
Outbound														
DFW AMA	1035	26	16.7	40	2,485	1,396	(1,052)	(2,343)	49	(1,241)	(42.3)	(94.3)	1.3	(32.0)
DFW LBB	1051	28	16.0	37	1,992	899	(1,473)	(2,905)	(761)	(2,193)	(73.9)	(145.8)	(26.3)	(75.9)
DFW MAF	1055	27	16.3	40	2,388	1,464	(1,145)	(2,665)	11	(1,509)	(47.9)	(111.6)	0.3	(39.2)
SYSTEM			11.8	90	12,185	5,942	4,225	989	8,949	5,714	34.7	8.1	49.4	31.5

Exhibit 6 - cont.
12th Complex
Financial Results
March - May

Pax	=	Passengers
RPM	=	Revenue Passenger Mile
DPTRS	=	Number of Departures (complete flights) during the month
Orig/Dest	=	Origin and Destination Airports
FLT. #	=	Flight Number
Onboard Yield	=	Passenger Revenue Only/RPMs
Average Pax/OPN	=	Passengers per Departure
Variable Contribution Margin	=	Variable Contribution/Total Revenue
Var. W/ Up/Down Contrib Margin	=	Variable with Up/Down Contribution /(Total Revenue + Up/Down Revenue)
Per Operation	=	Per daily flight

Exhibit 7
Monthly Traffic Data
DFW
Jan. 1987 - May 1988

DFW HUB

DATE	DPTRS	ONBOARD YIELD	LOAD FACTOR	AVERAGE PAX/OPN
JAN 1987	20,367	11.5	60.2	89
FEB 1987	18,632	11.2	62.1	93
MAR 1987	20,837	10.9	71.6	109
APR 1987	20,110	10.6	70.9	107
MAY 1987	20,544	10.9	69.3	105
JUN 1987	19,899	11.4	72.2	110
JUL 1987	20,646	10.8	72.8	110
AUG 1987	20,859	11.2	73.1	110
SEP 1987	20,156	12.3	61.1	92
OCT 1987	20,889	12.6	63.2	95
NOV 1987	20,256	12.8	61.0	93
DEC 1987	21,089	12.1	64.3	97
JAN 1988	20,371	12.8	63.3	95
FEB 1988	20,313	12.9	65.7	100
MAR 1988	21,884	12.4	71.0	109
APR 1988	21,741	12.8	65.8	99
MAY 1988	22,499	12.9	66.0	99

