

APPENDIX

Annual savings associated
with the introduction of
Rnav routes (Phase I)Sao Paulo - Rio de Janeiro - Miami (TF9)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year.
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Sao Paulo - Miami	3571	3507	64	8.000	29	0	203	0	81	0	\$211,120.00	\$6,596.71	\$2,251,946.67	\$70,364.89	\$1,853,280.00	\$57,908.05	\$4,451,216.31
Rio de Janeiro - Miami	3718	3624	94	11.750	0	0	82	0	1	0	\$0.00	\$0.00	\$1,336,053.33	\$29,593.30	\$36,293.40	\$803.89	\$1,402,743.92
Total savings per aircraft types/year											\$211,120.00	\$6,596.71	\$3,588,000.00	\$99,958.19	\$1,889,573.40	\$58,711.94	\$5,853,960.24

Total savings for the routes/year

\$5,853,960

Aircraft operating cost/hr Small = \$2,100.00 (Typical B737-B727)
" " " " Medium = \$3,200.00 (Typical B757-B767-A320)
" " " " Large = \$6,600.00 (Typical DC10-MD11-B747)

Non-Scheduled to Scheduled flights: 5.0% See note 7.
% of flights not flying at requested altit 10.0%
Fuel efficiency Loss: 8.0%

Sao Paulo - Rio de Janeiro - New York (TF10)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year.
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Sao Paulo - New York	4168	4106	62	7.750	0	0	43	0	55	0	\$0.00	\$0.00	\$462,106.67	\$8,698.34	\$1,219,075.00	\$22,946.92	\$1,712,826.93
Rio de Janeiro - NY	4239	4174	65	8.125	0	0	3	0	19	2	\$0.00	\$0.00	\$33,800.00	\$617.20	\$476,833.50	\$8,707.13	\$519,957.82
Total savings per aircraft types/year											\$0.00	\$0.00	\$495,906.67	\$9,315.54	\$1,695,908.50	\$31,654.05	\$2,232,784.75

Total savings for the routes/year

\$2,232,785

Aircraft operating cost/hr Small = \$2,100.00 (Typical B757-B767-A320)
" " " " Medium = \$3,200.00 (Typical MD11-DC10)
" " " " Large = \$6,600.00

Non-Schedule to Schedule flights: 5.0% See note 7.
% of flights not flying at requested altit 5.0%
Fuel efficiency Loss: 8.0%

Buenos Aires - New York (TF11)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year.
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Buenos Aires - New Yrk	4681	4605	76	9.500	0	0	64	0	6	0	\$0.00	\$0.00	\$843,093.33	\$14,539.81	\$163,020.00	\$2,811.41	\$1,023,464.55
Total savings per aircraft types/year											\$0.00	\$0.00	\$843,093.33	\$14,539.81	\$163,020.00	\$2,811.41	\$1,023,464.55

Total savings for the routes/year

\$1,023,465

Aircraft operating cost/hr Small = \$2,100.00 (Typical B757-B767-A320)
" " " " Medium = \$3,200.00 (Typical B777-B747)
" " " " Large = \$6,600.00

Non-Scheduled to Scheduled flights: 5.0% See note 7.
% of flights not flying at requested altit 5.0%
Fuel efficiency Loss: 8.0%

- Note:**
- Nominal speed of aircraft = 480 knots. 8 nm/min
 - The sampling period was from 19 July to 1 August 1999 **(Two weeks)**
 - The figures used in the calculations represent Traffic per 2 weeks for the different types of aircraft.
 - The traffic for this flow has been estimated from the OAG schedule and from percentage of non-schedule flights observed at the check points on the flow.
 - Since results of the survey indicates that all flights were able to fly at their preferred altitude, no fuel cost savings have been included.
 - Rnav routes have already been introduced and therefore no immediate savings, once satellite-based CNS is available, more direct routes will be possible and the savings indicated above achievable.
 - The scheduled traffic shown above also includes the non-scheduled flights.

