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Capacity Enhancement Plan Update

Technical Summary

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William B. Hartsfield/Atlanta International Airport Technical Summary

Airport Capacity Enhancement Update Study

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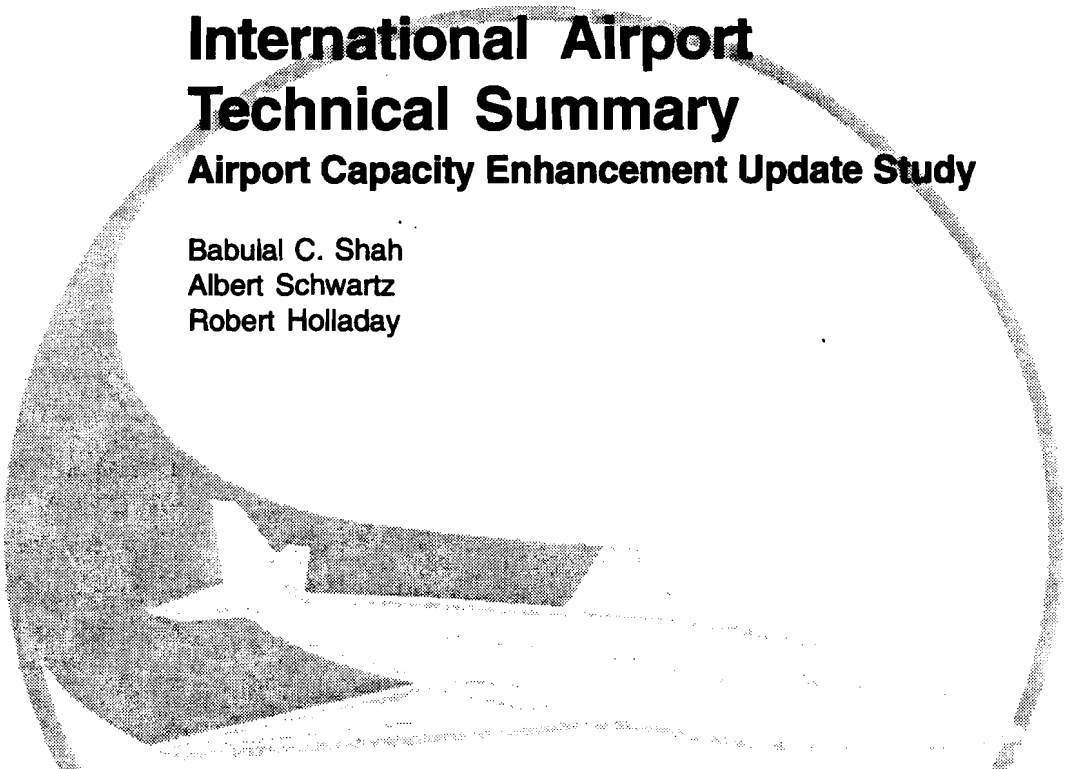
Albert Schwartz
Robert Holladay



November 1995

DOT/FAA/CT-TN95/65

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16. Abstract

This Technical Summary report contains technical data pertaining to "William B. Hartsfield/Atlanta International Airport" Capacity Enhancement Plan Update, 1995

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Table of Contents

Technical Summary

Introduction	T - 1
Experimental Design	T - 4
Study Milestones	T - 10
Basic Assumptions	T - 13
RDSIM Experimental Conditions	T - 14
SIMMOD Experimental Conditions	T - 21
Summary Results	T - 29

Model Inputs - 1995

Model Inputs	M - 1
Airfield	M - 1
Aircraft Operational Procedures	M - 16
Aircraft Traffic Demand	M - 26
Aircraft Assignments	M - 40
Comparison of Inputs - Atlanta 1987 & 1995 Studies	M - 55

Capacity Analysis

Capacity Analysis Comparison 1987 & 1995	C - 1
Capacity Analysis 1995	C - 4
Current Capacity - Four Flight Procedures & Three Demand Splits	C - 6
Future Capacity - Four Flight Procedures & Single Demand Split	C - 19
Current vs. Future Capacity - Four Flight Procedures and Single Demand Split	C - 24

RDSIM

RDSIM Experiments	R - 1
Annual Delay Calculaitons - RDSIM	R - 29

SIMMOD

SIMMOD Experiments	S - 1
Annual Calculations - SIMMOD	S - 24

Technical Summary

Technical Summary

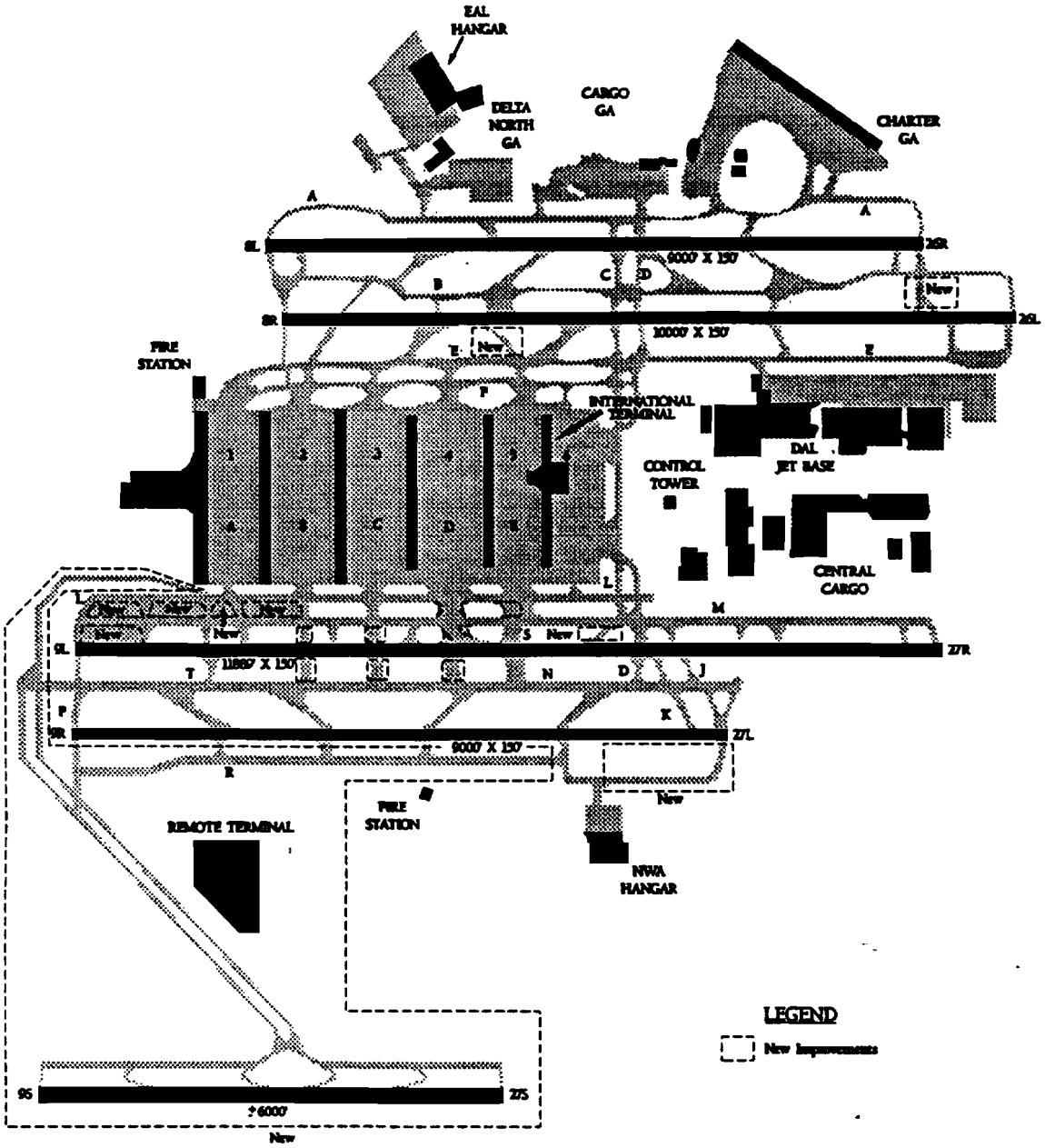
Introduction	T - 1
Experimental Design	T - 4
Study Milestones	T - 10
Basic Assumptions	T - 13
RDSIM Experimental Conditions	T - 14
SIMMOD Experimental Conditions	T - 21
Summary Results	T - 29

Summary Report - November, 1995

INTRODUCTION

This summary report includes all potential improvements analyzed, utilizing both the Runway Delay Simulation Model (RDSIM) and the Airfield and Airspace Simulation Model (SIMMOD). In the final report, with the consensus of the Atlanta Design Team, some of the potential improvements were dropped for reasons other than the technical results obtained through analysis. However, they have been made part of this package for future reference. Those improvements that are part of the final report are identified on the following page.

AIRPORT DIAGRAM



Capacity Enhancement Alternatives

Data Package #8 Simulation	Item #		
		Airfield Improvements	
SIMMOD	1a	1.	New Independent Runway 9S/27S (Restricted Use/Arrivals Only)
	3.1B		a. Arrivals Use Perimeter Taxiways
	3.2B		b. Arrivals Use Taxiway "R"
	3.3B		c. Arrivals Use Taxiway "N"
		2.	Additional High Speed Runway Exits
		3.	Departure Staging Aprons for Runway 9L/27R
SIMMOD	1a.3.1.3cB	4.	Remote Terimnal Facilities
		5.	Impact of Reconstruction of Existing Runways
RDSIM	(0) 2a		a. Arrivals and Departures on One Runway
RDSIM	(0) 2b		b. Arrivals and Departures on Three Runways
		Facilities and Equipment Improvements	
		6.	CAT II/III ILS on Runways 26R and 27L
		7.	CAT IIIb ILS on Runway 8L
			a. Approaches with Less Than 600' RVR
			b. Departures with Less Than 600' RVR
SIMMOD	1a.3.1B (part)	8.	New Independent Runway 9S/27S Approach Aides
			a. CAT I Approaches
			b. CAT II Approaches
		9.	Precision Runway Monitor (PRM); Final Monitor Aids (FMA)
		10.	Vortex Advisory System (VAS)
RDSIM	12 2b		a. Departures and Arrivals on Three Runways
RDSIM	12 2c		b. Departures and Arrivals on Four Runways
		11.	Integrated Terminal Weather System (ITWS)
SIMMOD	1a.3.1-1a.3.1B	12.	Airport Research Management Tool (ARMT)/ Surface Movement Advisor (SMA)
		Operational Improvements	
RDSIM	14	13.	Reduced In-Trail Spacing to 2.0 NM (IFR Arrivals)
		14.	Departures from 3 or 4 Runways
RDSIM	15.1		a. Three Departure Runways
RDSIM	15.2		b. Four Departure Runways
RDSIM	15.3.2		c. Three Departure Runways (9R Turboprops ONly)
		15.	Improved Operations on Parallel Runways Separated by Less Than 2500' (Reduced Wake Vortex Restricitons for Departure Runways)
RDSIM	16.1		a. Three Departure Runways
RDSIM	16.2		b. Four Departure Runways
		16.	Ramp Control on Ramp 4
		User or Policy Improvements	
		17.	Uniformly Distribute Scheduled Commercial Operations
RDSIM	22	18.	Impact of Noise Abatement Restrictions with Current Jet Aircraft Fleet
		19.	Enhancement of the Reliever and GA Airport System

EXPERIMENTAL DESIGN

The first exhibit summarizes the proposed improvements for the Airport Capacity Enhancement Design Team Study. The potential improvements are grouped as follows:

- Airfield
- Facilities and Equipment
- Operations
- User and Policy

The proposals for this Design Team study are divided into two categories. The first category contains improvements that require only the analysis of runway delays. The Runway Capacity and Delay Simulation Model (RDSIM) is utilized to analyze capacity and runway delays. The second category contains those improvements that require detailed analysis of runways, taxiways, gates and/or terminal airspace. The Airfield and Airspace Delay Simulation Model (SIMMOD) is utilized to analyze total airfield time.

The next three exhibits show three basic runway use configurations, and experimental designs for RDSIM and SIMMOD. These completed experimental designs include runs for Visual and Instrument (flight) approach procedures at three demand levels (Baseline, Future 1 & Future 2).

PROPOSED IMPROVEMENTS OF ATLANTA

The potential improvements adopted for the final draft by the Atlanta Design Team are listed by group as follows:

Capacity Enhancement Plan		Airfield Improvements	Proposed Model
(1)	1.	New Independent Runway 9S/27S spaced 4,150' south of Runway 9R/27L. a. Restricted Use - (less than 100,000 lbs) Aircraft with Arrivals Only. b. Restricted Use - Stage III (less than 100,000 lbs) Aircraft with Arrivals & Departures. c. Unrestricted Arrivals Only (for comparative purposes only). d. Total Unrestricted Arrivals & Departures (for Comparative purposes only).	SIMMOD
(2)	2.	Additional High Speed Runway Exits.	Narrate
(1)	3.	Taxiway Complex to new Runway.	SIMMOD/Narrate
(3)	4.	Departure Staging Aprons for Departure Runways 8R & 27R.	Narrate
(4)	5.	Remote Terminal to the South.	SIMMOD
(4)	6.	Relocate GA to the South Side.	SIMMOD
(5)	7.	Reconstruction of Existing Runways.	RDSIM/Narrate
		Facilities and Equipment Improvements	
(6)	8.	CAT II/III ILS on Runways 26R and 27L.	Narrate
(7)	9.	CAT IIIc ILS on Runway 8L. a. Approaches less than 300' RVR. b. Departures with less than 600 RVR.	Narrate
(8)	10.	New Independent Runway 9S/27S. (item #10 included in item #1) a. CAT I Approaches with 3 RVRs. b. CAT II/III Approaches.	SIMMOD
(9)	11.	Precision Runway Monitor (PRM), Final Monitors/ Aids (FMA). (item #11 included in item #1)	Narrate
(10)	12.	Wake Vortex Avoidance System (WVAS).	RDSIM/Narrate
(11)	13.	Integrated Terminal Weather System (ITWS)	Narrate

PROPOSED IMPROVEMENTS FOR ATLANTA
(Continued)

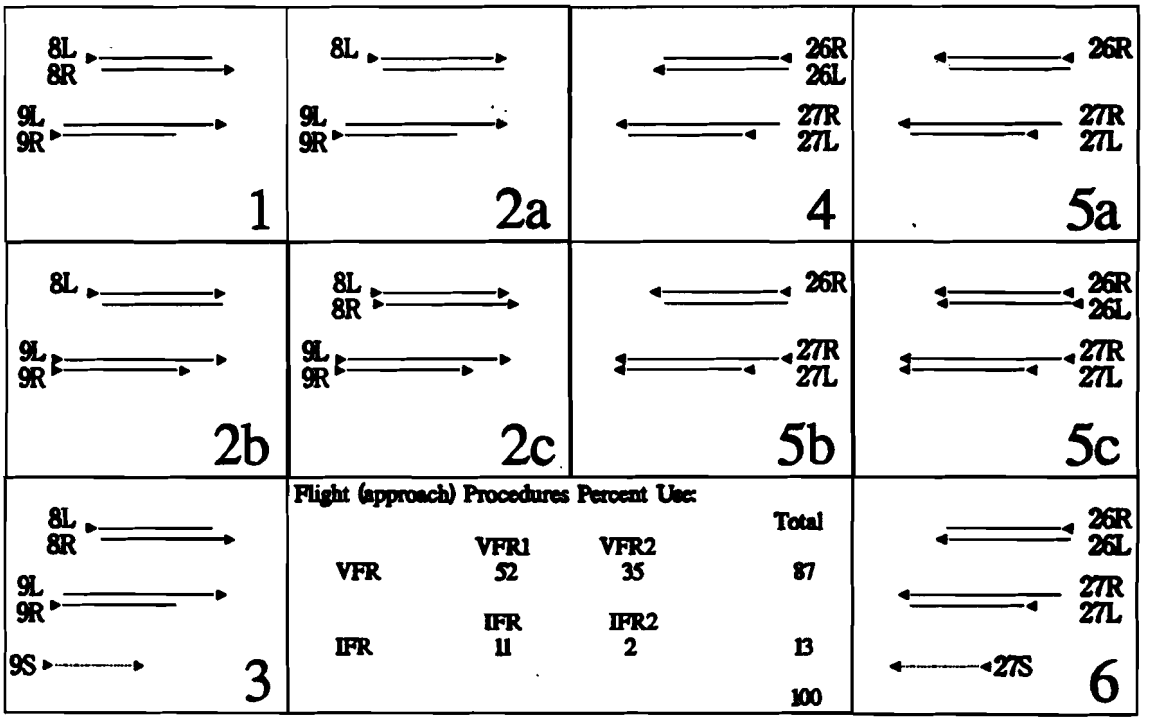
Operations

(13)	14.	Reduced In-Trail Spacing to 2 NM. (IFR)	RDSIM
(14)	15.	a. Departures from 3 runways. b. Departures from 4 runways c. Departures from 3 runways with turboprops only on the third runway.	RDSIM
(15)	16.	Improved Operations on Parallel Runways Separated by less than 2500' (Reduced Wake Vortex Restrictions for 3 Departure Runways).	RDSIM
	~~17.~~	~~Multiple Runway Crossings. (With/Without South Runway).~~	~~SIMMOD~~
	~~18.~~	~~Hold Short while Landing from the East.~~	~~SIMMOD~~
(12)	19.	Airport Research Management (ARMT): Real-Time Data Exchange.	SIMMOD/Narrate

User or Policy

(16)	20.	Ramp Control on Ramp 4.	Narrate
(17)	21.	Uniformly Distribute Scheduled Commercial Operations.	Narrate
(18)	22.	Impact of Noise Abatement Restrictions. ~~a. with Stage III Jet Aircraft.~~ b. with All Jet Aircraft.	RDSIM
(19)	23.	Enhancement of the Reliever and GA Airport System.	Narrate
	24.	Study Terminal and Enroute Airspace and Implement Airspace Management.	Narrate
	~~25.~~	~~Impact of New Runway on Terminal Airspace.~~ ~~a. Restricted Arrivals.~~ ~~b. Restricted Arrivals & Departures.~~ ~~c. Unrestricted Arrivals.~~ ~~d. Unrestricted Arrivals & Departures.~~	~~SIMMOD~~

ATLANTA RUNWAY CONFIGURATIONS



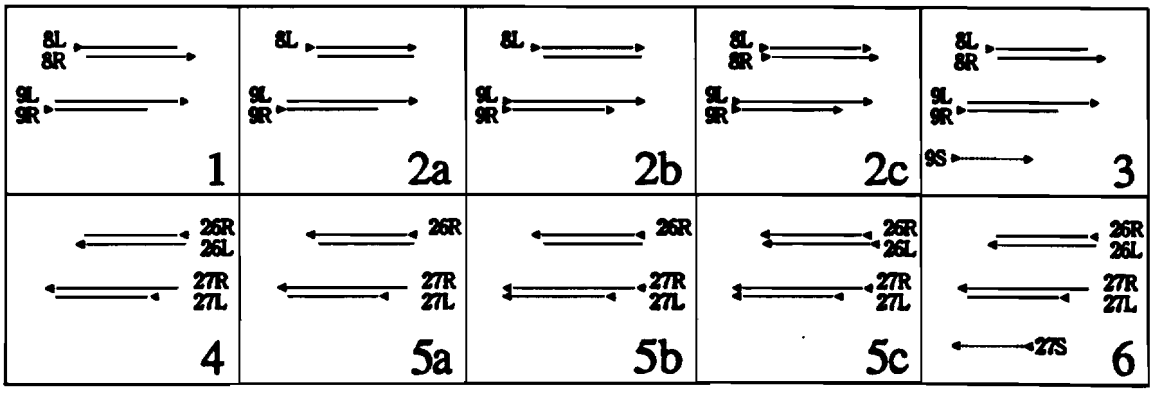
Flight (approach) Procedures Percent Use:

	VFR1	VFR2	Total
VFR	52	35	87
	IFR	IFR2	
IFR	11	2	13
			100

ATLANTA RDSIM EXPERIMENTAL DESIGN

No.	Improvement	BASELINE VFR/IFR All Rwy Configurations	FUTURE 1 VFR/IFR All Rwy Configurations	FUTURE 2 VFR/IFR All Rwy Configurations
(0)	Current Airfield	11,112,12,122	13,132,14,142	15,152,16,162
1.	New Independent Runway 9S/27S spaced 4,150' south of Runway 9R/27L. a. Restricted Use - Arrival-Only Runway. b. Restricted Use - Arrivals and Departures. c. Unrestricted Arrivals Only. d. Total Unrestricted Arrivals & Departures.	31,312,32,322	33,332,34,342	35,352,36,362
7.	Reconstruction of Existing Runways.	21A, 21B	23A, 23B	25A, 25B
8.	CAT II ILS on Runways 26R and 27L.	Narrate	Narrate	Narrate
9.	CAT IIIc ILS on Runway 8L. a. Approaches Down to 300' RVR. b. Departures with less than 600 RVR.	Narrate	Narrate	Narrate
10.	New Independent Runway 9S/27S. a. CAT I Approaches with 3 RVRs. b. CAT II Approaches.	32, 322	34, 342	36, 362
11.	Precision Runway Monitor (PRM), Final Monitors/Aids (FMA).	32	34	36
12.	Vortex Advisory System (VAS).	21BW, 21CW	23BW, 23CW	25BW, 25CW
14.	Reduced In-Trail Spacing to 2 NM. (IFR)	12NM	14NM	16NM
15.	Departures from 3 Rwys and 4 Rwys.	11A23D/4D	13A23D/4D	15A2 3D/4D
16.	Improved Operations on Parallel Runways Separated by less than 2500' (Reduced Wake Vortex Restrictions for 3 Departure Rwys and 4 Rwys).	11A2D3N/ 11A2D4N	13A2D3N/ 13A2D4N	15A2D3N/ 15A2D4N
19.	Airport Research Management (ARMT): Real-Time Data Exchange.	31B	33B	35B
21.	Uniformly Distribute Scheduled Commercial Operations.	11UN	13UN	15UN
22.	Impact of noise abatement procedures for all jet aircraft.	11DD	13DD	15DD

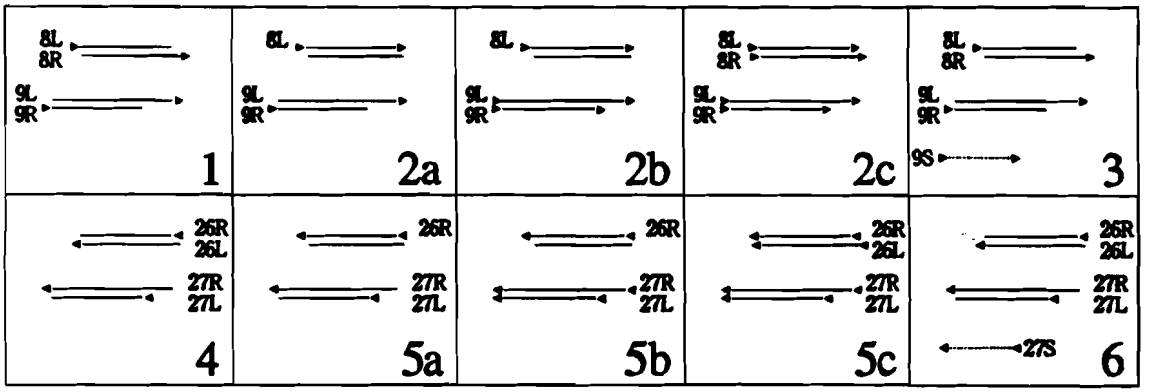
Configurations:



ATLANTA SIMMOD EXPERIMENTAL DESIGN

No.	Improvement	BASELINE VFR/IFR All Rwy Configurations	FUTURE 1 VFR/IFR All Rwy Configurations	FUTURE 2 VFR/IFR All Rwy Configurations
(0)	Current Airfield	11G/11	13G/13	15G/15
1.	New Independent Runway 9S/27S spaced 4,150' south of Runway 9R/27L. a. Restricted Arrivals. b. Restricted Arrivals & Departures.	31A1/A2/A3 31AD1/AD2/AD3	33A1/A2/A3 33AD1/AD2/AD3	35A1/A2/A3 35AD1/AD2/AD3
2.	High Speed Runway Exits.	Narrate	Narrate	Narrate
3.	Taxiway Complex to New Runway.	31AD1/AD2/AD3	33AD1/AD2/AD3	35AD1/AD2/AD3
4.	Departure Staging Aprons for Departure Runway 8R & 27R.	Narrate	Narrate	Narrate
5.	Regional Terminal to the South.	31AD13C	33AD13C	35AD13C
6.	GA Terminal on the South Side.	31AD13CG	33AD13CG	35AD13CG
~~17.~~	~~Multiple Runway Crossings.~~			
~~18.~~	~~Hold Short while Landing from the East.~~			
20.	Ramp Control on Ramp 4.	Narrate	Narrate	Narrate
~~25.~~	~~Impact of New Runway on Terminal Airspace.~~ ~~a. Restricted Arrivals.~~ ~~b. Restricted Arrivals & Departures.~~ ~~c. Unrestricted Arrivals.~~ ~~d. Unrestricted Arrivals & Departures.~~			

Configurations:



Study Milestones

1. 4/28/94	Initial Contact - FAA & Sponsor
2. 7/20/94	Kick-off meeting - Technical Plan, July 1994
3. 8/10/94 - 12/10/94	Data Collection - ATL Tower, Aug. 1994
4. 9/15/94	Data Package #1, Sept. 1994
5. 11/3/94	Data Package #2, Nov. 1994
6. 12/14/94	Data Package #3, Dec. 1994
7. 2/8/95	Data Package #4, Feb. 1995
8. 3/29/95	Data Package #5, March 1995
9. 6/7/95	Data Package #6, June 1995
10. 7/26/95	Data Package #7, July 1995
11. 9/7/95	Data Package #8, Sept. 1995
12. 11/ /95	Technical Summary of Atlanta Update Study, Nov. 1995

Final Report - Hartsfield Atlanta International Airport Capacity Enhancement Plan Update

March 1995	Initial Draft
June 1995	Second Draft
July 1995	Third Draft
August 1995	Fourth Draft
September 1995	Final Draft
1995	Final Report

Atlanta Summary of Data Packages and Meetings

April 28, 1994	Initial Contact: FAA & Sponsor Meeting, List of Improvements.
July 20, 1994	Kick-off Meeting. First formal task force meeting - Technical Plan, July 1994.
Aug. 10-12, 1994	Data Collection.
Sept. 15, 1994	Data Package #1, Sept. 1994; Reviewed model inputs.
Nov. 3, 1994	Data Package #2, Nov. 1994. Updated the model inputs. Conducted capacity analysis of the current configuration.
Dec. 14, 1994	Data Package #3, Dec. 1994; Model inputs - Established three demand levels and four flight approach procedures. Conducted capacity analysis of current and future configurations. RDSIM - Conducted simulations of the Do Nothing case and of the New Runway on the South Side with balanced and unbalanced arrivals. Annualized the delays.
Feb. 8, 1995	Data Package #4, Feb. 1995 and Appendix. Model inputs, Feb. 1995. Conducted capacity analysis of current and future configurations, total flow vs. maintained ratio flow and for four flight procedures. RDSIM - Completed some improvement simulations. Annualized delay values for various RDSIM improvements. Model inputs (Appendix) - Updated model inputs with six classes of aircraft.
March 29, 1995	Data Package #5, March 1995 and Appendix, March 1995. RDSIM - Completed most of the improvements and established cost per minute or per hour of delay. Annualized savings at three demand levels in terms of thousands of hours and millions of dollars for various improvements from daily RDSIM delay values. Appendix - Updated some of the model inputs.
June 7, 1995	Data Package #6, (SIMMOD) June 1995. Appendix (RDSIM) June 1995. SIMMOD - Conducted Do Nothing case simulations, with and without gate constraints and New Runway with no gate constraints simulations. Considered arrivals only, arrivals and departures for three perimeter taxiway use alternatives, and arrivals and departures with the gate area on the south (remote) Terminal for commuters only and/or commuters and general aviation. Annualized savings based on the daily total airport time from SIMMOD Simulation results. Appendix (RDSIM) - Updated RDSIM results with some additional improvements, and included an updated version of the annualized savings for these new improvements.

Atlanta Summary of Data Packages and Meetings (Continued)

July 26, 1995	Data Package #7, July 1995. Appendix, July 1995. SIMMOD - Completed Do Nothing and New Runway improvements with balancing arrivals between Runways 8L and 9R, and with Runway 9S in operation. Annualized savings for all improvements, including net savings due to balancing arrivals. The appendix was in three parts: It includes capacity curves from Data Package #4, RDSIM Annualizations from Data Package #6, the RDSIM Appendix, and additional RDSIM experiments for 9R departures.
Sept. 7, 1995	Data Package #8, Sept. 1995. This data package is prepared to support items considered for the final report, Capacity Enhancement Plan Update, Sept. 1995, Final Draft. All improvements considered for this Update Study are identified. However, improvements that are to be incorporated in the final report are highlighted whenever feasible. Some of the details presented in this data package are updates to ones considered under previous data packages. Additional improvements, both for RDSIM and SIMMOD, are also simulated for this package. In addition to capacity, RDSIM and SIMMOD, a section comparing 1987 and 1995 Studies is also included in this data package.

Summary of Basic Assumptions

The current airfield has four east/west parallel runways with the main terminal complex between two sets of two runways, each. The first set, Runways 8R/26L and 8L/26R, is to the north of the main terminal complex, while the second set, Runways 9R/27L and 9L/27R , is to the south. The main terminal complex includes six north/south parallel concourses to accommodate most of the scheduled operations at the airport. Most of the General Aviation and Cargo areas are on the north side of the airfield. The future airfield will include an additional runway, 9S/27S, south of the current airfield with a remote terminal for regional or non-scheduled operations.

There are two flight procedures, Visual and Instrument, under four approach conditions. Visual procedures are with visual approaches and ILS approaches. Instrument procedures are with ILS CAT I approaches and CAT II & III approaches.

Aircraft operations are analyzed utilizing six aircraft classes. This is specifically to accommodate operations on the future new runway (9S/27S), with the option of accommodating small jets and props. This includes aircraft with a take-off weight of less than 100,000 pounds. Additionally, a class is assigned to reflect the current criteria applicable to B757 aircraft, which differs from those applied to large aircraft.

Three traffic demand levels are utilized. The Baseline demand level has a daily value of 2,093 operations, corresponding to an annual demand of 700,000 operations. Future 1 has a daily value of 2,550 operations, corresponding to an annual demand of 850,000 operations. And, Future 2 has a daily value of 3,000 operations, corresponding to an annual demand of 1,000,000 operations.

The traffic demand for the current airfield is split, almost equally between the North and South parallel runways. The North side and the South side each consist of two runways, one for arrivals and one for departures. The inner runways are utilized for departures, while the outer runways are utilized for arrivals.

The traffic demand split for the future airfield is affected by the redistribution of the demand on the new runway. The new runway is considered for restricted use by aircraft less than 100,000 pounds, and for unrestricted use by all classes of aircraft. Restricted use is further subdivided into use by props and jets, and use by props only. The new runway is also considered as an arrivals-only runway, and as an arrival or departure runway under each type of use.

Most of the potential improvements, including the current airfield (Do Nothing, i.e., without any physical improvements), are analyzed utilizing Runway Simulation Model (RDSIM), if it is expected that the majority of the savings will accrue without affecting operations on the taxiways or in the aircraft gate areas. The predominately airfield portion of the Airfield and Airspace Simulation Model (SIMMOD) is utilized for analysis whenever the taxiway system or the aircraft gate area is most likely to be affected by the potential improvements. Some of the improvements have been analyzed with both models.

Summary of RDSIM Experimental Conditions

This is a summary of the experimental conditions adopted for simulation utilizing the Runway Delay Simulation (RDSIM) to reflect the effects of the potential improvements at Atlanta.

(0) 1.1* **Current Airfield without Noise Restrictions in place.**

Current airfield (Do Nothing, i.e., with no physical (change) improvements), current flight procedures and three (aircraft) traffic demand levels. Two outer runways (8L, 9R) for arrivals only, and two inner runways (8R, 9L) for departures only.

(0) 1.2 **Current Airfield - Balanced**

Current airfield, current flight procedures and three demand levels. Balancing arrivals and departures on their respective arrival runways (8L, 9R) and departure runways (8R, 9L) through dynamic reassignment.

(0) 2a **Current Airfield Three Runway case - Arrivals and Departures on One Runway**

Current airfield, current flight procedures and three demand levels. Reassignment of one arrival runway (8L) and one departure runway (9R) into one runway (8L) with arrivals and departures on the north side of the airport. Thus, one runway (8R) will be without any operations. On the south side, arrivals will be on Runway 9L and departures will be on Runway 9R.

(0) 2b **Current Airfield Three Runway case - Arrivals and Departures on Three Runways**

Current airfield, current visual flight procedures and three demand levels. Reassignment of all traffic, arrivals and departures, to all three runways (8L, 9R, 9L) under visual flight procedures. One runway (8R) is without any operations.

(0) 2c **Current Airfield - Arrivals and Departures on Four Runways**

Current airfield, current flight procedures and three demand levels. Reassignment of all traffic, arrivals and departures, to all four runways (8R, 8L, 9R, 9L).

(1a) 1.1 **New Runway on the South Side, Arrivals only - Jets and props, Class 4, 5 and 6 Aircraft**

Future airfield with the addition of a new independent runway on the south side (9S/27S), current flight procedures, and three demand levels. The new runway utilized as an arrivals-only runway with jets and props weighing less than 100,000 pounds.

* (0) 1.1 signifies Improvement Number (0), Subset 1.1 of this improvement

(1a) 1.2 New Runway on the South Side, Arrivals only - Jets and props, Class 4, 5 and 6 Aircraft - Balanced Arrivals and Departures

Same as Item (1a) 1.1, in addition to dynamic balancing through the reassignment of arrivals from 9S to 8L and 9R, and between 8L and 9R, as well as departures between 8R and 9L.

(1a) 2 New Runway on the South Side, Arrivals only - Props only, Class 5 and 6 Aircraft

Same as Item (1a) 1.1, except only props weighing less than 100,000 pounds are permitted to arrive on the new Runway 9S/27S. Thus, reducing demand on Runway 9S from Item (1a) 1.1.

(1a) 3.1 New Runway on the South Side, Arrivals only - Jets and props - Except no Aircraft from the Northwest fix arriving on Runway 9S

Same as Item (1a) 1.1, except no aircraft (jets or props) arriving from the Northwest fix on Runway 9S.

(1a) 3.2 New Runway on the South Side, Arrivals only - Props only, Class 5 and 6 Aircraft - Except no Aircraft from the Northwest fix arriving on Runway 9S

Same as Item (1a) 2, except no aircraft (props) arriving from the Northwest fix on Runway 9S.

(1b) 1 New Runway on the South Side, Arrivals and Departures - Jets and props, Class 4, 5 and 6 Aircraft

This is an expanded use of the new independent Runway 9S/27S, to include arrivals and departures. Both jets and props are included, however, the limitation of accepting aircraft weighing less than 100,000 pounds is still in effect.

(1b) 2 New Runway on the South Side, Arrivals and Departures - Props only, Class 5 and 6 Aircraft

Same as Item (1b) 1, except only props weighing less than 100,000 pounds are assigned to the new Runway 9S/27S.

(1b) 3 New Runway on the South Side, Arrivals - Jets and props, Class 4, 5 and 6 Aircraft, and Departures - Props only, Class 5 and 6 Aircraft - Except no Aircraft from the Northwest fix arriving on Runway 9S

This is a combination of Item (1b) 1, for arrivals, and Item (1b) 2, for departures, except no aircraft (jets or props) arriving from the Northwest fix are assigned to the new Runway 9S/27S.

(1c) Unrestricted Arrivals only on Runway 9S

New Runway 9S/27S on the South side is assigned arrivals only, with all classes of aircraft.

(1d) Unrestricted Arrivals and Departures on Runway 9S

The new independent Runway 9S/27S on the South side is assigned arrivals and departures, with all classes of aircraft. Thus, this runway could act as a third arrival runway with arrival Runways 8L and 9R, or a third departure runway with departure Runways 8R and 9L.

(12) 2b Current Airfield Three Runway Case - Arrivals and Departures on Three Runways (No Wake Vortex)

Current airfield, with modified separations to convey no wake vortex dependency between aircraft on adjoining runways. Traffic demand is modified to utilize all three runways (8L, 9R, 9L) for arrivals and departures.

(12) 2c Current Airfield Four Runway Case - Arrivals and Departures on all Four Runways (No Wake Vortex)

Current airfield, with modified separations to convey no wake vortex dependency between aircraft on adjoining runways. Traffic demand is modified to utilize all four runways (8R, 8L, 9R, 9L) for arrivals and departures.

(14) Reduce Intrail Spacing from 2.5 NM to 2.0 NM

Current airfield, two arrival runways and two departure runways, with modified separations in Instrument flight procedures (IFR1 & IFR2) to reduce further existing IFR separations by 0.5 NM. Traffic demand is unchanged as Baseline, Future 1 and Future 2.

(15) 1 Current Airfield - Three Departure Case

Current airfield, current separations, modified distribution of traffic demand with arrivals on two runways (8L, 9R) and departures on three runways (8R, 9R, 9L).

(15) 2 Current Airfield - Four Departure Case

Current airfield, current separations, modified distribution of traffic demand with arrivals on two runways (8L, 9R) and departures on all four runways (8R, 8L, 9R, 9L).

(15) 3.1 Current Airfield - Three Departure Case - Turboprops to Two Fixes

Current airfield, current separations, traffic demand modified to reassign only turboprop (Class 5) departures to two fixes (S2, W1) from Runway 9L to Runway 9R. Only Visual procedures (VFR1 & VFR2) are simulated for this item.

(15) 3.2 Current Airfield - Three Departure Case - Turboprops to Three Fixes

Current airfield, current separations, traffic demand modified to reassign only turboprop (Class 5) departures to three fixes (S1, S2, W1) from Runway 9L to Runway 9R. Only Visual procedures (VFR1 & VFR2) are simulated for this item.

(16) 1 Current Airfield - Three Departure Case (No Wake Vortex)

Current airfield, with separations modified to eliminate Wake Vortex dependencies between adjoining runways. Traffic demand is modified to keep arrivals on two runways (8L, 9R) and redistribute departures to three runways (8R, 9R, 9L).

(16) 2 Current Airfield - Four Departure Case (No Wake Vortex)

Current airfield, with separations modified to eliminate Wake Vortex dependencies between adjoining runways. Traffic demand is modified to keep arrivals on two runways (8L, 9R) and redistribute departures to all four runways (8R, 8L, 9R, 9L).

(21) Uniformly Distributed Scheduled Commercial Operations

Current airfield, current separations, with traffic demand modified to uniformly distribute scheduled operations within the hour, for each hour throughout the day.

(22) Current Airfield with Noise Restrictions
Effect of Noise Abatement Procedures (all Jets)

Current airfield, with modified separations to account for the effect of noise abatement procedures, as it affects jet utilization of the airport. Specifically for departures, all jets trailing heavy, large and small jets are required to have one minute separations between successive departures. Traffic demand was not modified. Only visual procedures were simulated for this item.