Exhibit 8
American Airlines Route Map

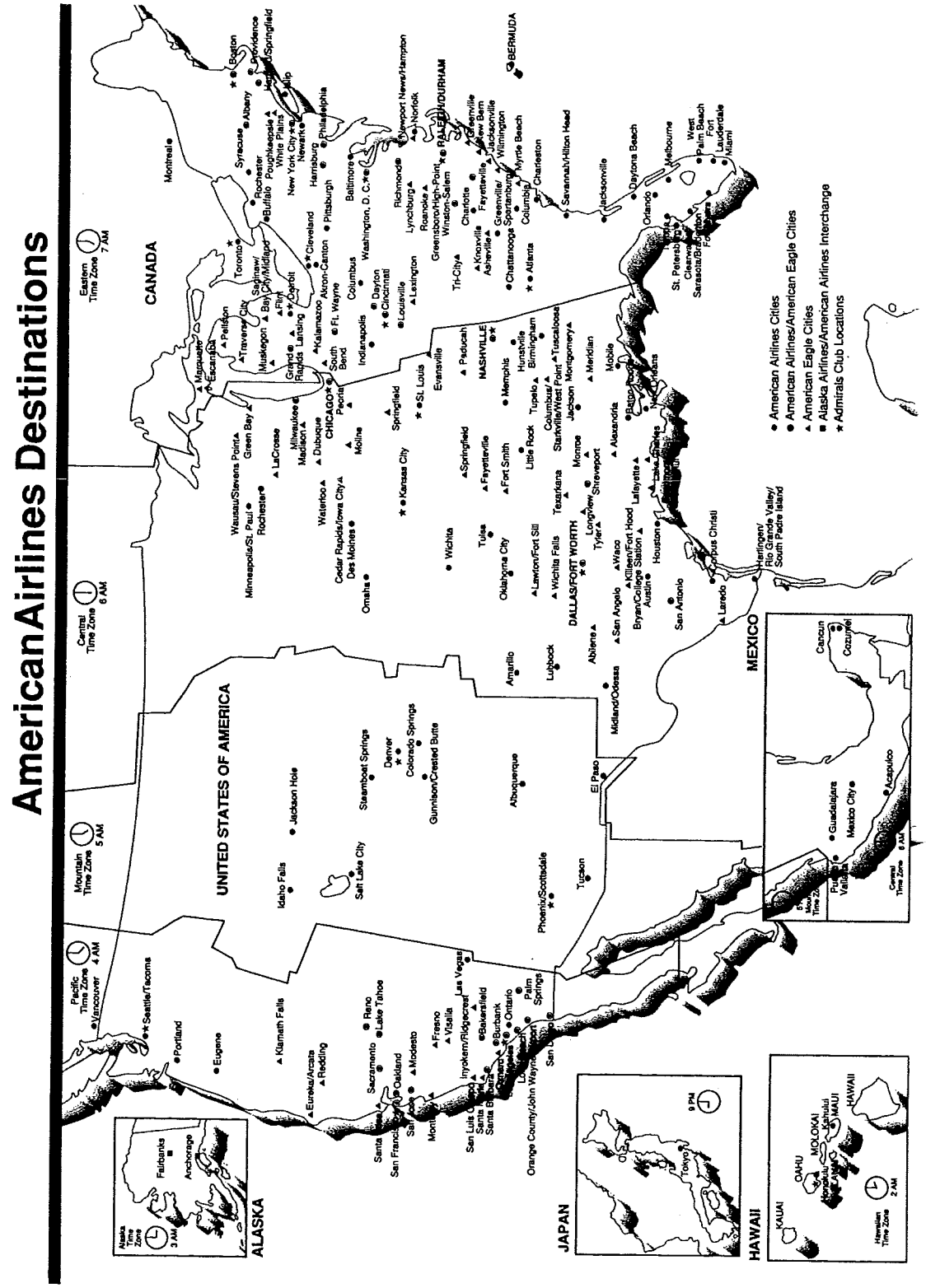

Exhibit 9
DFW Hub

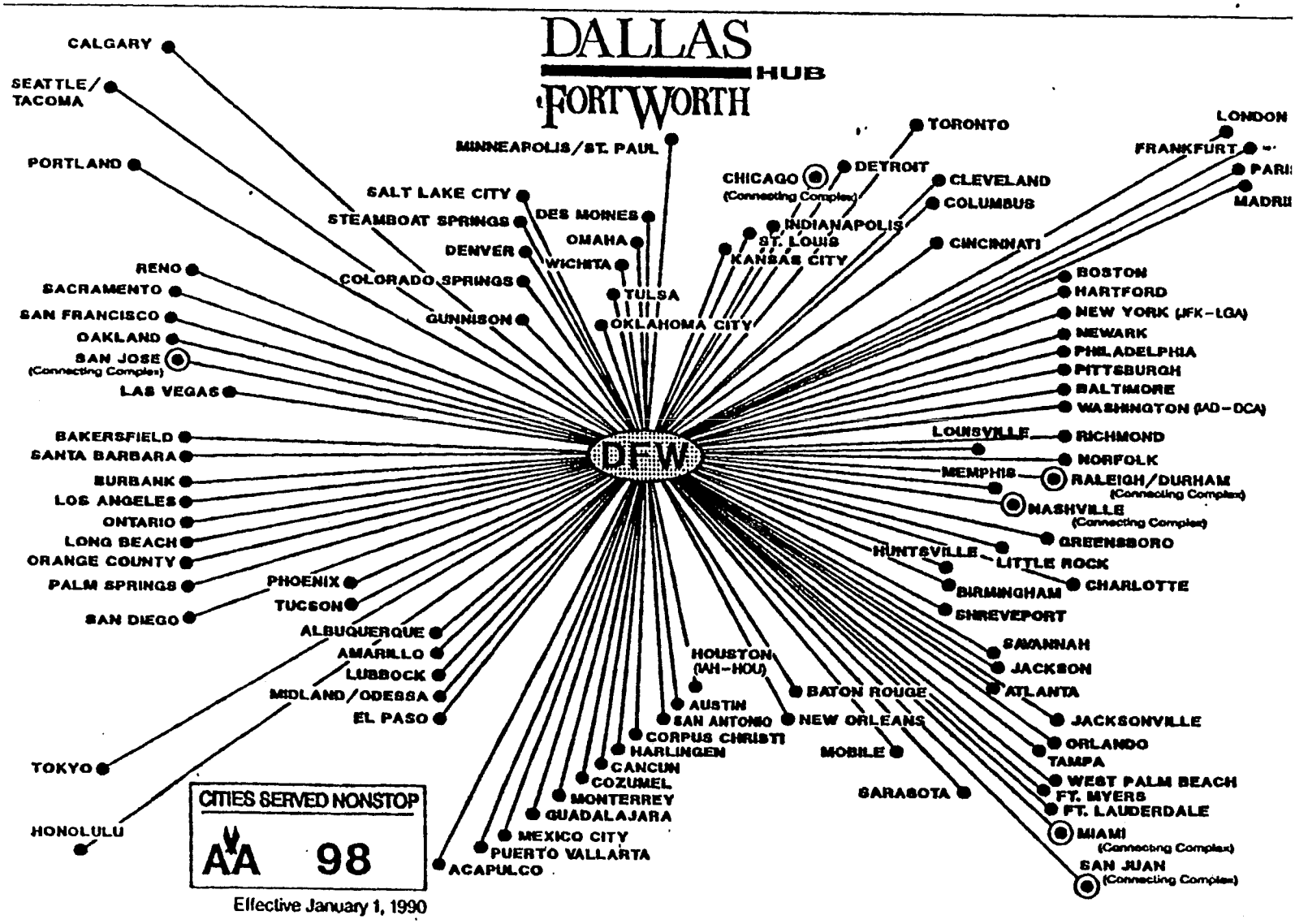

Exhibit 10
Airport Designator Codes

AIRPORT CODES

American and American Eagle Cities

ABI	Abilene, TX
ABQ	Albuquerque, NM
ACA	Acapulco, Mexico
ACT	Waco, TX
ACV	Eureka/Arcata, CA
ALB	Albany, NY
ALO	Waterloo, IA
AMA	Amarillo, TX
ANC	Anchorage, AK
ANU	Antigua, W.I.
ARN	Stockholm, Sweden
ATL	Atlanta, GA
AUA	Aruba
AUS	Austin, TX
AVL	Asheville, NC
AXA	Anguilla, Br. West Indies
AZO	Kalamazoo, MI
BDA	Bermuda
BDL	Hartford, CT
BFL	Bakersfield, CA
BGI	Barbados
BHM	Birmingham, AL
BNA	Nashville, TN
BOS	Boston, MA
BPT	Beaumont/Pt. Arthur, TX
BRU	Brussels, Belgium
BTR	Baton Rouge, LA
BUF	Buffalo, NY
BUR	Burbank, CA
BWI	Baltimore, MD
CAE	Columbia, SC
CAK	Akron/Canton, OH
CCS	Caracas, Venezuela
CHA	Chattanooga, TN
CHO	Charlottesville, VA
CHS	Charleston, SC
CID	Cedar Rapids/Iowa City, IA
CLE	Cleveland, OH
CLL	College Station/Bryan, TX
CLT	Charlotte, NC
CMH	Columbus, OH
CMX	Hancock/Houghton, MI
COS	Colorado Springs, CO
CRP	Corpus Christi, TX
CUN	Cancun, Mexico
CUR	Curacao, N.A.
CVG	Cincinnati, OH
CWA	Wausau/Stevens Pt., WI
CZM	Cozumel, Mexico
DAB	Daytona Beach, FL
DAY	Dayton, OH
DBQ	Dubuque, IA
DCA	Washington D.C. (National)
DEN	Denver, CO
DFW	Dallas/Ft. Worth, TX
DSM	Des Moines, IA
DTW	Detroit, MI
DUS	Dusseldorf, Germany
EIS	Tortola, B.V.I.
ELP	El Paso, TX
ESC	Escanaba, MI
ESF	Alexandria, LA
EUG	Eugene, OR
EVV	Evansville, IN
EWN	New Bern, NC
EWR	Newark, NJ
FAI	Fairbanks, AK
FAT	Fresno, CA
FAY	Fayetteville, NC
FDF	Fort De France, Martinique
FLL	Ft. Lauderdale, FL
FLO	Florence, SC
FNT	Flint, MI
FRA	Frankfurt, Germany
FSM	Ft. Smith, AR
FWA	Ft. Wayne, IN