Grand Total (Phase I)**\$9,110,210**

**Annual savings associated
with the introduction of
Rnav routes (Phase II)**

Sao Paulo - Rio de Janeiro - Europe (TF4)

City Pairs Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total Savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save	Op.Cost	Fuel/save	Op.Cost	Fuel/save	
Buenos Aires - Frankfurt	6274	6207	67	8.375	0	0	0	0	23	0	\$0.00	\$0.00	\$0.00	\$0.00	\$519,355.53	\$54,469.39	\$573,824.91
Buenos Aires - London	6165	6003	162	20.250	0	0	0	0	19	0	\$0.00	\$0.00	\$0.00	\$0.00	\$1,037,362.95	\$44,214.71	\$1,081,577.66
Buenos Aires - Dakar	3807	3783	24	3.000	0	0	0	0	9	0	\$0.00	\$0.00	\$0.00	\$0.00	\$72,797.40	\$12,933.19	\$85,730.59
Buenos Aires - Madrid	5499	5439	60	7.500	0	0	12	0	58	1	\$0.00	\$0.00	\$127,296.00	\$13,066.68	\$1,172,847.00	\$120,390.40	\$1,433,600.08
Buenos Aires - Milan	6167	6044	123	15.375	0	0	0	0	12	0	\$0.00	\$0.00	\$0.00	\$0.00	\$497,448.90	\$27,934.14	\$525,383.04
Buenos Aires - Paris	6104	5989	115	14.375	0	0	0	0	22	0	\$0.00	\$0.00	\$0.00	\$0.00	\$852,673.25	\$50,689.42	\$903,362.67
Buenos Aires - Roma	6335	6019	316	39.500	0	0	0	0	29	1	\$0.00	\$0.00	\$0.00	\$0.00	\$3,088,497.10	\$69,346.53	\$3,157,843.63
Fortaleza - Lisbon	3222	3028	194	24.250	0	0	8	0	0	0	\$0.00	\$0.00	\$274,393.60	\$5,104.06	\$0.00	\$0.00	\$279,497.66
Recife - Frankfurt	4225	4160	65	8.125	0	0	0	0	2	0	\$0.00	\$0.00	\$0.00	\$0.00	\$43,813.25	\$3,189.60	\$47,002.85
Recife Cape Verde	1655	1653	2	0.250	4	0	0	0	0	0	\$928.20	\$860.26	\$0.00	\$0.00	\$0.00	\$0.00	\$1,788.46
Recife - Lisbon	3342	3160	182	22.750	0	0	16	0	0	0	\$0.00	\$0.00	\$514,841.60	\$10,588.31	\$0.00	\$0.00	\$525,429.91
Rio de Janeiro - Frankfurt	5234	5163	71	8.875	0	0	0	0	10	0	\$0.00	\$0.00	\$0.00	\$0.00	\$239,287.75	\$19,756.68	\$259,044.43
Rio de Janeiro - Lisbon	4351	4163	188	23.500	0	0	16	0	13	0	\$0.00	\$0.00	\$531,814.40	\$13,785.08	\$823,689.10	\$21,350.72	\$1,390,639.30
Rio de Janeiro - Madrid	4427	4396	31	3.875	0	0	21	0	11	0	\$0.00	\$0.00	\$115,096.80	\$18,408.95	\$114,925.53	\$18,381.56	\$266,812.84
Rio de Janeiro - Paris	5199	4956	243	30.375	0	0	0	0	27	1	\$0.00	\$0.00	\$0.00	\$0.00	\$2,211,221.03	\$52,986.32	\$2,264,207.34
Rio de Janeiro - Roma	5002	4950	52	6.500	0	0	8	0	12	0	\$0.00	\$0.00	\$73,548.80	\$7,923.81	\$210,303.60	\$22,657.14	\$314,433.35