ATL Percent Distribution for Runway Usage - RDSIM

(0) Current Airfield

Configuration 1 A = 8L,9R D = 8R,9L

		Percent Distribution		
		Baseline	Future 1	Future 2
8L ►	Arrivals = 8L	52%	52%	52%
8R ►	Departures = 8R	51%	50%	50%
9L ►	Departures = 9L	49%	50%	50%
9R ►	Arrivals = 9R	48%	48%	48%

(1a) 1.1 New Runway ARR only, Jets and Props (less than 100,000 lbs)
Configuration 3 A = 8L,9R,9S D = 8R,9L

8L ►	Arrivals = 8L	42%	42%	41%
8R ►	Departures = 8R	51%	50%	50%
9L ►	Departures = 9L	49%	50%	50%
9R ►	Arrivals = 9R	30%	30%	30%
9S ►	Arrivals = 9S	28%	28%	29%

(1a) 3.2 New Runway ARR only, Props Only (less than 100,000 lbs), No A/C from NW fix on 9s
Configuration 3 A = 8L,9R,9S D = 8R,9L

8L ►	Arrivals = 8L	49%	49%	48%
8R ►	Departures = 8R	51%	50%	50%
9L ►	Departures = 9L	49%	50%	50%
9R ►	Arrivals = 9R	34%	34%	33%
9S ►	Arrivals = 9S	17%	17%	19%

ATL Percent Distribution for Runway Usage - RDSIM
(continued)

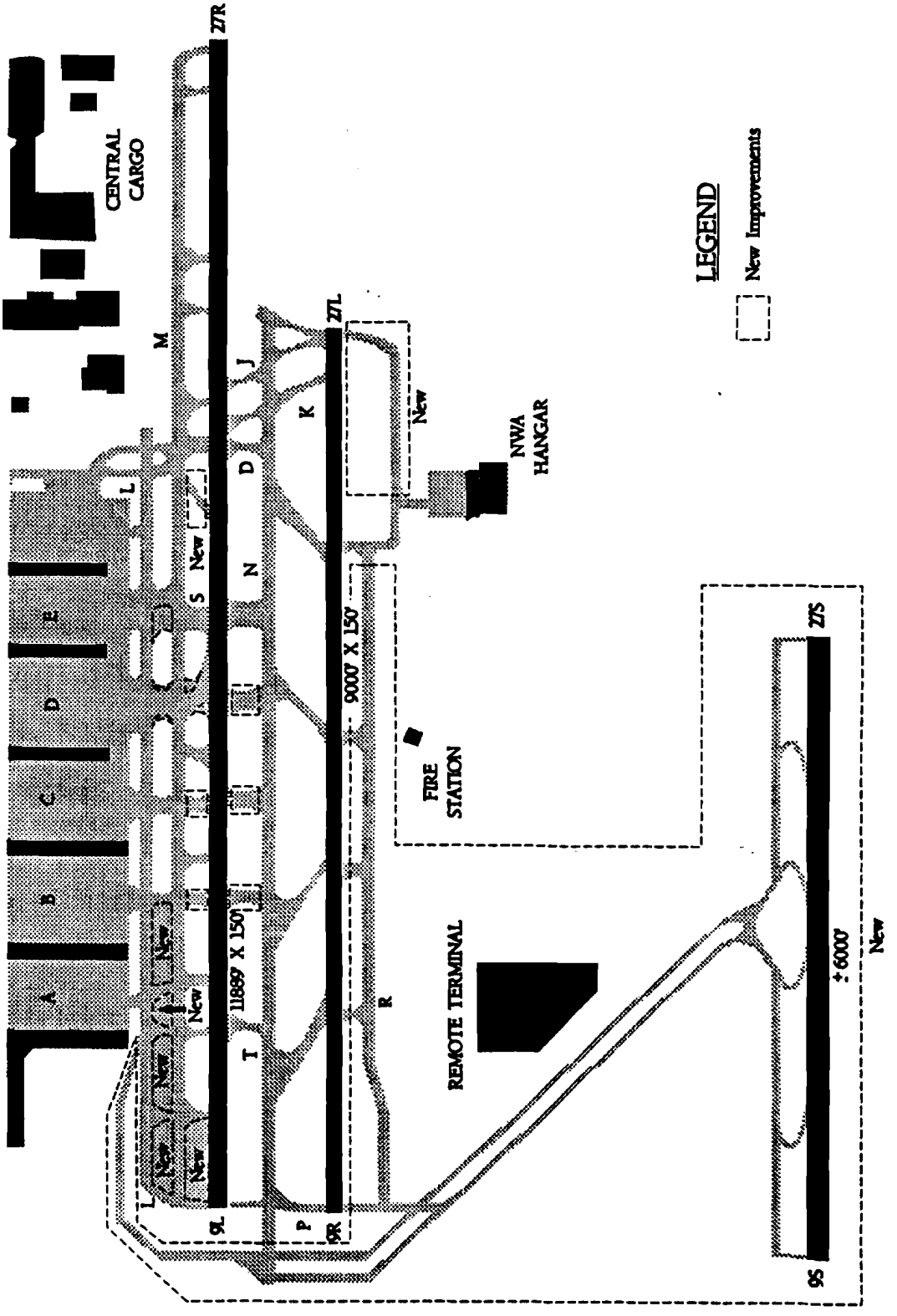
(1b) 3 New Runway ARR: Jets & Props, DEP: Props only (less than 100,000 lbs), No A/C from NW fix on 9s
Configuration 3 A = 8L,9R,9S D = 8R,9L,9S

		Percent Distribution		
		Baseline	Future 1	Future 2
8L ►	Arrivals = 8L	48%	48%	47%
8R →	Departures = 8R	52%	50%	50%
9L →	Departures = 9L	34%	34%	34%
9R ►	Arrivals = 9R	30%	30%	30%
9S ►	Arrivals = 9S	22%	22%	23%
9S →	Departures = 9S	14%	16%	16%

(1d) Unrestricted Arrivals and Departures on 9s
Configuration 3 A = 8L,9R,9S D = 8R,9L,9S

8L ►	Arrivals = 8L	34%	36%	36%
8R →	Departures = 8R	40%	40%	41%
9L →	Departures = 9L	38%	39%	40%
9R ►	Arrivals = 9R	33%	31%	31%
9S ►	Arrivals = 9S	33%	33%	33%
9S →	Departures = 9S	22%	21%	19%

AIRPORT DIAGRAM - Details



Summary of SIMMOD Experimental Conditions

This is a summary of the experimental conditions adopted for simulation, utilizing the Airfield and Airspace Delay Simulation Model (SIMMOD), to reflect the effects of potential improvements at Atlanta. The primary analysis through the airfield portion of SIMMOD consists of the effect on the taxiway system or the gate area that is most likely to be affected by the potential improvements. The initial network and parameters, utilized by previous efforts, are updated to reflect current and future improvements in operating procedures, field improvements, and traffic demand changes. These changes are identified in the Model Inputs Section, and are also utilized in RDSIM experiments for the same, or similar items.

1. (0) G* **Current Airfield with Gate Capacity Constraints**

Current airfield (Do Nothing, i.e., with no physical (change) improvements), current flight procedures and three (aircraft) traffic demand levels. Two outer runways (8L, 9R) for arrivals only, and two inner runways (8R, 9L) for departures only. All gate areas in the main terminal complex between the parallel runways, and the General Aviation and Cargo areas on the north side of the airport are assigned gate capacity. The gate capacity is the number of aircraft positions that can be utilized in the gate area at any given time. This is based on the current utilization of gates by all aircraft operators serving Atlanta.

2. (0) **Current Airfield**

This item is simulated with all of the same parameters as Item (0) G, except there are no constraints on the gate areas. This means that gate capacity is increased so that there is no arrival delay at the gates. However, departure gate delays may occur, as outgoing aircraft may be unable to leave the gate area, due to incoming aircraft at the gate area.

3. (1a) 3.1/3.1B New Runway 9S/27S with No Gate Constraints - Arrivals Only - Alternative #1

Future airfield with the addition of a new independent runway on the south side (9S/27S), current flight procedures and three demand levels. The new runway is utilized as an arrival-only runway for jets and props weighing less than 100,000 pounds, except there are no aircraft (jets and props) arriving from the Northwest fix on Runway 9S. The future airfield includes changes in the taxiing exits near the current terminal complex, in addition to the "perimeter taxiways" on the west side of parallel runways 9L and 9R. In this case, the "perimeter taxiway" is utilized for arrivals to reach the terminal at the west end without crossing active runways, defined as Alternative #1. This experiment is conducted with and without balancing arrivals on Runways 8L and 9R. Balancing of arrivals consisted of the dynamic rerouting of aircraft to a different runway when the queue of a runway is exceeded by a certain number of aircraft, and the queue of the runway to which the aircraft was rerouted, is not exceeded by a certain number of aircraft.

3.1 (1a) 3.1BL New Runway 9S/27S with No Gate Constraints, with Taxiway L Connection - Arrivals Only - Alternative #1

Same as Item #3. (1a) 3.1B, except a direct connection to Taxiway L is considered, instead of utilizing the "perimeter taxiway" as the arrival route to the terminal area. This item still allows aircraft to bypass active runways.

* (0) G signifies Improvement Number (0), Subset G of this Improvement

3.2 (1a) 3.1.3cB New Runway 9S/27S with No Gate Constraints, with Gate 30 for Commuters Only - Arrivals Only - Alternative #1

Same as Item #3. (1a) 3.1B, except the "remote terminal" on the south side (of the existing airfield), between Runways 9R and 9S, is considered without capacity constraints, to be utilized by commuters only, which are operating (arriving) on Runway 9S. Thus, it reduces the delay and taxi times (assigned to aircraft operations) necessary to reach the current gates in the main terminal complex.

4. (1a) 3.2/3.2B New Runway 9S/27S with No Gate Constraints - Arrivals Only - Alternative #2

Same as Item #3. (1a) 3.1/3.1B, except arrivals do not utilize the "perimeter taxiway" to avoid active runways in route to the main terminal complex. Instead, in this Alternative #2, arrivals utilize Taxiway R to reach the main terminal complex, crossing Runway 9R/27L and Runway 9L/27R. This helps to avoid congestion at the west end of the runway complex, by having these aircraft await their turn to cross the runways at the less congested east end of Taxiway R.

5. (1a) 3.3/3.3B New Runway 9S/27S with No Gate Constraints - Arrivals Only - Alternative #3

Same as Item #3. (1a) 3.2/3.2B, except Taxiway N is utilized by arrivals en route to the main terminal complex, instead of Taxiway R, defined as Alternative #3. In this case, the arrivals are sandwiched between Runway 9R/27L and Runway 9L/27R, and only cross one runway, 9L/27R.

6. (1b) 3.1/3.1B New Runway 9S/27S with No Gate Constraints - Arrivals and Departures - Alternative #1

This is an expanded use of the new independent Runway 9S/27S, to include arrivals and departures. Arrivals are limited to jets and props (Class 4, 5 & 6 aircraft), while departures are limited to props only (Class 5 & 6 aircraft). There are no aircraft arriving on Runway 9S from the Northwest fix. All operations are limited to jets or props weighing less than 100,000 pounds. Operationally, all movement between the new runway and the main terminal complex, for arrivals and departures, is through the use of "perimeter taxiways" without crossing active runways.

7. (1b) 3.2/3.2B New Runway 9S/27S with No Gate Constraints - Arrivals and Departures - Alternative #2

Same as Item #3. (1b) 3.1/3.1B, except arrivals do not utilize the "perimeter taxiway" to avoid active runways in route to the main terminal complex. Instead, in this Alternative #2, arrivals utilize Taxiway R to reach the main terminal complex, crossing Runway 9R/27L and Runway 9L/27R. Departures follow the outer taxiway to Runway 9S from the departure queues along Taxiways L and M for Runway 9L.

8. (1b) 3.3/3.3B New Runway 9S/27S with No Gate Constraints - Arrivals and Departures - Alternative #3

Same as Item #3. (1b) 3.2/3.2B, except arrivals utilize Taxiway N, instead of Taxiway R, to reach the main terminal complex, crossing Runway 9R/27L.

9. (1b) 3.1.3c/3.1.3cB New Runway 9S/27S with No Gate Constraints - Arrivals and Departures - Alternative #1

This experiment includes arrivals and departures for Runway 9S, in addition to assigning commuters to the "remote terminal" - Gate 30. The operations are on "perimeter taxiways" for arrivals and departures, in the event that somebody on Runway 9S has to utilize the main terminal complex.

10. (1b) 3.1.3cG/3.1.3cGB New Runway 9S/27S with No Gate Constraints - Arrivals and Departures - Alternative #1

Same as Item #9. (1b) 3.1.3c/3.1.3cG, except that general aviation, as well as commuters, utilize the "remote terminal" - Gate 30.

ATL Percent Distribution for Runway Usage - SIMMOD

(0) Current Airfield

Configuration 1 A = 8L,9R D = 8R,9L

		Percent Distribution Baseline		Future 1		Future 2	
8L ►	Arrivals = 8L	52%		52%		52%	
8R →	Departures = 8R		51%		50%		50%
9L →	Departures = 9L		49%		50%		50%
9R ►	Arrivals = 9R	48%		48%		48%	

(1a) 3 New Runway ARR only, Jets and Props (less than 100,000 lbs), No A/C from NW fix on 9s

Configuration 3 A = 8L,9R,9S D = 8R,9L

8L ►	Arrivals = 8L	48% (43%)*		48% (41%)		48% (41%)	
8R →	Departures = 8R		51%		50%		50%
9L →	Departures = 9L		49%		50%		50%
9R ►	Arrivals = 9R	30% (35%)		30% (37%)		30% (37%)	
9S ►	Arrivals = 9S	22%		22%		22%	

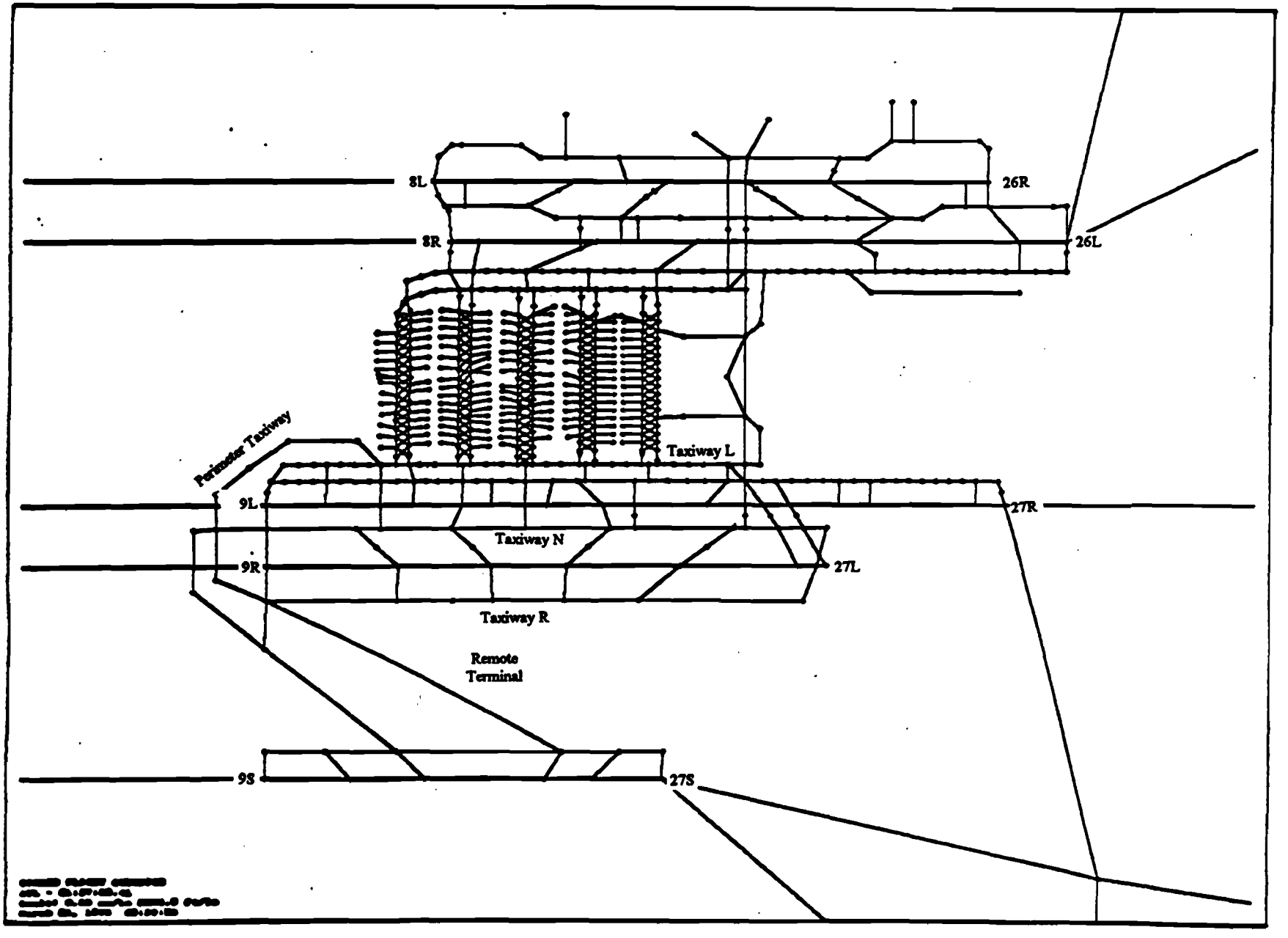
(1b) 3 New Runway ARR: Jets & Props, DEP: Props only (less than 100,000 lbs), No A/C from NW fix on 9s

Configuration 3 A = 8L,9R,9S D = 8R,9L,9S

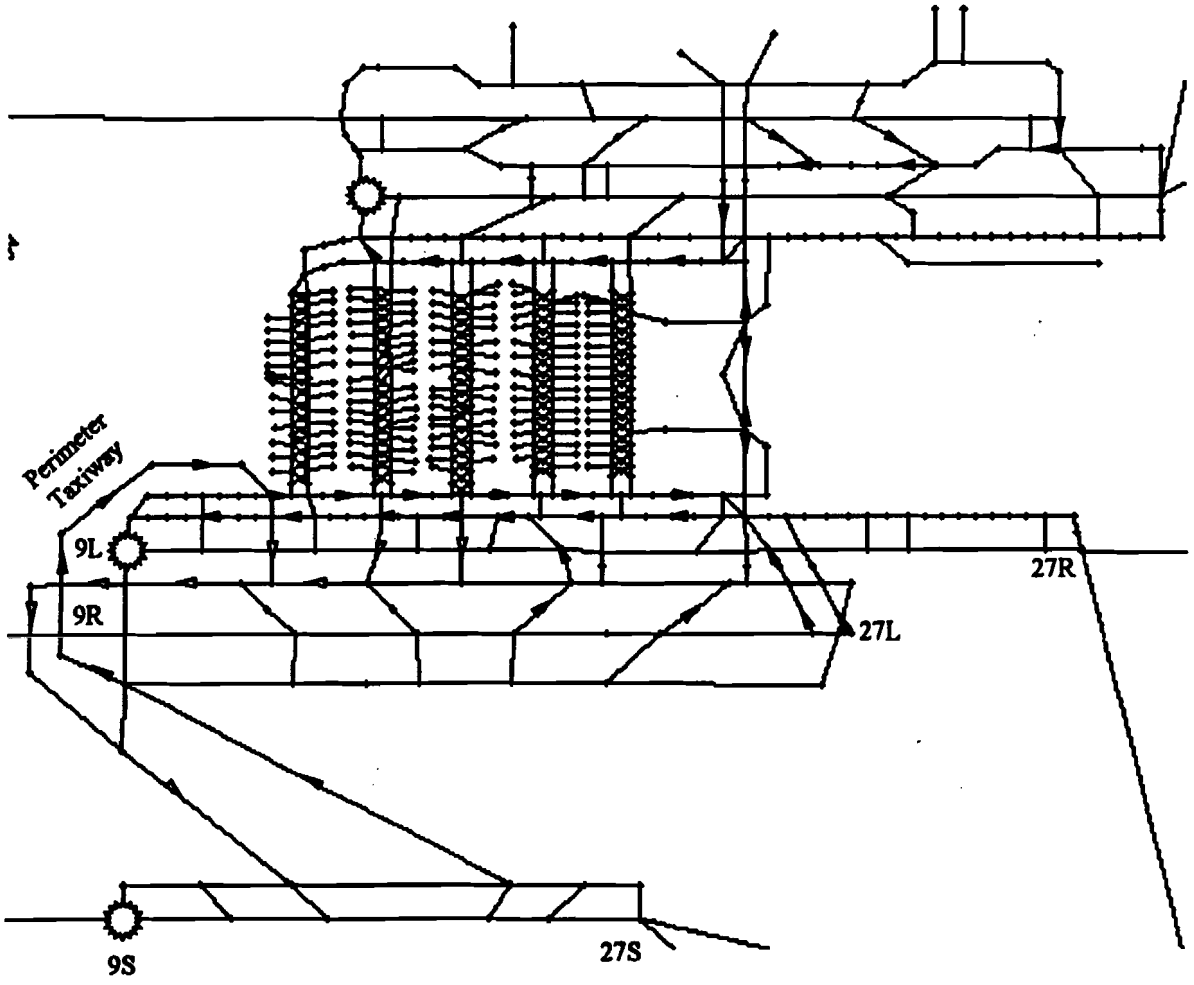
		Percent Distribution Baseline		Future 1		Future 2	
8L ►	Arrivals = 8L	48% (43%)		48% (41%)		48% (41%)	
8R →	Departures = 8R		52%		50%		50%
9L →	Departures = 9L		34%		34%		34%
9R ►	Arrivals = 9R	30% (35%)		30% (37%)		30% (37%)	
9S ►	Arrivals = 9S	22%		22%		23%	
9S →	Departures = 9S		14%		16%		16%

* ( ) signifies an attempt to balance arrivals between Runway 8L and Runway 9R with Runway 9S in operation.