FYV	Fayetteville, AR
GDL	Guadalajara, Mexico
GGG	Longview/Kilgore, TX
GRB	Green Bay, WI
GRR	Grand Rapids, MI
GSO	Greensboro, NC
GSP	Greenville/Spartanburg, SC
GTR	Columbus/Starkville/ West Pt., MS
GUC	Gunnison, CO
GVA	Geneva, Switzerland
HAM	Hamburg, Germany
HDN	Steamboat Springs
HNL	Honolulu, HI
HOU	Houston, TX (Hobby)
HPN	White Plains, NY
HRL	Harlingen/S. Padre Is., TX
HSV	Huntsville/Decatur, AL
IAD	Washington, D.C. (Dulles)
IAH	Houston, TX (Intercontinental)
ICT	Wichita, KS
IDA	Idaho Falls, ID
ILE	Killeen, TX
ILM	Wilmington, NC
IND	Indianapolis, IN
ISP	Long Island MacArthur, NY
IYK	Inyokern, CA
JAC	Jackson Hole, WY
JAN	Jackson, MS
JAX	Jacksonville, FL
JFK	New York, N.Y. (Kennedy)
KIN	Kingston, Jamaica
LAN	Lansing, MI
LAS	Las Vegas, NV
LAW	Lawton, OK
LAX	Los Angeles, CA
LBB	Lubbock, TX
LCH	Lake Charles, LA
LEX	Lexington, KY
LFT	Lafayette, LA
LGA	New York, NY (LaGuardia)
LGB	Long Beach, CA
LGW	London, U.K. (Gatwick)
LIT	Little Rock, AR
LMT	Klamath Falls, OR
LRD	Laredo, TX
LRM	Casa de Campo/LaRomana Dominican Republic
LSE	Lacrosse, WI
LYH	Lynchburg, VA
LYS	Lyon, France
MAD	Madrid, Spain
MAF	Midland/Odessa, TX
MAN	Manchester, U.K.
MAZ	Mayaguez, P.R.
MBJ	Montego Bay, Jamaica
MBS	Saginaw, MI
MCI	Kansas City, MO
MCO	Orlando, FL
MDT	Harrisburg, PA
MEI	Meridian, MS
MEM	Memphis, TN
MEX	Mexico City, Mexico
MGM	Montgomery, AL
MIA	Miami, FL
MKE	Milwaukee, WI
MKG	Muskegon, MI
MLB	Melbourne, FL
MLI	Moline, IL
MLU	Monroe, LA
MOB	Mobile, AL
MOD	Modesto, CA
MQT	Marquette, MI
MRY	Monterey, CA
MSN	Madison, WI
MSP	Minneapolis/St. Paul, MN
MSY	New Orleans, LA
MTY	Monterrey, Mexico
MYR	Myrtle Beach, SC
MUC	Munich, Germany
NRT	Tokyo, Japan (Narita)
OAJ	Jacksonville, NC
OAK	Oakland, CA