Rio de Janeiro - Zurich	5088	5056	32	4.000	0	0	0	0	8	0	\$0.00	\$0.00	\$0.00	\$0.00	\$86,278.40	\$15,364.46	\$101,642.86
Salvador - Lisbon	3691	3506	185	23.125	0	0	8	0	0	0	\$0.00	\$0.00	\$261,664.00	\$5,847.02	\$0.00	\$0.00	\$267,511.02
Santiago - Luxem burg	6616	6438	178	22.250	0	0	0	0	12	0	\$0.00	\$0.00	\$0.00	\$0.00	\$719,885.40	\$29,967.94	\$749,853.34
Santiago - Madrid	5962	5784	178	22.250	0	0	0	0	21	0	\$0.00	\$0.00	\$0.00	\$0.00	\$1,259,799.45	\$47,259.75	\$1,307,059.20
Sao Paulo - Amsterdam	5342	5275	67	8.375	0	0	0	0	16	0	\$0.00	\$0.00	\$0.00	\$0.00	\$361,290.80	\$32,262.94	\$393,553.74
Sao Paulo - Dakar	2889	2853	36	4.500	0	0	0	0	23	0	\$0.00	\$0.00	\$0.00	\$0.00	\$279,056.70	\$25,081.62	\$304,138.32
Sao Paulo - Frankfurt	5355	5287	68	8.500	0	0	0	0	58	1	\$0.00	\$0.00	\$0.00	\$0.00	\$1,329,226.60	\$117,237.79	\$1,446,464.39
Sao Paulo - Las Palmas	3610	3569	41	5.125	0	0	0	0	6	0	\$0.00	\$0.00	\$0.00	\$0.00	\$82,908.15	\$8,175.96	\$91,084.11
Sao Paulo - Lisbon	4483	4282	201	25.125	0	0	27	1	16	0	\$0.00	\$0.00	\$959,493.60	\$23,968.05	\$1,083,872.40	\$27,075.02	\$2,094,409.08
Sao Paulo - London	5162	5105	57	7.125	0	0	1	0	45	1	\$0.00	\$0.00	\$10,077.60	\$1,022.16	\$864,469.13	\$87,682.04	\$963,250.93
Sao Paulo - Madrid	4566	4521	45	5.625	0	0	44	1	52	1	\$0.00	\$0.00	\$350,064.00	\$39,782.21	\$788,638.50	\$89,622.98	\$1,268,107.69
Sao Paulo - Milan	5233	5118	115	14.375	0	0	35	1	0	0	\$0.00	\$0.00	\$711,620.00	\$36,267.62	\$0.00	\$0.00	\$747,887.62
Sao Paulo - Munich	5414	5319	95	11.875	0	0	11	0	0	0	\$0.00	\$0.00	\$184,756.00	\$11,792.64	\$0.00	\$0.00	\$196,548.64
Sao Paulo - Paris	5320	5075	245	30.625	0	0	0	0	86	2	\$0.00	\$0.00	\$0.00	\$0.00	\$7,101,116.75	\$172,699.16	\$7,273,815.91
Sao Paulo - Porto	4460	4413	47	5.875	0	0	0	0	4	0	\$0.00	\$0.00	\$0.00	\$0.00	\$63,360.70	\$6,734.03	\$70,094.73
Sao Paulo - Roma	5168	5091	77	9.625	0	0	0	0	8	0	\$0.00	\$0.00	\$0.00	\$0.00	\$207,607.40	\$15,606.04	\$223,213.44
Sao Paulo - Zurich	5227	5185	42	5.250	0	0	0	0	26	1	\$0.00	\$0.00	\$0.00	\$0.00	\$368,031.30	\$51,298.66	\$419,329.96
					4	0	207	4	628	13							
Total savings per aircraft types/year:											\$928.20	\$860.26	\$4,114,666.40	\$187,556.60	\$25,479,764.05	\$1,244,368.18	\$31,028,143.68