ATLANTA LINK NODE STRUCTURE

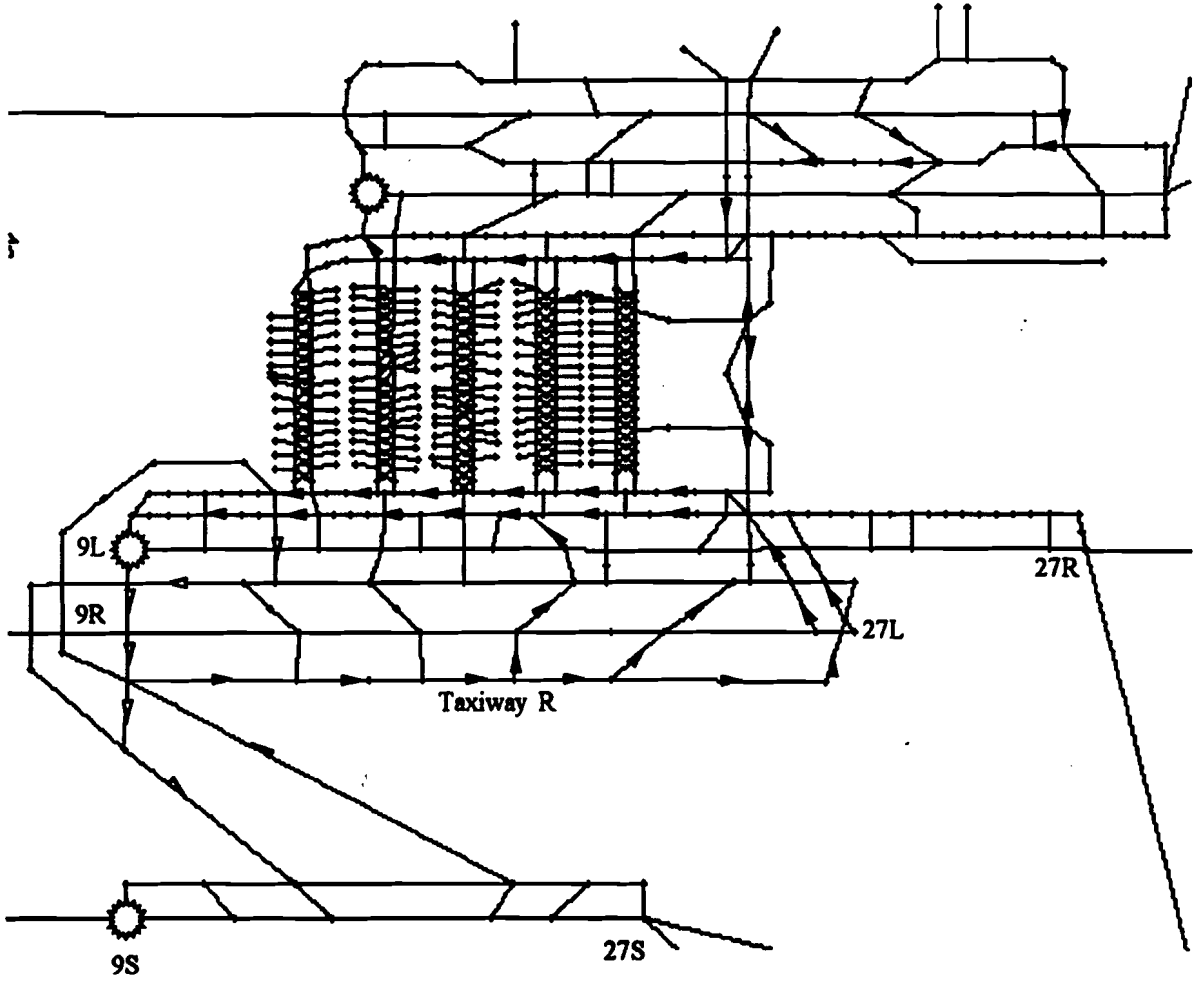


GENERAL TAXI FLOW
NEW RWY 9S - ARR & DEP
ALTERNATIVE 1 - PERIMETER TAXIWAY



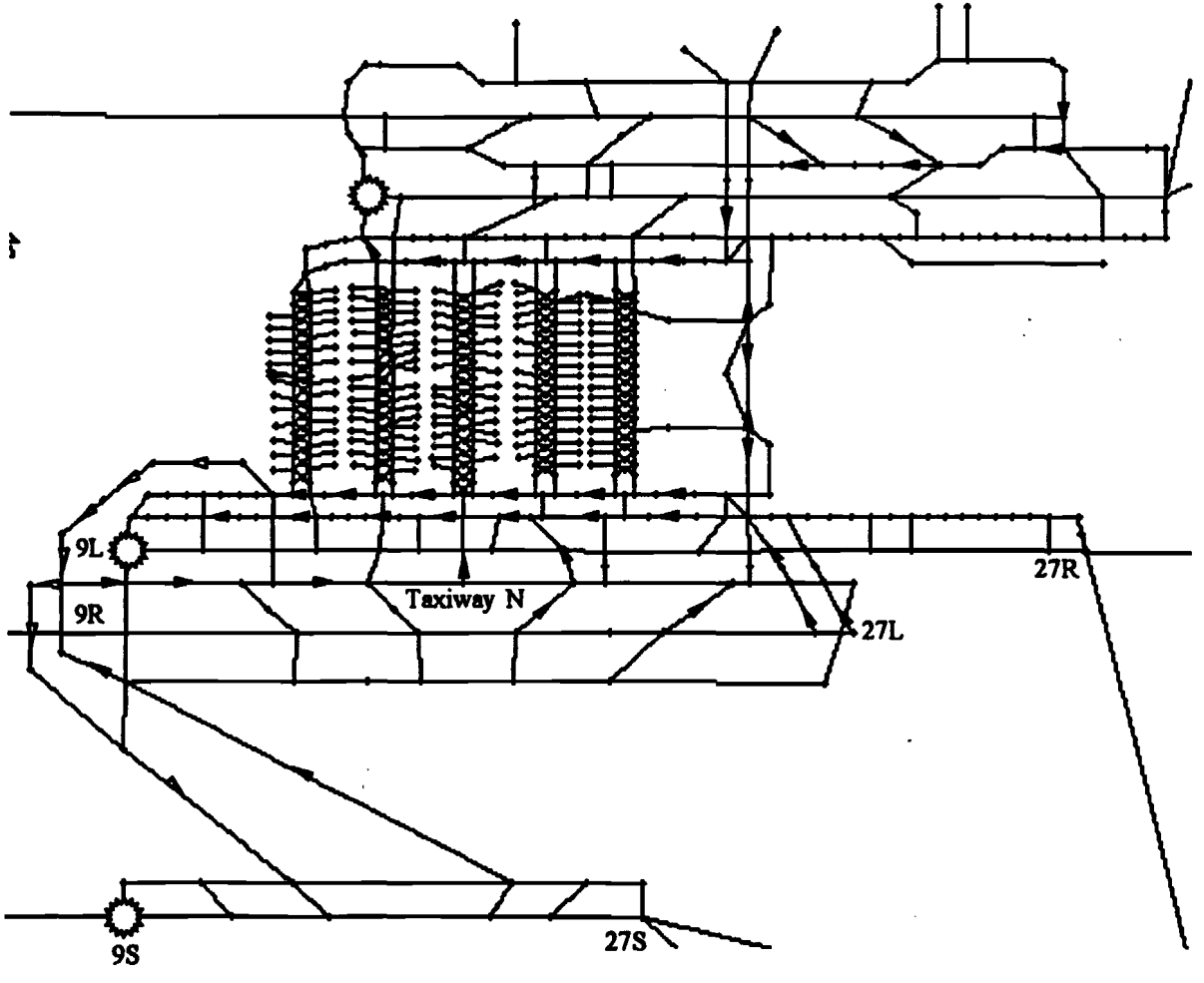
DEPARTURE QUEUE

GENERAL TAXI FLOW
NEW RWY 9S - ARR & DEP
ALTERNATIVE 2 - TAXIWAY R



DEPARTURE QUEUE

GENERAL TAXI FLOW
NEW RWY 9S - ARR & DEP
ALTERNATIVE 3 - TAXIWAY N



DEPARTURE QUEUE

SUMMARY RESULTS

Technical Summary Results show that there are quite a few Capacity Enhancement Alternatives that would provide significant savings benefits. Currently, the most likely implementable alternative, with significant savings, is the New Independent Runway 9S/27S - Arrivals Only, with alternative patterns of the taxiway system to reach the main terminal complex: Alternative #1 - Perimeter Taxiway; Alternative #2 - Taxiway R; and Alternative #3 - Taxiway N. It is expected that all of these alternative taxiway patterns will be utilized, based on changing operational needs.

The next two tables and exhibits present the Annual costs and Savings for select alternatives, with the average delay in minutes per operation.

The Current Airfield with no improvements shows annual costs and average delays per operation, as follows:

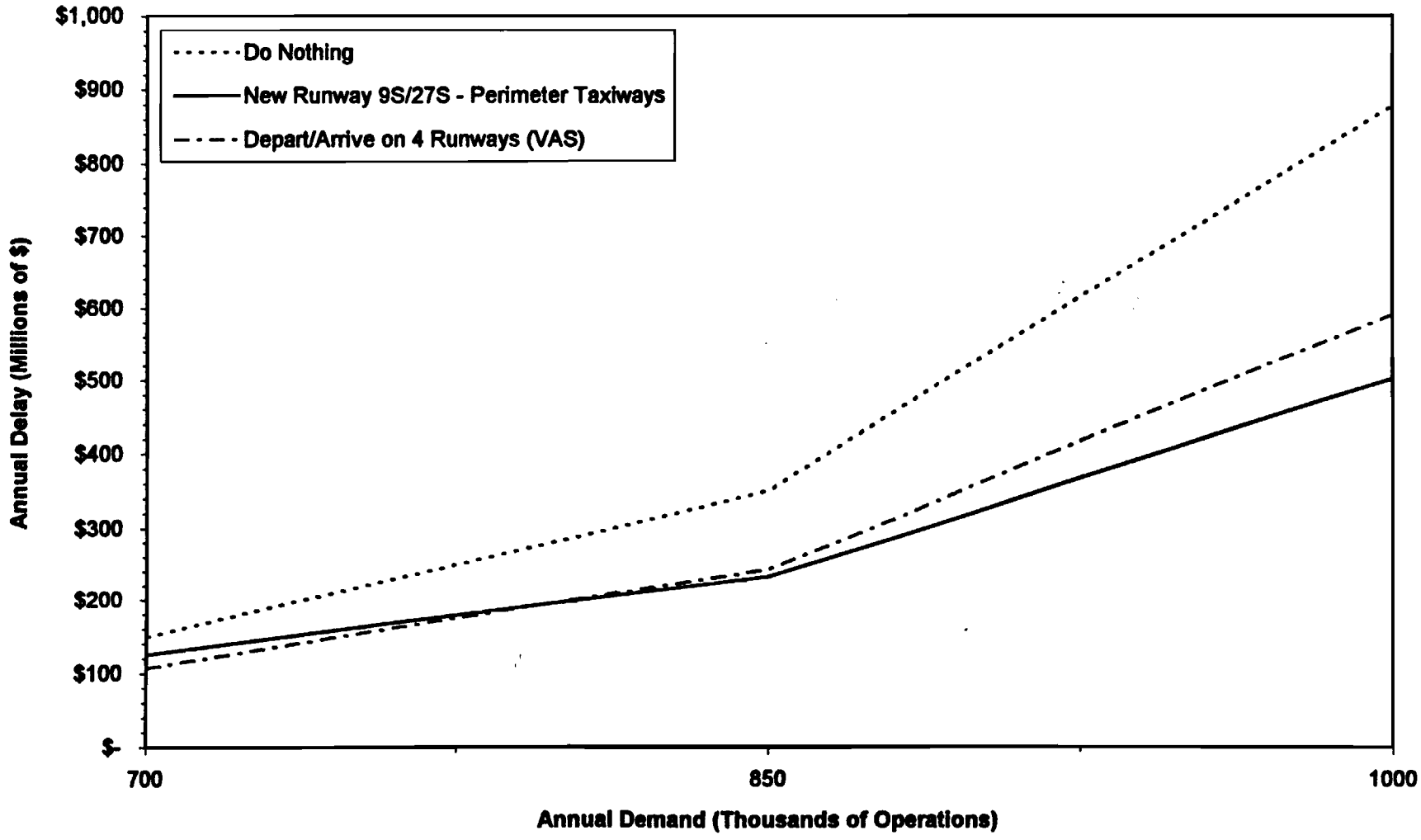
	Annual Delay Costs		Average Delay per Operation
	000 Hours	$ Millions	(Minutes)
Baseline	75.05	148.60	6.4
Future 1	177.87	348.63	12.6
Future 2	443.21	877.56	26.6

The associated annual savings for related improvements are as follows:

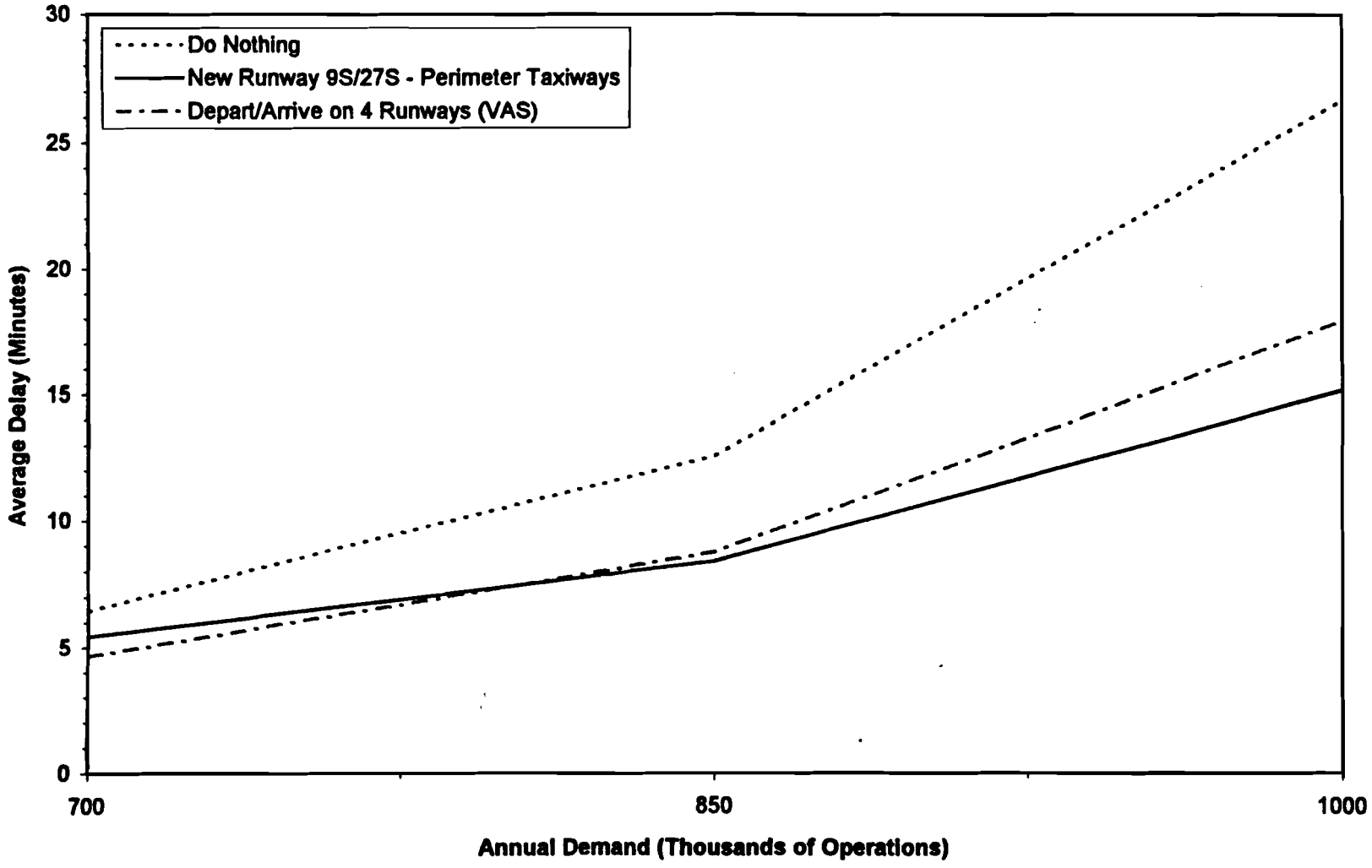
	Annual Savings					
	Baseline		Future 1		Future 2	
	000 Hours	$ Millions	000 Hours	$ Millions	000 Hours	$ Millions
New Independent Runway 9S/27S						
Arrivals Use Perimeter Taxiway	11.92	23.60	59.46	117.73	191.43	379.03
Arrivals Use Taxiway R	12.37	24.46	58.69	116.20	191.25	378.58
Arrivals Use Taxiway N	12.64	25.03	59.83	118.46	198.78	393.58
Departures/Arrivals on 4 Rwys/VAS	20.96	41.50	54.19	107.30	146.05	289.18

Annualized values @1980 per hour of $33 per minute of airport time.

Annual Delay Costs -- Capacity Enhancement Alternatives



Average Delays -- Capacity Enhancement Alternatives



Model Inputs

Model Inputs - 1995

Model Inputs	M - 1
Airfield	M - 1
Aircraft Operational Procedures	M - 16
Aircraft Traffic Demand	M - 26
Aircraft Assignments	M - 40
Comparison of Inputs - Atlanta 1987 & 1995 Studies	M - 55

MODEL INPUTS - 1995

Model Inputs developed for Atlanta consist of information regarding airfield, aircraft operational procedures, ATC procedures, aircraft traffic demand and aircraft assignments on the ground/in the terminal area.

Airfield

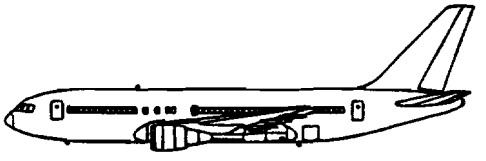
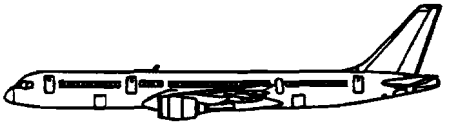
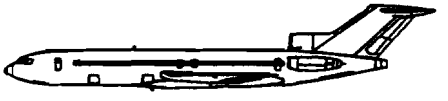
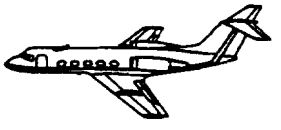
There are four runways at Atlanta: Runway 8R/26L, which is 10,000 feet long; runway 8L/26R, which is 9,000 feet long; runway 9R/27L, which is 9,000 feet long; and runway 9L/27R, which is 11,889 feet long. All four runways can accommodate all classes of aircraft. A brief description of exhibits representing the field are as follows:

The first two exhibits, entitled "Aircraft Classifications" and "Aircraft Classifications - Described," depict the aircraft classifications. Classifications of aircraft utilizing Atlanta have been redefined from the original four classes to six classes for this study

The next two exhibits describe the current airfield. The first exhibit, "Runways and Runway Exits - Current," depicts the runways and runway exits at the existing airport. The second exhibit, "Runway Exit Data, Current," shows the current runway exit usage and the arrival runway occupancy times (ROTs) by class for 8R, 8L, 9R, 9L; 26R, 26L, 27R and 27L runway operations at Atlanta. Each entry in the tables is composed of two lines: the first line gives the percentage of time an aircraft of a given class used each exit and the second line contains the average arrival occupancy time for each exit.

The last two exhibits describe the future airfield. The first of these exhibits, "Runways and Runway Exits - Future," depicts the runways and exits with the future runway at the airport, while the second exhibit, "Runway Exit Data, Future," shows the runway exit usage and arrival occupancy times for the proposed 9S to the south.

Aircraft Classifications

	New Class (Atlanta)	Original Class	
	1	D(1)	Heavy aircraft weighing more than 300,000 lbs.
	2	C(2)	Large B757 aircraft
	3	C(2)	Large aircraft weighing 100,000 to 300,000 lbs.
	4	C(2)	Large aircraft (jet) weighing 12,500 to 100,000 lbs.
	5	C(2)	Large aircraft (Turbo/Prop) weighing 12,500 to 100,000 lbs.
	6	B(3)/A(4)	Small aircraft weighing 12,500 lbs or less. (twin/single engine props)

AIRCRAFT CLASSIFICATIONS - DESCRIBED

New Class (Atlanta)	Original Class	TYPE OF AIRCRAFT[a]
6	A(4)/B(3)	Small, single-engine/Twin-engine aircraft (prop) weighing 12,500 pounds[b] or less (e.g., C208, C210, 172RG/BE55, C414, PA31).
5	C(2)	Large aircraft (prop) weighing more than 12,500 pounds[b] and up to 100,000 pounds[b] (AT72, BA31, EM2, SF34).
4	C(2)	Large aircraft (jet) weighing more than 12,500 pounds[b] and up to 100,000 pounds[b] (C560, FK10, LR35).
3	C(2)	Large aircraft weighing more than 100,000 pounds[b] and up to 300,000 pounds[b] (e.g., B737, B727, DC9, EA32, MD88).
2	C(2)	Large (B757) - Special class aircraft.
1	D(1)	Heavy aircraft[c] weighing more than 300,000 pounds (e.g., A300, B707 - 300 - 400 Series, B747, B767, Concorde, DC8S, IL62, L1011).