OGG	Kahului, Maui, HI
OKC	Oklahoma City, OK
OMA	Omaha, NE
ONT	Ontario, CA
ORD	Chicago, IL (O'Hare)
ORF	Norfolk, VA
ORY	Paris, France (Orly)
OXR	Oxnard, CA
PAH	Paducah, KY
PAP	Port Au Prince, Haiti
PBI	West Palm Beach, FL
PDX	Portland, OR
PGV	Greenville, NC
PHF	Newport News, VA
PHL	Philadelphia, PA
PHX	Phoenix, AZ
PIA	Peoria, IL
PIT	Pittsburgh, PA
PLN	Pellston, MI
POP	Puerto Plata, Dominican Republic
POS	Port of Spain, Trin. & Tob.
POU	Poughkeepsie, NY
PSE	Ponce, P.R.
PSP	Palm Springs, CA
PTP	Pointe A Pitre, Guadeloupe
PUJ	Punta Cana, D.R.
PVD	Providence, RI
PVR	Puerto Vallarta, Mexico
RDD	Redding, CA
RDU	Raleigh/Durham, NC
RIC	Richmond, VA
RNO	Reno, NV
ROA	Roanoke, VA
ROC	Rochester, NY
RST	Rochester, MN
RSW	Ft. Myers, FL
SAN	San Diego, CA
SAT	San Antonio, TX
SAV	Savannah, GA
SBA	Santa Barbara, CA
SBN	South Bend, IN
SBP	San Luis Obispo, CA
SDF	Louisville, KY
SDQ	Santo Domingo, Dominican Republic
SEA	Seattle, WA
SFO	San Francisco, CA
SGF	Springfield, MO
SHV	Shreveport, LA
SJC	San Jose, CA
SJT	San Angelo, TX
SJU	San Juan, P.R.
SKB	St. Kitts, Leeward Is.
SLC	Salt Lake City, UT
SMF	Sacramento, CA
SMX	Santa Maria, CA
SNA	Orange County, CA
SPI	Springfield, IL
SPS	Wichita Falls, TX
SRQ	Sarasota, FL
STL	St. Louis, MO
STS	Santa Rosa, CA
STT	St. Thomas, V.I.
STX	St. Croix, V.I.
SXM	St. Maarten, N.A.
SYR	Syracuse, NY
TCL	Tuscaloosa, AL
TOL	Toledo, OH
TPA	Tampa, FL
TRI	Tri-City Airport, TN
TUL	Tulsa, OK
TUP	Tupelo, MS
TUS	Tucson, AZ
TVC	Traverse City, MI
TVL	Lake Tahoe, CA
TXK	Texarkana, AR
TYR	Tyler, TX
TYS	Knoxville, TN
UVF	St. Lucia, W.I.
VIJ	Virgin Gorda, B.V.I.
VIS	Visalia, CA
YUL	Montreal, Que., Canada
YVR	Vancouver, B.C., Canada
YYZ	Toronto, ONT., Canada
ZRH	Zurich, Switzerland