

APPENDIX A

ANNUAL SAVINGS ASSOCIATED WITH THE INTRODUCTION OF RNAV ROUTES AS ESTIMATED BY PROJECT RLA/98/003

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in US\$
Santiago Miami	3653	3581	72	9 min	156	1,954,124

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 June to 2 July 2000**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in US\$
Lima Miami	2310	2266	54	6 min	91	854,042

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 June to 2 July 2000**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in U\$S
Guayaquil Miami	1696	1689	27	3 min	30	142,717

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 June to 2 July 2000**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in U\$S
Sao Paulo/ New York	4168	4106	62	8 min.	98	1,712,826

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 July to 1 August 1999**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in U\$S
Sao Paulo/ Los Angeles	5484	5350	134	17 min.	60	2,937,134

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 June to 2 July 2000**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in US\$
Rio de Janeiro/ New York	4239	4174	65	8 min.	24	519,957

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 July to 1 August 1999**.

Note 4: The rated speed used was 480 knots.

Route	Conventional route distance	RNAV route distance	Difference	Time saved	Number of Aircraft	Total annual savings in US\$
Buenos Aires/ Miami	3926	3830	96	12 min.	123	1,541,942

Note 1: Total annual savings include aircraft operating cost and fuel savings.

Note 2: The number of aircraft represents the small, medium and heavy types of aircraft that operated on the route in question during the evaluation period.

Note 3: The period used in the example (two weeks) was **19 June to 2 July 2000**.

Note 4: The rated speed used was 480 knots.

Operating cost per flight hour used to estimate savings in US\$, according to the type of aircraft

Small aircraft:	2,100.00	(B 737-MD80)
Medium-size aircraft:	3,200.00	(A 320- B 757 - B 767)
Heavy aircraft:	6,600.00	(MD11 - B 747)