NOTES:

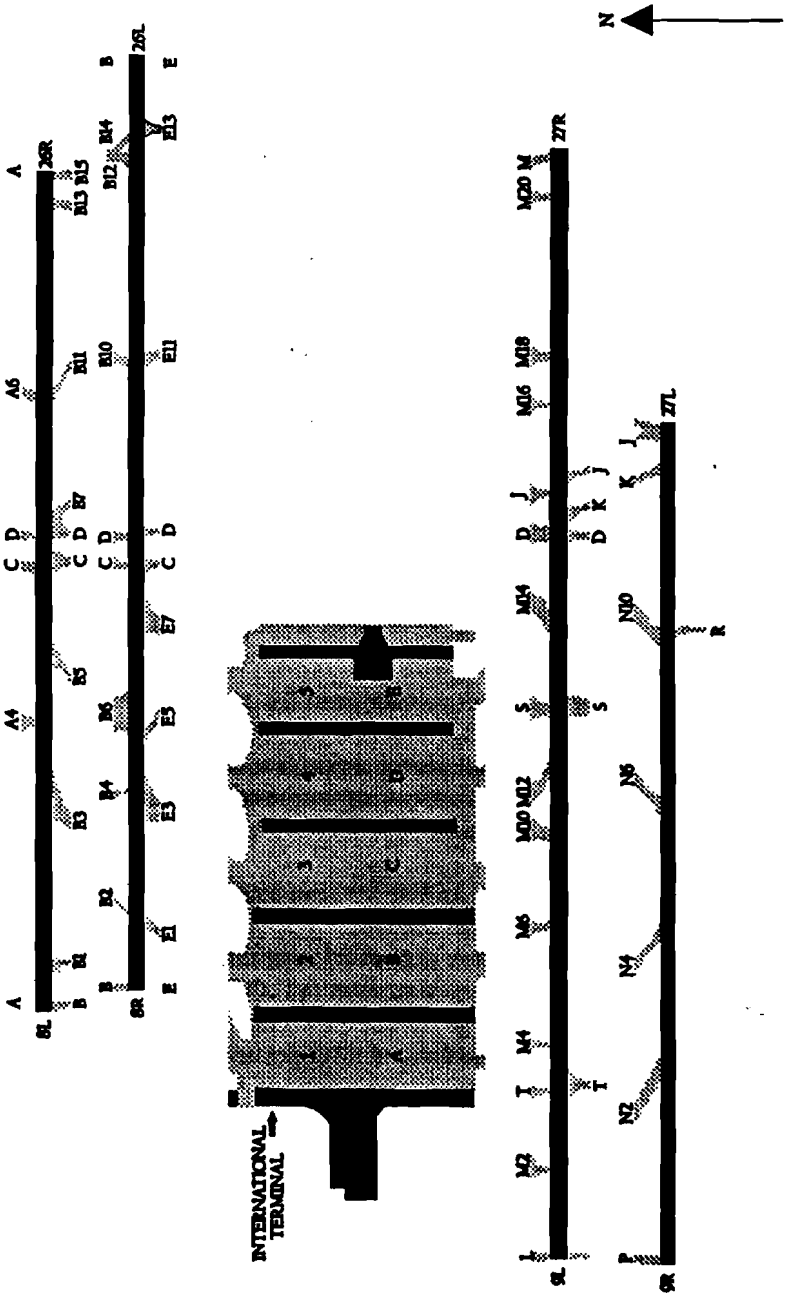
a For aircraft designator, see FAA Handbook 7340.1E with changes.
b Weights refer to maximum certified takeoff weights.
c Heavy aircraft are capable of takeoff weights of 300,000 pounds or more, whether or not they are operating at this weight during a particular phase of fight (reference FAA Handbook 7110.65 with changes)

Design Team:

Class 1 - Heavy (Greater than 300,000 lbs.)
Class 2 - Large (B757)
Class 3 - Large aircraft (Greater than 100,000 lbs)
Class 4 - Large aircraft jet (12,500 lbs to 100,000 lbs)
Class 5 - Large aircraft turbo/prop (12,500 lbs to 100,000 lbs)
Class 6 - Small aircraft (Singles and twins)

Factors considered for these new classification of aircraft include approach speeds and how arrivals are separated at the point of closest approach and take off weights for consideration in future airfield development.

RUNWAYS AND RUNWAY EXITS - CURRENT



Runway Exit Data, Current

North Runway 8R - East Flow

	Exit Name	B6/E5	E7	C	D	B10/E11	E13
	Distance	3000'	4000' (<)	4500'	4800'	6600' (<)	9200'
1	Utilization			10%	20%	60%	10%
	R.O.T. (seconds)			40	42	44	60
2	Utilization			20%	20%	60%	
	R.O.T. (seconds)			40	42	44	
3	Utilization			20%	20%	50%	10%
	R.O.T. (seconds)			38	40	42	55
4	Utilization		20%	30%	40%	10%	
	R.O.T. (seconds)		36	38	40	40	
5	Utilization		20%	30%	40%	10%	
	R.O.T. (seconds)		36	38	40	40	
6	Utilization		60%	30%	10%		
	R.O.T. (seconds)		34	36	40		

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Current

North Runway 8L - East Flow

	Exit Name	C	D	B7	A6	B11	B13	AR/B15
	Distance	4700'	5000'	5200' (<)	6400'	6500' (<)	8550'	9000'
1	Utilization				11%	56%	26%	7%
	R.O.T. (seconds)				45	44	60	65
2	Utilization			7%		90%	3%	
	R.O.T. (seconds)			38		41	55	
3	Utilization		4%	6%		84%	6%	
	R.O.T. (seconds)		37	35		40	55	
4	Utilization	7%	28%	28%	9%	28%		
	R.O.T. (seconds)	34	36	35	40	38		
5	Utilization	7%	28%	28%	9%	28%		
	R.O.T. (seconds)	34	36	35	40	38		
6	Utilization	62%	13%		25%			
	R.O.T. (seconds)	34	36		40			

(<) ANGLED EXIT

Adjusted per field data/ATL - ATCT

Runway Exit Data, Current

South Runway 9R - East Flow

	Exit Name	N6	N10	K	J
	Distance	4750' (<)	6600' (<)	8500'	8800'
1	Utilization		80%	15%	5%
	R.O.T. (seconds)		46	60	65
2	Utilization	7%	93%		
	R.O.T. (seconds)	40	41		
3	Utilization	7%	86%	7%	
	R.O.T. (seconds)	38	40	50	
4	Utilization	74%	26%		
	R.O.T. (seconds)	36	38		
5	Utilization	74%	26%		
	R.O.T. (seconds)	36	38		
6	Utilization	100%			
	R.O.T. (seconds)	36			

(<) ANGLED EXIT

Adjusted per field data

Runway Exit Data, Current

South Runway 9L - East Flow

	Exit Name Distance	M10 4450'(<)	M12 5300'	S 5850'	M14 7000'(<)	D/J 8000'	M16 9200'	M20 11,400'
1	Utilization				80%	10%	5%	5%
	R.O.T. (seconds)				44	50	55	60
2	Utilization			15%	80%	5%		
	R.O.T. (seconds)			40	42	45		
3	Utilization	15%		20%	60%	5%		
	R.O.T. (seconds)	36		38	40	45		
4	Utilization	25%		50%	25%			
	R.O.T. (seconds)	36		38	40			
5	Utilization	25%		50%	25%			
	R.O.T. (seconds)	36		38	40			
6	Utilization	60%		30%	10%			
	R.O.T. (seconds)	36		38	40			

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Current

North Runway 26R - West Flow

	Exit Name	D	B5	A4	B3	B1	B
	Distance	4000'	5300'	6000'	6900'(<)	8550'	9000'
1	Utilization		10%	5%	70%	10%	5%
	R.O.T. (seconds)		40	44	46	60	65
2	Utilization		10%	5%	80%	5%	
	R.O.T. (seconds)		40	42	41	55	
3	Utilization		25%	5%	65%	5%	
	R.O.T. (seconds)		38	42	40	55	
4	Utilization	30%	65%	5%			
	R.O.T. (seconds)	36	38	42			
5	Utilization	30%	65%	5%			
	R.O.T. (seconds)	36	38	42			
6	Utilization	30%	65%	5%			
	R.O.T. (seconds)	35	36	40			

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Current

North Runway 26L - West Flow

	Exit Name	D	C/E7	B6/E5	B4/E3	B2/E1
	Distance	5000'	5400'(<)	6800'	7800'(<)	9200'(<)
1	Utilization		20%	25%	45%	10%
	R.O.T. (seconds)		44	50	55	60
2	Utilization		25%	25%	50%	
	R.O.T. (seconds)		44	50	55	
3	Utilization		25%	20%	30%	25%
	R.O.T. (seconds)		42	48	50	55
4	Utilization	20%	30%	20%	30%	
	R.O.T. (seconds)	40	42	48	50	
5	Utilization	20%	30%	20%	30%	
	R.O.T. (seconds)	40	42	48	50	
6	Utilization	60%	30%	10%		
	R.O.T. (seconds)	38	40	48		

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Current

South Runway 27R - West Flow

	Exit Name	D	S/M12	M10	M6	T
	Distance	4000'	5800'(<)	7300'	8200'	10000'
1	Utilization		30%	30%	30%	10%
	R.O.T. (seconds)		44	48	55	60
2	Utilization			40%	30%	20%
	R.O.T. (seconds)			44	48	55
3	Utilization	20%	40%	30%	10%	
	R.O.T. (seconds)	40	44	48	55	
4	Utilization	40%	50%	10%		
	R.O.T. (seconds)	40	44	48		
5	Utilization	40%	50%	10%		
	R.O.T. (seconds)	40	44	48		
6	Utilization	50%	40%	10%		
	R.O.T. (seconds)	40	44	48		

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Current

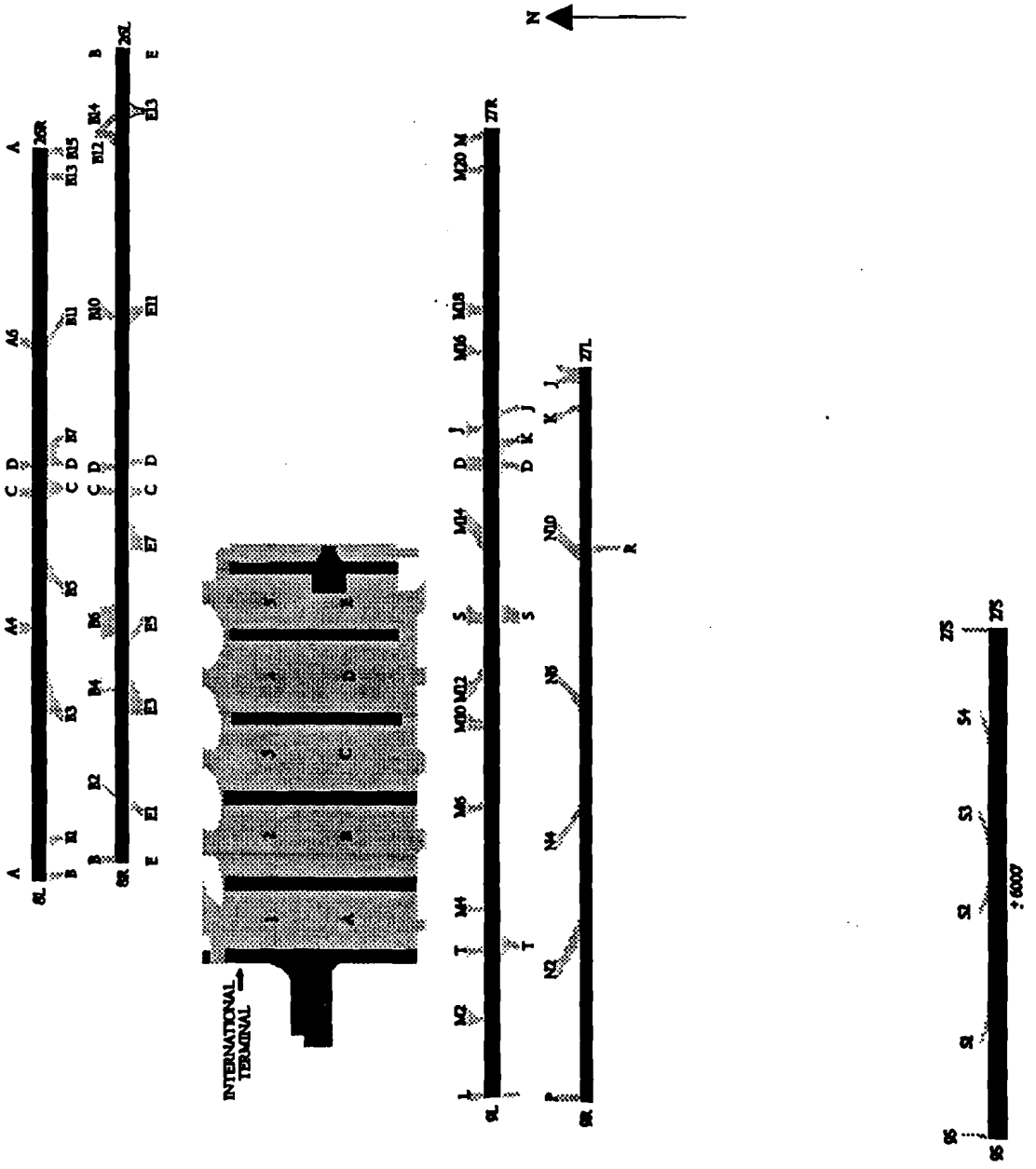
South Runway 27L - West Flow

	Exit Name	N6	N4	N2	P
	Distance	4250'	5500'(<)	7000'(<)	9000'
1	Utilization		10%	80%	10%
	R.O.T. (seconds)		42	49	62
2	Utilization		10%	85%	5%
	R.O.T. (seconds)		40	42	55
3	Utilization	5%	40%	40%	5%
	R.O.T. (seconds)	38	40	42	55
4	Utilization	5%	35%	60%	
	R.O.T. (seconds)	36	37	38	
5	Utilization	5%	35%	60%	
	R.O.T. (seconds)	36	37	38	
6	Utilization	15%	80%	5%	
	R.O.T. (seconds)	34	37	38	

(<) ANGLED EXIT

Estimated per field data

RUNWAYS AND RUNWAY EXITS - FUTURE



Runway Exit Data, Future

New South Runway 9S - East Flow

	Exit Name Distance	9S	S1	S2	S3 4000'(<)	S4 5000'(<)	27S 6000'
1	Utilization						100%
	R.O.T. (seconds)						60
2	Utilization						100%
	R.O.T. (seconds)						55
3	Utilization						100%
	R.O.T. (seconds)						45
4	Utilization				40%	30%	30%
	R.O.T. (seconds)				34	36	40
5	Utilization				40%	30%	30%
	R.O.T. (seconds)				34	36	40
6	Utilization				60%	25%	15%
	R.O.T. (seconds)				34	36	40

(<) ANGLED EXIT

Estimated per field data

Runway Exit Data, Future

New South Runway 27S - West Flow

	Exit Name Distance	27S	S4	S3	S2 4000'(<)	S1 5000'(<)	9S 6000'
1	Utilization						100%
	R.O.T. (seconds)						60
2	Utilization						100%
	R.O.T. (seconds)						55
3	Utilization						100%
	R.O.T. (seconds)						45
4	Utilization				40%	30%	30%
	R.O.T. (seconds)				34	36	40
5	Utilization				40%	30%	30%
	R.O.T. (seconds)				34	36	40
6	Utilization				60%	25%	15%
	R.O.T. (seconds)				34	36	40

(<) ANGLED EXIT

Estimated per field data

Aircraft Operational Procedures

Aircraft operational procedures are identified as Visual and Instrument procedures to be adopted for three configurations in each direction.

The first exhibit presents a summary of the flight (approach) procedures to be adopted under various ceiling/visibility conditions.

The next four exhibits, "Atlanta Separations," present Atlanta aircraft separations. The VFR1 and VFR2 aircraft separations values are based on Atlanta field data, while the IFR1 and IFR2 aircraft separations are based on FAA-EM-78-8A Report: Parameters of Future ATC Systems Relating to Airport Capacity/Delay, April 1978. These IFR values are adjusted to include the effects of 1/2 NM waiver for Arrival-Arrival separations.

The next exhibit presents air traffic control dependencies relative to parallel runway separations.

The final two exhibits of this section present the gate service times and the arrival aircraft lateness distribution for Atlanta.

ATLANTA - Flight Approach Procedures Review

Visual Procedures

1. VFR1 Visual Approaches

VFR1 separations based on visual procedures with current Atlanta VFR field approach speeds (156,143,154,147,147,153) and common approach length of 6 NM. There are no dependencies between operations on the two close parallel pair of runways either on the north or the south side of the terminal complex.

2. VFR2 with ILS Approaches

All parameters are the same as in VFR1 except, arrival - arrival (A/A) separations on the same runway are modified to account for instrument separations for lighter trailing aircraft in each class. A/A separations are modified based on "time" intervals, and current ATL VFR field approach speeds.

Instrument Procedures

3. IFR1 - IFR Weather with ILS Cat I Approaches

IFR1 separations based on instrument flight procedures with instrument approach speeds modified to higher values then those found in the FAA 78-8A report to account for currently found higher speeds then originally considered for IFR approaches (IFR1 approach speeds = 150, 140, 140, 140,140, 135). Aircraft separations are for 1/2 NM waiver and are based on approach speeds at the common approach. Common approach = 10 NM. In IFR1, no dependencies are considered between operations on the two pairs of close parallel runways, either on the north or the south side of the complex.

4. IFR2 - Hard IFR Weather CAT II and III Approaches

IFR2 separations based on instrument flight procedures with instrument approach speeds as identified in the FAA 78-8A report have been adopted, i.e., flying by the book. IFR standard speeds of 140,130,130,130,130,120 and common approach = 10 NM. IFR separations have been modified at ATL for 1/2 NM waiver. Consideration is given to dependencies between operations on the close parallel runways. Specifically arrival/departure and departure/arrival are considered as dependent operations on both pairs, on the north and south complexes. However, no dependency is considered between the operations on the north and south runway complexes.

Following are the three sets of approach speeds:

1. Atlanta average approach speeds at common approach (ARTS data) (For VFR1 and VFR2):

Class	Take-Off Weight	Avg. Speed (Knots)
1	300,000 lbs. +	155.6
2	B757	142.7
3	100,000 - 300,000 lbs.	153.6
4	12,500 - 100,000 lbs. (Jets)	146.5
5	12,500 - 100,000 lbs. (Props)	146.5
6	under 12,500 lbs	153.0

Source: Atlanta ARTS data at the common approach.

2. Modified average approach speeds (For IFR1):

Class	Take-Off Weight	Avg. Speed (Knots)
1	300,000 lbs. +	150.0
2	B757	140.0
3	100,000 - 300,000 lbs.	140.0
4	12,500 - 100,000 lbs. (Jets)	140.0
5	12,500 - 100,000 lbs. (Props)	140.0
6	under 12,500 lbs	135.0

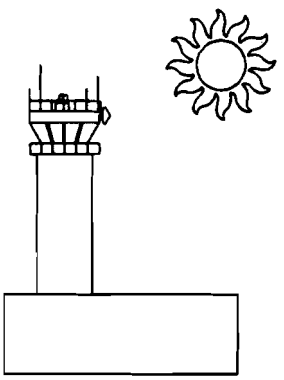
3. Standard average approach speeds (For IFR2):

Class	Take-Off Weight	Avg. Speed (Knots)
1	300,000 lbs. +	140.0
2	B757	130.0
3	100,000 - 300,000 lbs.	130.0
4	12,500 - 100,000 lbs. (Jets)	130.0
5	12,500 - 100,000 lbs. (Props)	130.0
6	under 12,500 lbs	120.0

FLIGHT (APPROACH) PROCEDURES

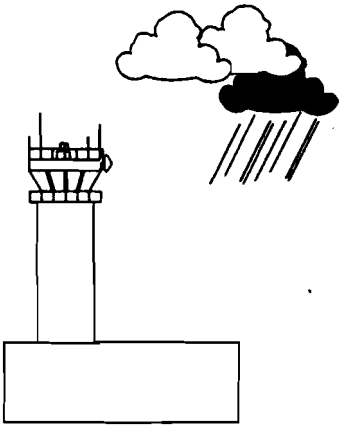
CEILING (FT) / VISIBILTY (MI)

≥ 1000 FT/5MI



87%
Visual Procedures

<1000 FT/5 MI



13%
Instrument Procedures

	Approaches	Visibility/Ceiling	Occurrence (%)
Visual Procedures	VFR1	5 miles/5,000 ft.	52
	VFR2	3-5 miles/1,000 - 5,000 ft.	35
Instrument Procedures	IFR1	2,400 ft. RVR - 3 miles/200 - 1,000 ft.	11
	IFR2	600 ft. RVR - 2,400 ft. RVR/0 - 200 ft.	2
			100

ATLANTA VFR1 SEPARATIONS*

A/A (NM)		Trail A/C 1	2	3	4	5	6
	1	3.64	2.98	3.21	3.06	3.06	2.81
	2	3.82	2.98	3.80	3.63	3.63	4.97
Lead A/C	3	2.86	2.93	3.00	2.70	2.70	2.81
	4	2.86	2.43	2.82	2.87	2.87	3.37
	5	2.86	2.43	2.82	2.87	2.87	3.37
	6	3.85	2.79	3.00	2.08	2.08	2.17

D/D (MIN)		Trail A/C 1	2	3	4	5	6
	1	1.72	1.63	1.55	1.95	1.95	1.95
	2	1.65	1.40	1.32	1.02	1.02	1.95
Lead A/C	3	0.85	0.78	0.78	0.77	0.77	1.08
	4	1.33	1.08	1.17	0.72	0.72	0.70
	5	1.33	1.08	1.17	0.72	0.72	0.70
	6	1.33	1.08	1.17	0.77	0.77	0.70

D/A (NM)		Trail A/C 1	2	3	4	5	6
	1	1.69	1.55	1.67	1.59	1.59	1.66
	2	1.69	1.55	1.67	1.59	1.59	1.66
Lead A/C	3	1.69	1.55	1.67	1.59	1.59	1.66
	4	1.69	1.55	1.67	1.59	1.59	1.66
	5	1.69	1.55	1.67	1.59	1.59	1.66
	6	1.48	1.36	1.46	1.40	1.40	1.45

A/D (MIN)		Trail A/C 1	2	3	4	5	6
	1	0.83	0.83	0.83	0.83	0.83	0.83
	2	0.69	0.69	0.69	0.69	0.69	0.69
Lead A/C	3	0.68	0.68	0.68	0.68	0.68	0.68
	4	0.61	0.61	0.61	0.61	0.61	0.61
	5	0.61	0.61	0.61	0.61	0.61	0.61
	6	0.60	0.60	0.60	0.60	0.60	0.60

* Distance based on Atlanta Field Approach Speed at Common Approach..