Total savings for the routes/year

\$31,028,144

Nominal speed of aircraft = 480 knots. 8 nm/min

Aircraft operating cost/hr Small = \$2,100
 " " " " Medium = \$3,200 (Typical B767-A300)
 " " " " Large = \$6,100 (Typical A340-B747-B777-DC10-MD11)

Non-Schedule to Schedule flights:
 % of flights not flying at requested altitude:
 Fuel efficiency Loss on 20% of the route:
 Fuel cost as a percentage of operating cost:

Kodos	Rakud	Nanik	Onter
2%	2%	2%	2%
30%	22%	22%	23%
8%	8%	8%	8%
35%	35%	35%	35%

- Note:
- The sampling period was from 19 June to 2 July 2000 (Two weeks)
 - The figures used in the calculations represent Traffic per 2 weeks for the different types of aircraft.
 - The traffic per week for this flow has been estimated using as a base flights observed at the survey points and cross checked against the OAG schedule and includes both scheduled and non-scheduled flights.
 - The AC cost saving resulting from RNAV or direct routes are based on the following formula.
 = Time saved as a result of RNAV/60 minutes*AC cost per hour*number of AC*26 two weeks periods
 - The total AC cost savings have been augmented to show the savings associated with fuel savings resulting from being allowed to fly at their preferred flight level.
 Formula for fuel efficiency loss =conventional distance/ speed/60 mins*number of AC*35 % of cost of AC ops* percentage of flights not flying at their preferred altitude
 *20% of route*efficiency loss in percentage*26 periods of 2 weeks.
 - Because of their very low volume to many diverse locations, 2.2% of the flights are not included in the table.

**Annual savings associated
with the introduction of
Rnav routes (Phase II)**

(CONTINUED)

Santiago - Lima - Los Angeles (TF6)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Santiago - Mexico	3629	3551	78	9.750	4	0	28	2	0	0	\$38,329.20	\$0.00	\$408,844.80	\$0.00	\$0.00	\$0.00	\$447,174.00
Lima - Mexico	2356	2284	72	9.000	0	0	28	2	0	0	\$0.00	\$0.00	\$377,395.20	\$0.00	\$0.00	\$0.00	\$377,395.20
Lima - Los Angeles	3645	3621	24	3.000	4	0	28	2	0	0	\$11,793.60	\$0.00	\$125,798.40	\$0.00	\$0.00	\$0.00	\$137,592.00
Total savings per aircraft types/year											\$50,122.80	\$0.00	\$912,038.40	\$0.00	\$0.00	\$0.00	\$962,161.20

Total savings for the routes/year**\$962,161**

Aircraft operating cost/hr **Small** = \$2,100.00 (Typical A310, B737, DC9, MD80)
 " " " " **Medium** = \$3,200.00 (Typical B767)
 " " " " **Large** = \$6,600.00

Non-Schedule to Schedule flights: **5.0%**
 % of flights not flying at requested altitude **0.0%**
 Fuel efficiency Loss: **8.0%**

Santiago - Lima - Miami (TF7)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Santiago - Miami	3653	3581	72	9.000	0	0	144	12	0	0	\$0.00	\$0.00	\$1,940,889.60	\$33,086.99	\$0.00	\$0.00	\$1,973,976.59
Santiago - Bogota	2482	2296	186	23.250	0	0	12	1	0	0	\$0.00	\$0.00	\$417,830.40	\$1,873.39	\$0.00	\$0.00	\$419,703.79
Lima - Miami	2320	2266	54	6.750	0	0	84	7	0	0	\$0.00	\$0.00	\$849,139.20	\$12,257.80	\$0.00	\$0.00	\$861,397.00
Guayaqui - Miami	1696	1669	27	3.375	0	0	28	2	0	0	\$0.00	\$0.00	\$141,523.20	\$2,986.96	\$0.00	\$0.00	\$144,510.16
Panama - Miami	2320	2266	54	6.750	168	13	0	0	0	0	\$1,114,495.20	\$16,088.36	\$0.00	\$0.00	\$0.00	\$0.00	\$1,130,583.56
Total savings per aircraft types/year											\$1,114,495.20	\$16,088.36	\$3,349,382.40	\$50,205.14	\$0.00	\$0.00	\$4,530,171.09

Total savings for the routes/year**\$4,530,171**

Aircraft operating cost/hr **Small** = \$2,100.00 (Typical B727, B737)
 " " " " **Medium** = \$3,200.00 (Typical B767)
 " " " " **Large** = \$6,600.00

Non-Schedule to Schedule flights: **8%**
 % of flights not flying at requested altitude **6%**
 Fuel efficiency Loss: **8%**

Sao Paulo - Rio de Janeiro - Los Angeles (TF8)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Sao Paulo - Los Angeles	5484	5350	134	16.750	0	0	0	0	56	4	\$0.00	\$0.00	\$0.00	\$0.00	\$2,897,294.40	\$39,840.48	\$2,937,134.88
Sao Paulo - Bogota	2403	2350	53	6.625	0	0	28	2	0	0	\$0.00	\$0.00	\$277,804.80	\$4,232.11	\$0.00	\$0.00	\$282,036.91
Sao Paulo - Panama	2795	2736	59	7.375	12	1	0	0	0	0	\$86,977.80	\$1,384.45	\$0.00	\$0.00	\$0.00	\$0.00	\$88,362.25
Sao Paulo - Mexico	4104	4008	96	12.000	0	0	14	1	0	0	\$0.00	\$0.00	\$251,596.80	\$3,613.94	\$0.00	\$0.00	\$255,210.74
Panama - Los Angeles	2689	2619	70	8.750	12	1	0	0	0	0	\$103,194.00	\$1,331.95	\$0.00	\$0.00	\$0.00	\$0.00	\$104,525.95
Total savings per aircraft types/year											\$190,171.80	\$2,716.40	\$529,401.60	\$7,846.05	\$2,897,294.40	\$39,840.48	\$3,667,270.72

Total savings for the routes/year**\$3,667,271**

Aircraft operating cost/hr **Small** = \$2,100.00 (Typical B737, MD80)
 " " " " **Medium** = \$3,200.00 (Typical A320, B757, B767)
 " " " " **Large** = \$6,600.00 (Typical MD11-B747)

Non-Schedule to Schedule flights: **8%**
 % of flights not flying at requested altitude **6%**
 Fuel efficiency Loss: **8%**

- Note:**
- Nominal speed of aircraft = 480 knots. 8 nm/min
 - The sampling period was from 19 June to 2 July 2000 (**Two weeks**)
 - The figures used in the calculations represent Traffic per week for the different types of aircraft.
 - The traffic per week for this flow has been estimated from the OAG schedule and from percentage of non-schedule flights observed on the flow.
 - The total cost figures have been augmented to show the savings associated with fuel savings resulting from being allowed to fly at their preferred flight level. The calculations are based on the percentage of aircraft not flying at their preferred altitude times efficiency loss, times 35% of overall aircraft cost which is the fuel portion of the overall operating cost of aircraft and for 20% of the flight.

Annual savings associated
with the introduction of
Rnav routes (Phase II) (CONTINUED)

Buenos Aires - Miami (TF12)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types per year						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Buenos Aire - Bogota	2597	2534	63	7.88	0	0	20	1	0	0	\$0.00	\$0.00	\$209,728.16	\$1,950.61	\$0.00	\$0.00	\$211,678.77
Buenos Aires - Miami	3926	3830	96	12.00	0	0	0	0	116	7	\$0.00	\$0.00	\$0.00	\$0.00	\$1,493,619.71	\$48,322.37	\$1,541,942.08
Bogota - Miami	1330	1299	31	3.88	0	0	152	9	0	0	\$0.00	\$0.00	\$784,316.72	\$7,592.14	\$0.00	\$0.00	\$791,908.86
Kingston - Miami	550	511	39	4.88	28	2	84	5	0	0	\$146,464.86	\$578.35	\$545,293.20	\$1,735.05	\$0.00	\$0.00	\$694,071.46
Total savings per aircraft types/year											\$146,464.86	\$578.35	\$1,539,338.08	\$11,277.79	\$1,493,619.71	\$48,322.37	\$3,239,601.17