From Exhibit 8, Atlanta Data Package #5, Appendix, March 1995

ATLANTA VFR2 SEPARATIONS*

A/A (NM)		Trail A/C 1	2	3	4	5	6
	1	3.64**	2.98	6.07	5.84	5.84	6.99
	2	3.66	2.98	3.80	4.61	4.61	5.99
Lead A/C	3	2.86	2.93	3.00	2.70	2.70	4.99
	4	2.86	2.43	2.82	2.87	2.87	3.27
	5	2.86	2.43	2.82	2.87	2.87	3.27
	6	3.66	2.79	3.00	2.08	2.08	2.17

D/D (MIN)		Trail A/C 1	2	3	4	5	6
	1	1.72	1.63	1.55	1.95	1.95	1.95
	2	1.65	1.40	1.32	1.02	1.02	1.95
Lead A/C	3	0.85	0.78	0.78	0.77	0.77	1.08
	4	1.33	1.08	1.17	0.72	0.72	0.70
	5	1.33	1.08	1.17	0.72	0.72	0.70
	6	1.33	1.08	1.17	0.77	0.77	0.70

D/A (NM)		Trail A/C 1	2	3	4	5	6
	1	1.69	1.55	1.67	1.59	1.59	1.66
	2	1.69	1.55	1.67	1.59	1.59	1.66
Lead A/C	3	1.69	1.55	1.67	1.59	1.59	1.66
	4	1.69	1.55	1.67	1.59	1.59	1.66
	5	1.69	1.55	1.67	1.59	1.59	1.66
	6	1.48	1.36	1.46	1.40	1.40	1.45

A/D (MIN)		Trail A/C 1	2	3	4	5	6
	1	0.83	0.83	0.83	0.83	0.83	0.83
	2	0.69	0.69	0.69	0.69	0.69	0.69
Lead A/C	3	0.68	0.68	0.68	0.68	0.68	0.68
	4	0.61	0.61	0.61	0.61	0.61	0.61
	5	0.61	0.61	0.61	0.61	0.61	0.61
	6	0.60	0.60	0.60	0.60	0.60	0.60

* VFR2 Separations are based on VFR values adjusted for ILS Approaches.
** Distance based on Atlanta Field Approach Speed at Common Approach.

From Exhibit 8, Atlanta Data Package #5, Appendix, March 1995

EXHIBIT 9 - ATLANTA IFR1 SEPARATIONS*

Report FAA-EM-78-8A

A/A (NM)

		Trail A/C 1	2	3	4	5	6
	1	4.89	5.84	5.84	5.84	5.84	6.81
	2	4.89	4.84	4.84	4.84	4.84	5.81
Lead A/C	3	3.39	3.34	3.34	3.34	3.34	4.81
	4	3.39	3.34	3.34	3.34	3.34	4.81
	5	3.39	3.34	3.34	3.34	3.34	4.81
	6	3.39	3.34	3.34	3.34	3.34	3.31

D/D (MIN)

		Trail A/C 1	2	3	4	5	6
	1	1.50	2.00	2.00	2.00	2.00	2.00
	2	1.00	1.00	1.00	1.00	1.00	1.00
Lead A/C	3	1.00	1.00	1.00	1.00	1.00	1.00
	4	1.00	1.00	1.00	1.00	1.00	1.00
	5	1.00	1.00	1.00	1.00	1.00	1.00
	6	1.00	1.00	1.00	1.00	1.00	1.00

D/A (NM)

		Trail A/C 1	2	3	4	5	6
	1	2.00	2.00	2.00	2.00	2.00	2.00
	2	2.00	2.00	2.00	2.00	2.00	2.00
Lead A/C	3	2.00	2.00	2.00	2.00	2.00	2.00
	4	2.00	2.00	2.00	2.00	2.00	2.00
	5	2.00	2.00	2.00	2.00	2.00	2.00
	6	2.00	2.00	2.00	2.00	2.00	2.00

A/D (MIN)

		Trail A/C 1	2	3	4	5	6
	1	0.83	0.83	0.83	0.83	0.83	0.83
	2	0.69	0.69	0.69	0.69	0.69	0.69
Lead A/C	3	0.68	0.68	0.68	0.68	0.68	0.68
	4	0.61	0.61	0.61	0.61	0.61	0.61
	5	0.61	0.61	0.61	0.61	0.61	0.61
	6	0.60	0.60	0.60	0.60	0.60	0.60

* IFR1 separations are adjusted for 1/2 NM Waiver and distances are based on Modified Approach Speed at Common Approach.

From Exhibit 9, Atlanta Data Package #5, Appendix, March 1995

EXHIBIT 9 - ATLANTA IFR2 SEPARATIONS*

Report FAA-EM-78-8A

A/A (NM)

		Trail A/C 1	2	3	4	5	6
	1	5.16	6.07	6.07	6.07	6.07	6.71
	2	5.16	5.07	5.07	5.07	5.07	5.71
Lead A/C	3	3.66	3.57	3.57	4.07	4.07	4.71
	4	3.66	3.57	3.28	3.28	3.28	4.71
	5	3.66	3.57	3.28	3.28	3.28	4.71
	6	3.66	3.28	3.28	3.28	3.28	3.21

D/D (MIN)

		Trail A/C 1	2	3	4	5	6
	1	1.50	2.00	2.00	2.00	2.00	2.00
	2	1.00	1.00	1.00	1.00	1.00	1.00
Lead A/C	3	1.00	1.00	1.00	1.00	1.00	1.00
	4	1.00	1.00	1.00	1.00	1.00	1.00
	5	1.00	1.00	1.00	1.00	1.00	1.00
	6	1.00	1.00	1.00	1.00	1.00	1.00

D/A (NM)

		Trail A/C 1	2	3	4	5	6
	1	2.00	2.00	2.00	2.00	2.00	2.00
	2	2.00	2.00	2.00	2.00	2.00	2.00
Lead A/C	3	2.00	2.00	2.00	2.00	2.00	2.00
	4	2.00	2.00	2.00	2.00	2.00	2.00
	5	2.00	2.00	2.00	2.00	2.00	2.00
	6	2.00	2.00	2.00	2.00	2.00	2.00

A/D (MIN)

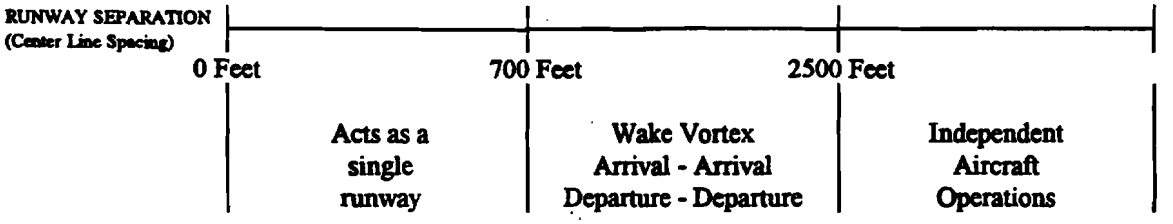
		Trail A/C 1	2	3	4	5	6
	1	0.83	0.83	0.83	0.83	0.83	0.83
	2	0.69	0.69	0.69	0.69	0.69	0.69
Lead A/C	3	0.68	0.68	0.68	0.68	0.68	0.68
	4	0.61	0.61	0.61	0.61	0.61	0.61
	5	0.61	0.61	0.61	0.61	0.61	0.61
	6	0.60	0.60	0.60	0.60	0.60	0.60

* IFR2 separations are adjusted for 1/2 NM Waiver and distances are based on Standard Approach Speed at Common Approach.

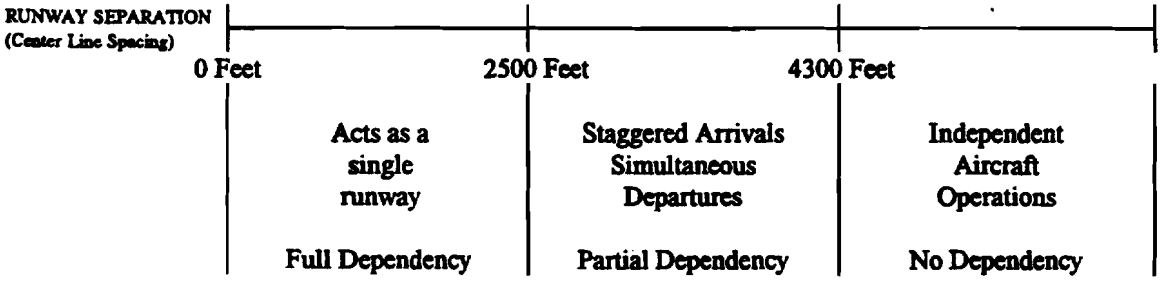
From Exhibit 9, Atlanta Data Package #5, Appendix, March 1995

ATC DEPENDENCIES RELATIVE TO PARALLEL RUNWAYS

VFR1 & 2, IFR1



IFR2



AIRCRAFT GATE SERVICE TIMES
(In Minutes)

Aircraft Class:

1 Cumulative		2 Cumulative		3 Cumulative		4 Cumulative		5 Cumulative		6 Cumulative	
Time	Prob.	Time	Prob.	Time	Prob.	Time	Prob.	Time	Prob.	Time	Prob.
40	0.12	35	.40	25	0.40	15	.30	15	.30	10	.40
45	0.31	45	.80	40	0.59	20	.45	20	.45	15	.80
60	0.43	55	.95	50	0.80	25	.60	25	.60	20	.90
75	0.55	65	1.00	60	0.89	35	.95	35	.95	25	1.00
85	1.00			65	1.00	45	1.00	45	1.00		

* Aircraft gate service times to be agreed upon by the Design Team.

ATL Arrival Aircraft Lateness Distribution

Amount by which actual arrival time exceeds scheduled arrival time (Minutes)	Distribution of aircraft lateness (%)	Cumulative (%)	
-15:00	5.4	5.4	Early
-05:00	19.7	25.1	
5:00	33.2	58.3	On Time
15:00	14.0	72.3	
30:00	16.0	88.3	Late
45:00	6.4	94.7	
60:00	3.2	97.9	
60:00+	2.1	100.0	

Source: ATL - ATCT (Traffic Management Unit Listing)

Aircraft Traffic Demand

Traffic demand is initially identified as annual operations, actual (1993 - 1994) and forecast for the future. Daily operations and their distribution (monthly, daily and hourly) information are reviewed to identify type and class of aircraft operations.

The first exhibit presents the aircraft operations forecast for Atlanta.

"Monthly Variation of Demand" presents, numerically and graphically, the monthly variation of demand for Atlanta.

The next exhibit, entitled "Profile of Daily Demand - Hourly Distribution," presents, graphically, the daily demand by hour, for arrivals, departures, and total operations for three demand levels (Baseline, Future 1, Future 2) at ATL.

The next two exhibits present a numerical breakdown of the hourly operations at Atlanta. The first of these exhibits, "ATL Hourly Aircraft Operations by Type," presents hourly aircraft operations by type of operation for three demand levels at ATL. The second, "ATL Hourly Aircraft Operations by Class," presents hourly aircraft operations by class for three demand levels at ATL.

The daily traffic percent distribution for Atlanta by class and runway is presented in the next exhibit.

"Miscellaneous Input Data" and "Miscellaneous Input Data for ATL" present other input data for Atlanta, such as Departure Runway Occupancy Times and Airfield Mix.

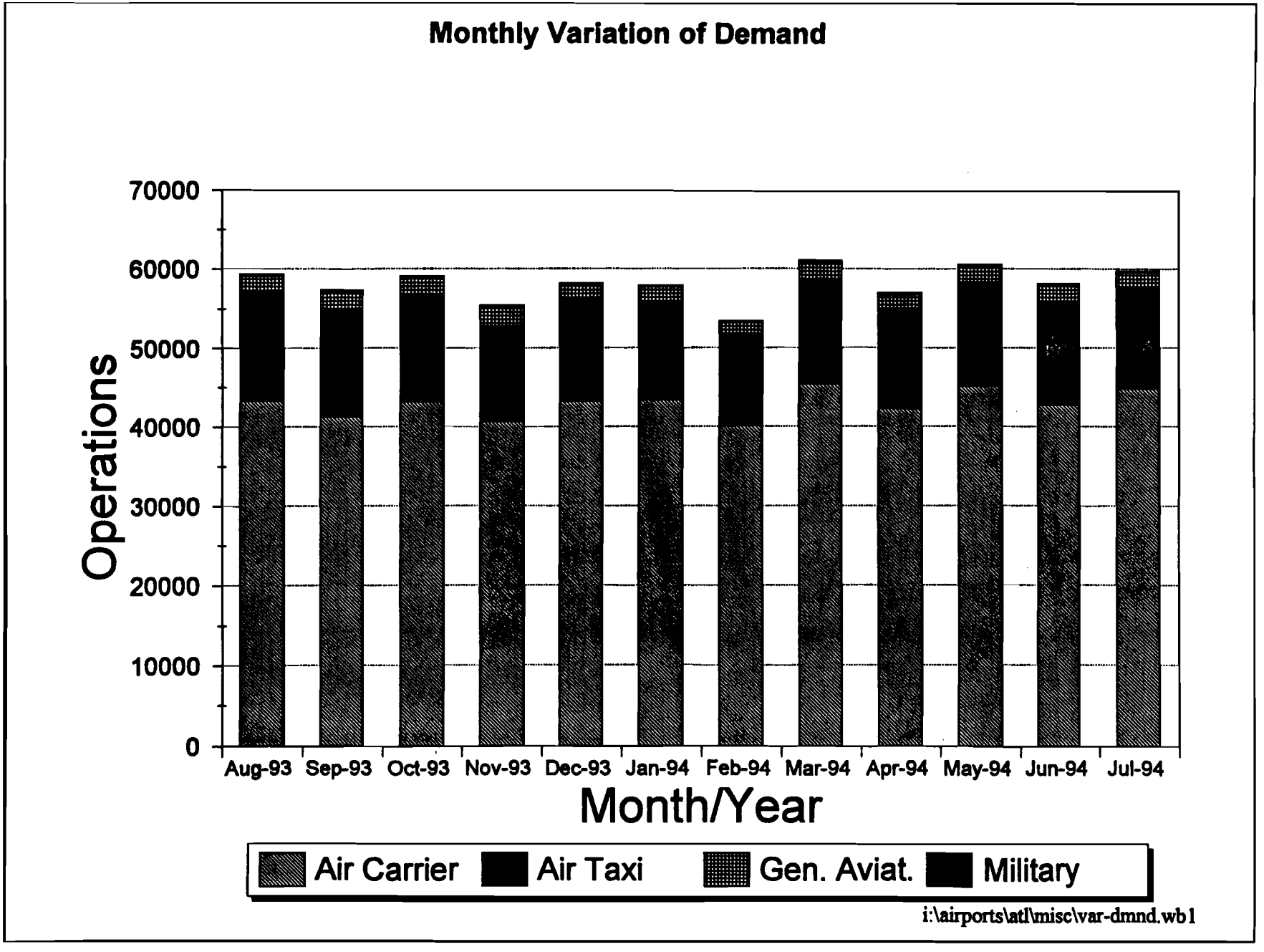
AIRCRAFT OPERATIONS FORECAST
William B. Hartsfield International

Demand Level	Annual Operations (000)	Daily Operations (with 333 Equivalent days)	Growth Rate
Baseline	700	2093	
Future 1	850	2550	1.22
Future 2	1000	3000	1.43
Future 3	1500	4500	2.15

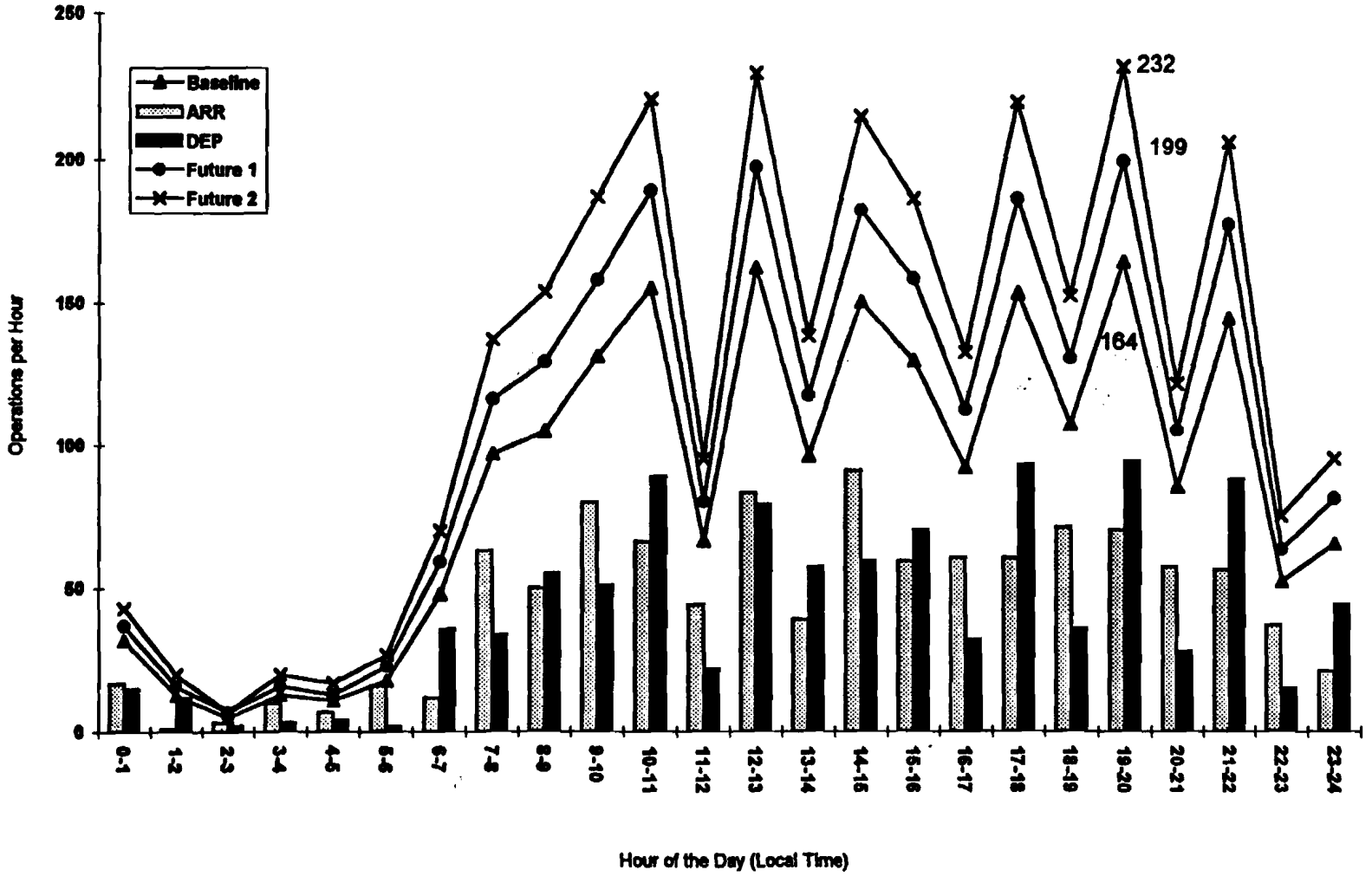
Note: Adopted by Design Team for ATL Update Plan.