Total savings for the routes/year

\$3,239,601

Aircraft operating cost/hr Small = \$2,336.00 (Typical MD80)
 " " " " Medium = \$2,899.00 (Typical A320, B757, B767)
 " " " " Large = \$6,600.00 (Typical B747-B777)

Non-Schedule to Schedule flights: 6%
 % of flights not flying at requested altitude: 5%
 Fuel efficiency Loss on 20% of the total route: 8%
 Fuel cost as a percentage of operating cost: 35%

Mexico - Dallas (TF15)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Mexico - Dallas	856	811	45	5.625	182	82	14	6	0	0	\$1,502,646.60	\$24,010.29	\$143,446.14	\$2,292.08	\$0.00	\$0.00	\$1,672,395.11
Monterey - Dallas	471	453	18	2.250	168	76	0	0	0	0	\$554,823.36	\$12,195.02	\$0.00	\$0.00	\$0.00	\$0.00	\$567,018.38
Total savings per aircraft types/year											\$2,057,469.96	\$36,205.31	\$143,446.14	\$2,292.08	\$0.00	\$0.00	\$2,239,413.49

Mexico - Miami (TF15)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Mexico - Miami	1137	1105	32	4.000	226	41	60	11	22	4	\$1,079,805.10	\$0.00	\$355,765.28	\$10,618.26	\$296,982.40	\$0.00	\$1,743,171.04
Cancun - Miami	484	459	25	3.125	250	45	0	0	4	1	\$933,183.33	\$0.00	\$0.00	\$0.00	\$42,185.00	\$0.00	\$975,368.33
Total savings per aircraft types/year											\$2,012,988.43	\$0.00	\$355,765.28	\$10,618.26	\$339,167.40	\$0.00	\$2,718,539.37

Mexico - Houston (TF15)

Routes	Conv. Dist	Rnav Dist	Difference	Time saved	Total number of flights by types of aircraft per 2 weeks						Total savings per AC Types						Total savings Per route/year
					Small		Medium		Large		Small		Medium		Large		
					Sched	N-Sched	Sched	N-Sched	Sched	N-Sched	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	Op.Cost	Fuel/save cost	
Mexico - Houston	679	661	18	2.250	216	63	0	0	0	0	\$634,630.46	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$634,630.46
Total savings per aircraft types/year											\$634,630.46	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$634,630.46

Total savings for the routes/year

\$5,592,583

Aircraft operating cost/hr Small = \$2,336.00 (Typical MD80)
 " " " " Medium = \$2,899.00 (Typical B757)
 " " " " Large = \$6,600.00

Non Schedule to Scheduled flights: 45%
 % of flights not flying at requested Altitude: 15%
 Fuel efficiency loss: 8%
 Dallas 45%
 Houston 29%
 Miami 18%
 0%
 8%

- Note:
1. Nominal speed of aircraft = 480 knots. 8 nm/min
 2. The sampling period was from 19 June to 2 July 2000 (Two weeks)
 3. The figures used in the calculations represent Traffic per week for the different types of aircraft.
 4. The traffic per week for this flow has been estimated from the OAG schedule and from percentage of non-schedule flights observed on the flow.
 5. The total cost figures have been augmented to show the savings associated with fuel savings resulting from being allowed to fly at their preferred flight level. The calculations are based on the percentage of aircraft not flying at their preferred altitude times efficiency loss, times 35% of overall aircraft cost which is the fuel portion of the overall operating cost of aircraft.

Grand Total (Phase II)

\$49,019,931