MONTHLY VARIATION OF DEMAND

	Air Carrier AC	Air Taxi AT	Gen. Aviat. GA	Military MIL	Monthly Total	
Aug-93	43237	14086	1807	311	59441	
Sept-93	41186	13678	2137	408	57409	
Oct-93	43081	13674	2108	297	59160	
Nov-93	40592	12299	2189	367	55447	
Dec-93	43123	13234	1688	124	58169	
Jan-94	43303	12521	1939	146	57909	
Feb-94	40052	11564	1700	159	53475	
Mar-94	45280	13353	2217	216	61066	Peak Month
Apr-94	42218	12556	2022	222	57018	
May-94	45098	13337	1893	248	60576	
Jun-94	42683	13245	2071	197	58196	
Jul-94	44747	13001	1761	221	59730	
Total	514600	156548	23532	2916	697596	
% of Total	73.8%	22.4%	3.4%	0.4%	100.0%	


Monthly Variation of Demand
70000
60000
50000
40000
30000
20000
10000
0
Operations
Aug-93
Sep-93
Oct-93
Nov-93
Dec-93
Jan-94
Feb-94
Mar-94
Apr-94
May-94
Jun-94
Jul-94
Month/Year
Air Carrier
Air Taxi
Gen. Aviat.
Military
i:\airports\atl\misc\var-dmnd.wb1

Profile of Daily Demand - Hourly Distribution



ATL Hourly Aircraft Operations by Type, Baseline

Arrivals						Departures						A&D
Hour	AC	AT	GA	MIL	Total	Hour	AC	AT	GA	MIL	Total	Total
0-1	1	15	1	0	17	0-1	0	15	0	0	15	32
1-2	1	0	0	0	1	1-2	0	11	1	0	12	13
2-3	0	3	0	0	3	2-3	0	2	0	0	2	5
3-4	0	8	2	0	10	3-4	0	1	2	0	3	13
4-5	2	5	0	0	7	4-5	1	3	0	0	4	11
5-6	11	4	1	0	16	5-6	1	1	0	0	2	18
6-7	2	9	1	0	12	6-7	22	12	2	0	36	48
7-8	42	20	1	0	63	7-8	24	8	2	0	34	97
8-9	40	8	2	0	50	8-9	43	11	1	0	55	105
9-10	54	20	6	0	80	9-10	38	11	2	0	51	131
10-11	54	7	5	0	66	10-11	67	21	1	0	89	155
11-12	32	9	2	1	44	11-12	14	4	4	0	22	66
12-13	60	22	1	0	83	12-13	63	14	2	0	79	162
13-14	25	7	3	4	39	13-14	37	17	3	0	57	96
14-15	67	22	2	0	91	14-15	49	7	2	1	59	150
15-16	47	9	3	0	59	15-16	50	17	3	0	70	129
16-17	46	11	2	1	60	16-17	27	3	2	0	32	92
17-18	42	14	4	0	60	17-18	66	25	2	0	93	153
18-19	60	11	0	0	71	18-19	31	3	2	0	36	107
19-20	51	18	1	0	70	19-20	77	17	0	0	94	164
20-21	43	11	3	0	57	20-21	25	3	0	0	28	85
21-22	43	12	0	1	56	21-22	61	25	2	0	88	144
22-23	32	3	2	0	37	22-23	11	4	0	0	15	52
23-24	11	10	0	0	21	23-24	35	7	2	0	44	65
Total	766	258	42	7	1073	Total	742	242	35	1	1020	2093
	71%	24%	4%	1%	100%		73%	24%	3%	0%	100%	

From Exhibit 16, Atlanta Data Package #5, Appendix, March 1995

ATL Hourly Aircraft Operations by Type, Future 1

Arrivals						Departures						A&D
Hour	AC	AT	GA	MIL	Total	Hour	AC	AT	GA	MIL	Total	Total
0-1	1	17	1	0	19	0-1	0	18	0	0	18	37
1-2	1	0	0	0	1	1-2	0	14	1	0	15	16
2-3	0	4	0	0	4	2-3	0	3	0	0	3	7
3-4	0	10	2	0	12	3-4	0	1	3	0	4	16
4-5	2	6	0	0	8	4-5	1	4	0	0	5	13
5-6	14	5	1	0	20	5-6	1	2	0	0	3	23
6-7	2	11	1	0	14	6-7	27	15	3	0	45	59
7-8	50	23	1	0	74	7-8	29	11	2	0	42	116
8-9	48	10	2	0	60	8-9	54	14	1	0	69	129
9-10	64	25	5	0	94	9-10	47	15	2	0	64	158
10-11	64	11	4	0	79	10-11	83	26	1	0	110	189
11-12	38	11	2	1	52	11-12	18	6	4	0	28	80
12-13	71	26	1	0	98	12-13	78	19	2	0	99	197
13-14	29	11	3	4	47	13-14	46	21	3	0	70	117
14-15	80	26	2	0	108	14-15	61	10	2	1	74	182
15-16	56	12	3	0	71	15-16	63	21	3	0	87	158
16-17	55	15	2	0	72	16-17	33	5	2	0	40	112
17-18	50	17	4	0	71	17-18	81	32	2	0	115	186
18-19	71	14	0	0	85	18-19	38	5	2	0	45	130
19-20	60	21	1	0	82	19-20	96	21	0	0	117	199
20-21	52	15	3	0	70	20-21	31	4	0	0	35	105
21-22	52	15	0	1	68	21-22	76	30	3	0	109	177
22-23	38	4	2	0	44	22-23	14	5	0	0	19	63
23-24	14	12	0	0	26	23-24	43	9	3	0	55	81
Total	912	321	40	6	1279	Total	920	311	39	1	1271	2550
	71%	25%	3%	0%	100%		72%	24%	3%	0%	100%	

From Exhibit 16, Atlanta Data Package #5, Appendix, March 1995

ATL Hourly Aircraft Operations by Type, Future 2

Arrivals						Departures						A&D
Hour	AC	AT	GA	MIL	Total	Hour	AC	AT	GA	MIL	Total	Total
0-1	1	20	1	0	22	0-1	0	21	0	0	21	43
1-2	1	0	0	0	1	1-2	0	17	2	0	19	20
2-3	0	4	0	0	4	2-3	0	3	0	0	3	7
3-4	0	12	3	0	15	3-4	0	2	3	0	5	20
4-5	3	7	0	0	10	4-5	2	5	0	0	7	17
5-6	16	6	1	0	23	5-6	2	2	0	0	4	27
6-7	3	13	1	0	17	6-7	32	18	3	0	53	70
7-8	59	27	1	0	87	7-8	35	12	3	0	50	137
8-9	56	13	2	0	71	8-9	64	17	2	0	83	154
9-10	75	29	7	0	111	9-10	56	18	2	0	76	187
10-11	75	12	5	0	92	10-11	97	30	2	0	129	221
11-12	45	14	2	1	62	11-12	21	8	4	0	33	95
12-13	84	30	1	0	115	12-13	91	22	2	0	115	230
13-14	35	13	3	4	55	13-14	54	26	3	0	83	138
14-15	94	31	2	0	127	14-15	72	12	2	2	88	215
15-16	66	14	3	0	83	15-16	74	26	3	0	103	186
16-17	65	17	2	1	85	16-17	39	6	2	0	47	132
17-18	60	21	4	0	85	17-18	96	36	3	0	135	220
18-19	83	16	0	0	99	18-19	45	5	3	0	53	152
19-20	71	24	1	0	96	19-20	112	24	0	0	136	232
20-21	60	17	3	0	80	20-21	36	5	0	0	41	121
21-22	60	17	0	1	78	21-22	89	36	3	0	128	206
22-23	45	4	3	0	52	22-23	17	6	0	0	23	75
23-24	16	14	0	0	30	23-24	51	11	3	0	65	95
Total	1073	375	45	7	1500	Total	1085	368	45	2	1500	3000
	72%	25%	3%	0%	100%		72%	25%	3%	0%	100%	

From Exhibit 16, Atlanta Data Package #5, Appendix, March 1995

ATL Hourly Aircraft Operations by Class, Baseline

	Arrivals								Departures							A&D
Hour	1	2	3	4	5	6	Total	Hour	1	2	3	4	5	6	Total	Total
0-1	3	0	2	9	2	1	17	0-1	6	1	2	4	2	0	15	32
1-2	0	0	0	0	0	1	1	1-2	5	0	5	0	2	0	12	13
2-3	1	0	0	2	0	0	3	2-3	0	0	1	0	0	1	2	5
3-4	3	0	2	3	1	1	10	3-4	1	0	0	1	0	1	3	13
4-5	4	1	1	1	0	0	7	4-5	2	0	2	0	0	0	4	11
5-6	7	4	3	0	2	0	16	5-6	1	0	0	0	1	0	2	18
6-7	5	1	3	2	1	0	12	6-7	5	2	22	1	5	1	36	48
7-8	7	5	32	0	19	0	63	7-8	7	0	18	4	1	4	34	97
8-9	5	2	28	5	9	1	50	8-9	5	6	30	0	14	0	55	105
9-10	4	6	49	1	17	3	80	9-10	4	7	32	0	7	1	51	131
10-11	9	3	35	5	13	1	66	10-11	14	5	46	1	20	3	89	155
11-12	3	5	21	4	9	2	44	11-12	2	2	12	0	4	2	22	66
12-13	6	9	44	3	20	1	83	12-13	11	5	40	5	14	4	79	162
13-14	2	0	19	9	4	5	39	13-14	3	7	34	0	11	2	57	96
14-15	12	9	47	0	22	1	91	14-15	10	1	33	1	10	4	59	150
15-16	16	5	24	2	12	0	59	15-16	6	9	37	1	15	2	70	129
16-17	7	7	33	0	11	2	60	16-17	7	3	14	0	7	1	32	92
17-18	10	3	30	2	13	2	60	17-18	19	8	45	1	19	1	93	153
18-19	10	7	38	6	9	1	71	18-19	4	2	22	0	8	0	36	107
19-20	8	8	32	5	15	2	70	19-20	19	12	48	0	14	1	94	164
20-21	8	4	34	1	7	3	57	20-21	1	1	17	1	7	1	28	85
21-22	9	3	29	3	12	0	56	21-22	18	11	37	0	20	2	88	144
22-23	5	1	24	0	5	2	37	22-23	0	1	8	0	6	0	15	52
23-24	4	1	7	6	1	2	21	23-24	7	3	25	0	8	1	44	65
Total	148	84	537	69	204	31	1073	Total	157	86	530	20	195	32	1020	2093
	14%	8%	50%	6%	19%	3%	100%		15%	9%	52%	2%	19%	3%	100%	

From Exhibit 17, Atlanta Data Package #5, Appendix, March 1995

ATL Hourly Aircraft Operations by Class, Future 1

Arrivals								Departures								A&D
Hour	1	2	3	4	5	6	Total	Hour	1	2	3	4	5	6	Total	Total
0-1	2	5	1	6	4	1	19	0-1	9	3	1	3	2	0	18	37
1-2	0	0	1	0	0	0	1	1-2	1	3	2	4	5	0	15	16
2-3	1	0	1	1	0	1	4	2-3	0	0	1	0	1	1	3	7
3-4	3	3	2	1	3	0	12	3-4	1	0	0	0	2	1	4	16
4-5	3	2	2	0	1	0	8	4-5	3	0	2	0	0	0	5	13
5-6	9	6	2	0	2	1	20	5-6	0	2	1	0	0	0	3	23
6-7	6	1	5	1	1	0	14	6-7	6	4	23	2	8	2	45	59
7-8	7	11	34	0	21	1	74	7-8	6	1	19	8	0	8	42	116
8-9	6	8	27	4	11	4	60	8-9	6	8	37	0	18	0	69	129
9-10	7	9	49	7	19	3	94	9-10	6	9	35	2	9	3	64	158
10-11	14	7	35	5	15	3	79	10-11	14	11	50	3	29	3	110	189
11-12	7	6	24	6	9	0	52	11-12	3	3	14	0	6	2	28	80
12-13	10	14	47	4	22	1	98	12-13	15	7	41	12	22	2	99	197
13-14	4	2	19	10	9	3	47	13-14	4	8	44	1	11	2	70	117
14-15	18	12	51	2	23	2	108	14-15	10	11	32	3	16	2	74	182
15-16	19	6	28	5	11	2	71	15-16	7	12	45	1	21	1	87	158
16-17	12	8	36	1	14	1	72	16-17	9	5	15	2	8	1	40	112
17-18	12	7	32	2	15	3	71	17-18	26	12	47	1	26	3	115	186
18-19	15	11	40	6	12	1	85	18-19	6	3	26	1	9	0	45	130
19-20	9	13	34	5	17	4	82	19-20	30	13	48	4	21	1	117	199
20-21	9	8	38	3	11	1	70	20-21	1	2	22	1	8	1	35	105
21-22	9	11	29	3	15	1	68	21-22	18	20	37	0	32	2	109	177
22-23	8	2	27	2	3	2	44	22-23	1	1	10	0	7	0	19	63
23-24	6	2	8	6	2	2	26	23-24	12	8	22	0	11	2	55	81
Total	196	154	572	80	240	37	1279	Total	194	146	574	48	272	37	1271	2550
	15%	12%	45%	6%	19%	3%	100%		15%	11%	45%	4%	21%	3%	100%	

From Exhibit 17, Atlanta Data Package #5, Appendix, March 1995

ATL Hourly Aircraft Operations by Class, Future 2

Arrivals								Departures								A&D
Hour	1	2	3	4	5	6	Total	Hour	1	2	3	4	5	6	Total	Total
0-1	5	5	2	3	6	1	22	0-1	8	1	3	7	1	1	21	43
1-2	0	0	1	0	0	0	1	1-2	6	1	2	4	6	0	19	20
2-3	1	1	0	1	1	0	4	2-3	0	0	1	1	0	1	3	7
3-4	3	3	5	4	0	0	15	3-4	1	1	0	2	1	0	5	20
4-5	3	3	3	0	1	0	10	4-5	3	2	2	0	0	0	7	17
5-6	10	8	3	0	1	1	23	5-6	2	1	1	0	0	0	4	27
6-7	6	5	3	0	2	1	17	6-7	5	12	24	2	10	0	53	70
7-8	9	14	37	1	26	0	87	7-8	5	1	26	10	2	6	50	137
8-9	10	9	29	6	15	2	71	8-9	8	12	38	2	23	0	83	154
9-10	9	12	52	10	25	3	111	9-10	13	8	38	3	12	2	76	187
10-11	13	9	42	6	18	4	92	10-11	15	19	50	5	37	3	129	221
11-12	8	9	24	6	15	0	62	11-12	4	5	19	0	5	0	33	95
12-13	14	16	51	3	29	2	115	12-13	21	15	38	11	27	3	115	230
13-14	4	2	26	9	11	3	55	13-14	6	7	48	2	18	2	83	138
14-15	21	19	51	1	33	2	127	14-15	13	18	31	5	19	2	88	215
15-16	23	12	26	4	17	1	83	15-16	15	13	45	3	27	0	103	186
16-17	14	11	38	1	17	4	85	16-17	10	7	16	2	12	0	47	132
17-18	15	10	36	3	21	0	85	17-18	34	21	46	1	30	3	135	220
18-19	18	15	42	5	18	1	99	18-19	8	4	28	3	10	0	53	152
19-20	13	17	35	3	24	4	96	19-20	26	22	57	3	27	1	136	232
20-21	13	12	38	4	13	0	80	20-21	3	3	23	1	10	1	41	121
21-22	12	7	35	4	20	0	78	21-22	22	26	41	2	36	1	128	206
22-23	10	7	27	0	6	2	52	22-23	2	1	10	0	10	0	23	75
23-24	6	4	8	5	4	3	30	23-24	12	10	25	2	16	0	65	95
Total	240	210	614	79	323	34	1500	Total	242	210	612	71	339	26	1500	3000
	16%	14%	41%	5%	22%	2%	100%		16%	14%	41%	5%	23%	2%	100%	

From Exhibit 17, Atlanta Data Package #5, Appendix, March 1995

Atlanta Daily Traffic Percent Distribution by Class, by Runway

Baseline

Arrivals:

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Runway Split
Runway 8L	15%	9%	55%	6%	13%	2%	52%
Runway 9R	12%	6%	45%	7%	25%	5%	48%

Departures:

Runway 8R	16%	9%	58%	2%	13%	2%	51%
Runway 9L	15%	8%	46%	2%	25%	4%	49%

Overall

Arrivals	14%	8%	50%	6%	19%	3%	51%
Departures	15%	9%	52%	2%	19%	3%	49%
Total	15%	8%	51%	4%	19%	3%	

Future 1

Arrivals:

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Runway Split
Runway 8L	18%	13%	48%	6%	14%	1%	52%
Runway 9R	13%	11%	41%	7%	24%	4%	48%

Departures:

Runway 8R	17%	12%	51%	3%	15%	2%	50%
Runway 9L	14%	11%	40%	5%	26%	4%	50%

Overall

Arrivals	15%	12%	45%	6%	19%	3%	50%
Departures	15%	12%	45%	4%	21%	3%	50%
Total	15%	12%	45%	5%	20%	3%	

Future 2

Arrivals:

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Runway Split
Runway 8L	18%	16%	45%	4%	16%	1%	52%
Runway 9R	14%	12%	37%	6%	28%	3%	48%

Departures:

Runway 8R	17%	15%	46%	4%	17%	1%	50%
Runway 9L	15%	13%	35%	5%	29%	3%	50%

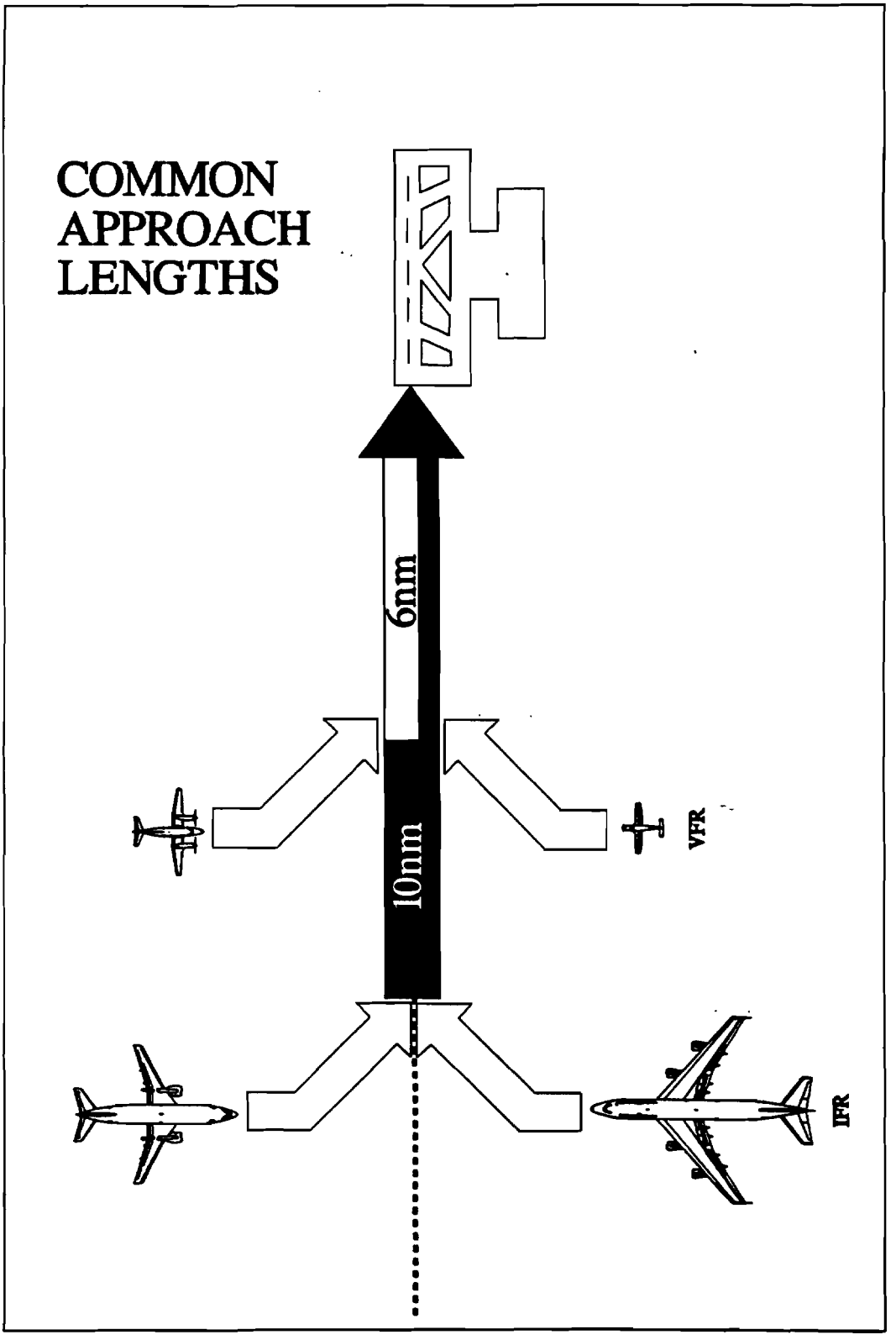
Overall

Arrivals	16%	14%	41%	5%	22%	2%	50%
Departures	16%	14%	41%	5%	22%	2%	50%
Total	16%	14%	41%	5%	22%	2%	

Note:

Class 1 - Heavy (Greater than 300,000 lbs.)
Class 2 - Large (B757)
Class 3 - Large aircraft (Greater than 100,000 lbs)
Class 4 - Large aircraft jet (12,500 lbs to 100,000 lbs)
Class 5 - Large aircraft turbo/prop (12,500 lbs to 100,000 lbs)
Class 6 - Small aircraft (Singles and twins)

MISCELLANEOUS INPUT DATA



MISCELLANEOUS INPUT DATA FOR ATL

Approach Speeds (Knots):

Standard deviation is 5 knots. The model uses three standard deviations in selecting approach speeds. Therefore, the speeds may vary by 15 knots, plus or minus.

	Class	1	2	3	4	5	
Standard	Knots	140	130	130	130	130	120
Modified	Knots	150	140	140	140	140	135
Atlanta	Knots	156	143	154	147	147	153

Length of Common Approach (Nautical Miles):

Class	1	2	3	4	5	6
VFR	6	6	6	6	6	6
IFR	10	10	10	10	10	10

Departure Runway Occupancy Times (Seconds):

Class	1	2	3	4	5	6
Seconds	36	29	36	23	23	18

Airfield Mix:

Class	1	2	3	4	5	6
Baseline	15	8	51	4	19	3
Future 1	15	12	45	5	20	3
Future 2	16	14	41	5	22	2

Aircraft Assignments

Aircraft assignments on the ground are based on Scheduled and Non-Scheduled operations. They are identified as various aircraft operators serving Atlanta, scheduled airlines serving Atlanta, and areas where they are expected to be on the airfield.

The first exhibit presents a list of operators serving Atlanta, and their major types of aircraft.

"Scheduled Airlines for Atlanta" presents scheduled airlines and their corresponding two-letter code, as identified in the Official Airline Guide.

The next exhibit, "Atlanta Terminal (Modified)," presents a list of terminal areas and which operators are directed to these areas. The capacity is also given, for each terminal area.

The last exhibits, "ATL ARTS Data," present, graphically, the flight tracks of the demand at Atlanta. Presented are the arrival and departure flight tracks from 8 am to 9 am and from 12 pm to 1 pm, for east flow and west flow.

Aircraft Operators Serving Atlanta/Hartsfield

2 Letter Code	3 Letter Code	Name	Type of Aircraft
GB	ABX	ABX Air (Cargo)	DC9, DC8
SX	AJO	Aero Ejecutivo S.A de C.V. (Mexico)	727
SC	POS	Aeroposta (Argentina)	
JM	AJM	Air Jamaica	727
8C	ATN	Air Transport International	DC8
	ACD	Airline Aviation	BE55, BE58
HP	AWE	America West	EA32, 757
	EJM	American Air Service	LR35
AA	AAL	American Airlines	727, FK10, MD80
	AMF	AmeriFlight Incorporated	LR35
AA	EGF	AMR American Eagle (AT/Commuter)	SF34, BA32, BA31
	ALM	Antilliaanse Luchtvaart Maatschappij (Neth)	
JW	APW	Arrow Airlines	DC86
	MDC	Atlantic Aero (Cargo)	C208
EV	ASE	Atlantic Southeast Airlines	E120, AT72
JA	BKA	Bank Air International (AT)	PA32, MU2, LR25
BA	BAW	British Airways	DC10
	CTX	Carolina Air	PA32, PA23
KX	CAY	Cayman Airways, Ltd. (U.K)	737
CB	CBM	Cherokee Leasing Inc.	PA60
	CKS	Connie Kalitta	DC8
CO	COA	Continental Airlines	DC9, 73S, 737, 727, A300
	CKE	Corporate Aviation Services, Incorporated	LR35
	PAT	D.O.A Priority Transport (Military)	C12
DL	DAL	Delta	MD88, 757, L1011, 737, 727, 767, MD11
LH	DLH	Deutsch, Lufthansa, A.G. (Germany)	EA34, 747
ER	DHL	DHL Airways	727
EB	EWW	Emery World Airlines	DC8
9E	FLG	Express Airlines (NW Airlink) (Commuter)	SF34
	LHN	Express One International	727
FM	FDX	Federal Express	727, DC10
	EXR	Flight Express (Cargo)	BE58, C210
8G	GPE	G.P. Express (Commuter)	BE99
JL	JAL	Japan Air Lines	
KL	KLM	K.L.M Royal Dutch Air Lines	
KP	KIA	KIWI International	727
BF	MRK	Markair (Cargo)	73S, 73F
	BSK	Miami Air International	727
YX	MEP	Midwest Express	DC9
	MTN	Mountain Air (Cargo)	C208
NW	NWA	Northwest	DC9, 727
	PAX	Pan Air Incorporated	BE58
	PJE	Private Jet Expeditions	DC9, MD80
XY	RYN	Ryan Aviation	727, DC9
SN	SAB	SABENA (Belgium)	
SR	SWR	Swiss Air	MD11, 747
TW	TWA	TransWorld Airlines	MD80, 727, DC9
US	USA	U.S. Air	DC9, 737, 73F, 73S, FK10

Aircraft Operators Serving Atlanta/Hartsfield
(Continued)

2 Letter Code	3 Letter Code	Name	Type of Aircraft
UA	UAL	United Airlines	737, 727, 73S
5X	UPS	United Parcel Service (Cargo)	DC85, 757, 727
	USC	US Chech Airlines	BE58, PA60, LR25
J7	VJA	ValuJet Airlines	DC9, J7 Value Jet
RG	VRG	Viacao Aerea Rio-Grandense (Brazil)	767, VARIG (RG)
	VCT	Viscount Air Service	737
	WOA	World Airways, Incorporated	
	LWD	Worldwide Airline Services	EA32
GA		General Aviation	C560, BE30, PA60, 707, LR24, DA90, DA10, BE87, PA31, C414, BE90, H525, LR31, WW24, AJ25, BE90, C650, C550, MU3, SW3...

Source: ATL-ATCT - Tower data

SCHEDULED AIRLINES FOR ATLANTA

Two Letter Code	Name
AA	American Airlines
BA	British Airways
BF	MarkAir
CO	Continental
DL	Delta
EB	Emery Worldwide (Cargo)
EC	Southern Express (Cargo)
ER	DHL Airways (Cargo)
EV	Atlantic Southeast Airlines
FM	Federal Express
HP	America West
JM	Air Jamaica
J7	ValueJet Airlines
KL	KLM Royal Dutch
KP	KIWI International
LH	Lufthansa German
LM	ALM - Antilean Airlines
LV	Aeroposta
ML	Aero Costa Rica
NW	Northwest
SR	Swiss Air
TW	Trans World
UA	United Air
US	US Air
YX	Midwest Express
1A	American International Airlines (Cargo)
1F	Air Borne Express (Cargo)
1J	TAT European Airlines (Cargo) - France
5J	National Airlines (Cargo)
5X	United Parcel Service (Cargo)
8G	GP Express (Commuter)
8W	Burlington Air Express (Cargo) (Cl.1 a/c)
9E	Express Airlines (Commuter)

Atlanta Terminal (Modified)

			# of Gates*
Concourse T Gates			
East Side	T1...T8 (South)	Delta	8
	T9...T14 (North)	American Airlines	5
		American Eagle (Commuter)	5
Concourse A Gates			
West Side	A2...A18 (South)	Delta	8
	A20...A34 (North)	Delta	7
East Side	A1...A17 (South)	Delta	9
	A19...A33 (North)	Delta	7
Concourse B Gates			
West Side	B2...B18 (South)	Delta	9
	B20...B34 (North)	Delta	8
East Side	B1...B17 (South)	Delta	9
	B19...B31 (North)	Delta	7
Concourse C Gates			
West Side	C2...C20 (South)	Commuters (Future)	12
		Airlines (Future)	3
		Air South	1
		National	4
	C24...C36 (North)	ValuJet Airlines	5
		Airlines (Future)	2
East Side	C1...C17 (South)	Airlines (Future)	5
		Liesure Air	1
		TWA	2
	C21...C35 (North)	KIWI International Airlines	2
		ValuJet Airlines	3
		ValuJet Airlines/Gulf Stream	1
		Airlines (Future)	3

* Aircraft positions feasible at any one time; i.e, capacity of the gate or gate area for Commuters/Air Taxi/Regionals.

Atlanta Terminal (Modified)
(Continued)

			# of Gates*
Concourse D Gates			
West Side	D2...D16 (South)	Midwest Express/MarkAir	1
		United	1
		Continental	6
		Northwest	1
	D22...D38 (North)	USAir	1
		ASA (Commuters)	22
East Side	D1...D15 (South)	United	3
		Northwest	2
		Midwest	1
		Continental	2
	D21...D37 (North)	ASA (Commuters)	8
		USAir	5
		USAir/America West	1
Concourse E Gates			
	E4...E32B	International:	10
		Air Jamaica	
		Antilliaanse Luchtvaart Maatschappij (Antillean)	
		British Airways	
		Delta International	
		Japan	
		Varig	
	E3...E33	International:	17
		Cayman Airways	
		KLM Royal Dutch Airlines	
		Deutsch, Lufthansa, A.G (German)	
		Swiss Air	
		Korean Airlines	
		International Charters	
		Aero Costa Rica	
		World Airways, Inc.	

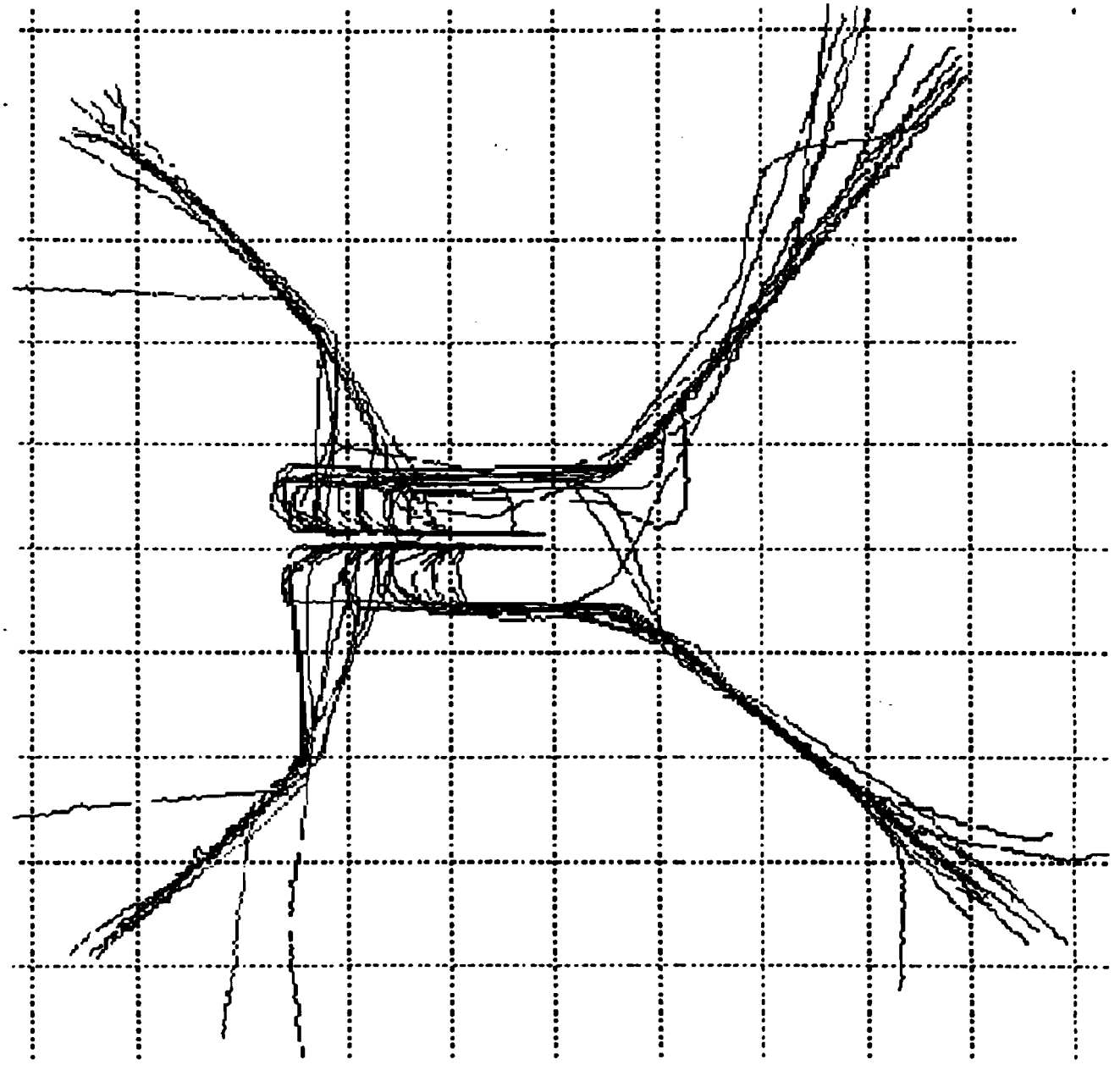
* Aircraft positions feasible at any one time; i.e, capacity of the gate or gate area for Commuters/Air Taxi/Regionals.

Atlanta Terminal (Modified)
(Continued)

		# of Gates*
North Cargo Area		100
	ABX Air	
	Atlantic Aero	
	Federal Express	
	Carolina Air	
	Viscount	
	American Inernational Freight	
	ZAN Top	
	Burlington	
	Arrow Air	
	Express One	
	Emery	
	DHL	
	Lufthansa (Cargo)	
	South Air	
	Mountain Air	
	United Parcel Service	
Midfield Cargo Area		
	(No aircraft connection)	
GA Area (West of N. Cargo Area)		100
	United Beechcraft (FBO)	
	Bank Air International	
	Express Airlines	
	US Chech Airlines	
	Cherokee Leasing	
	AmeriFlight Inc.	

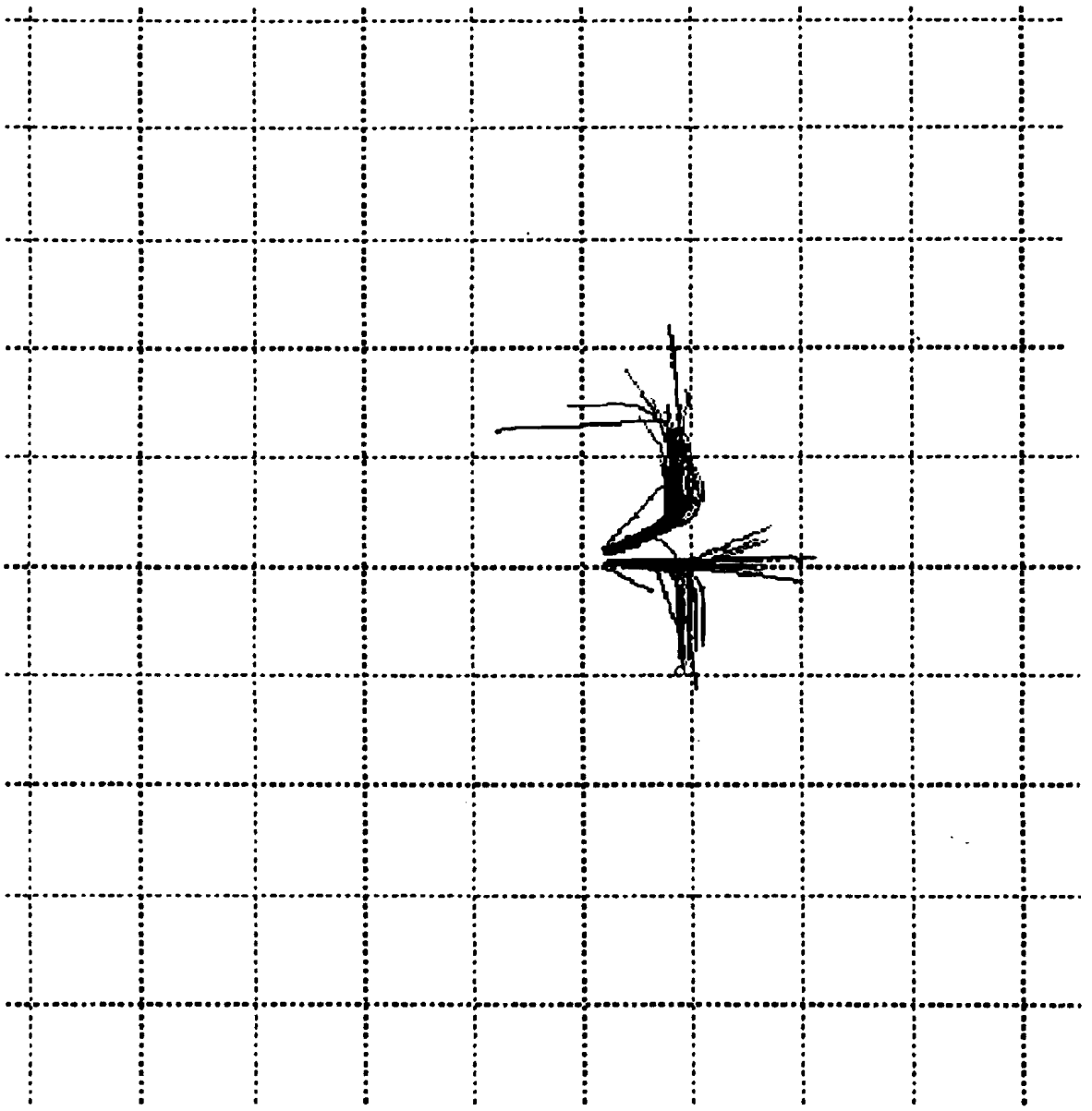
* Aircraft positions feasible at any one time; i.e, capacity of the gate or gate area for General Aviation/Cargo

ATL ARTS Data - Arrivals, 8 AM 8/12/94
East Flow

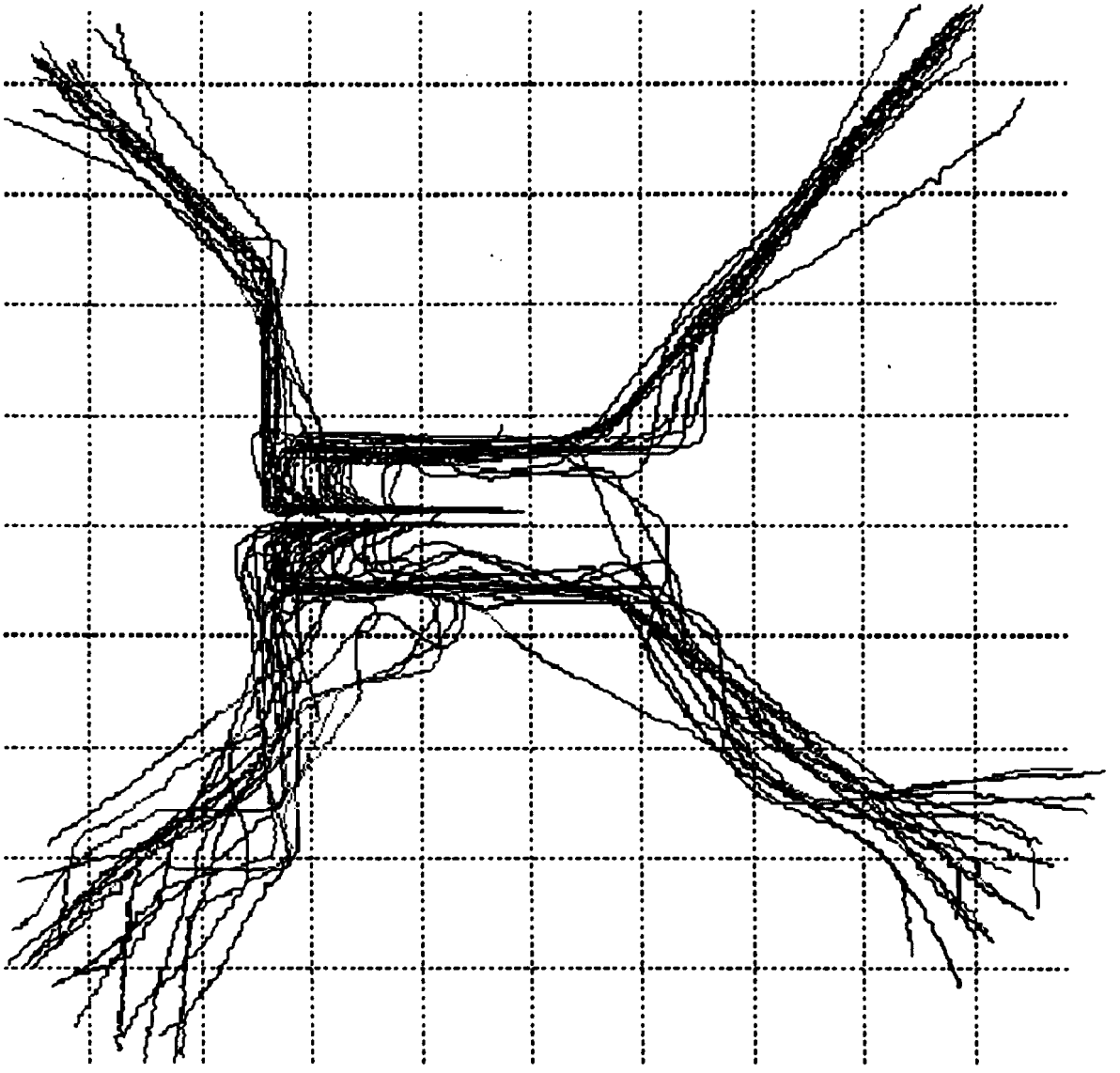


ATL ARTS Data - Departs, 8 AM 8/12/94

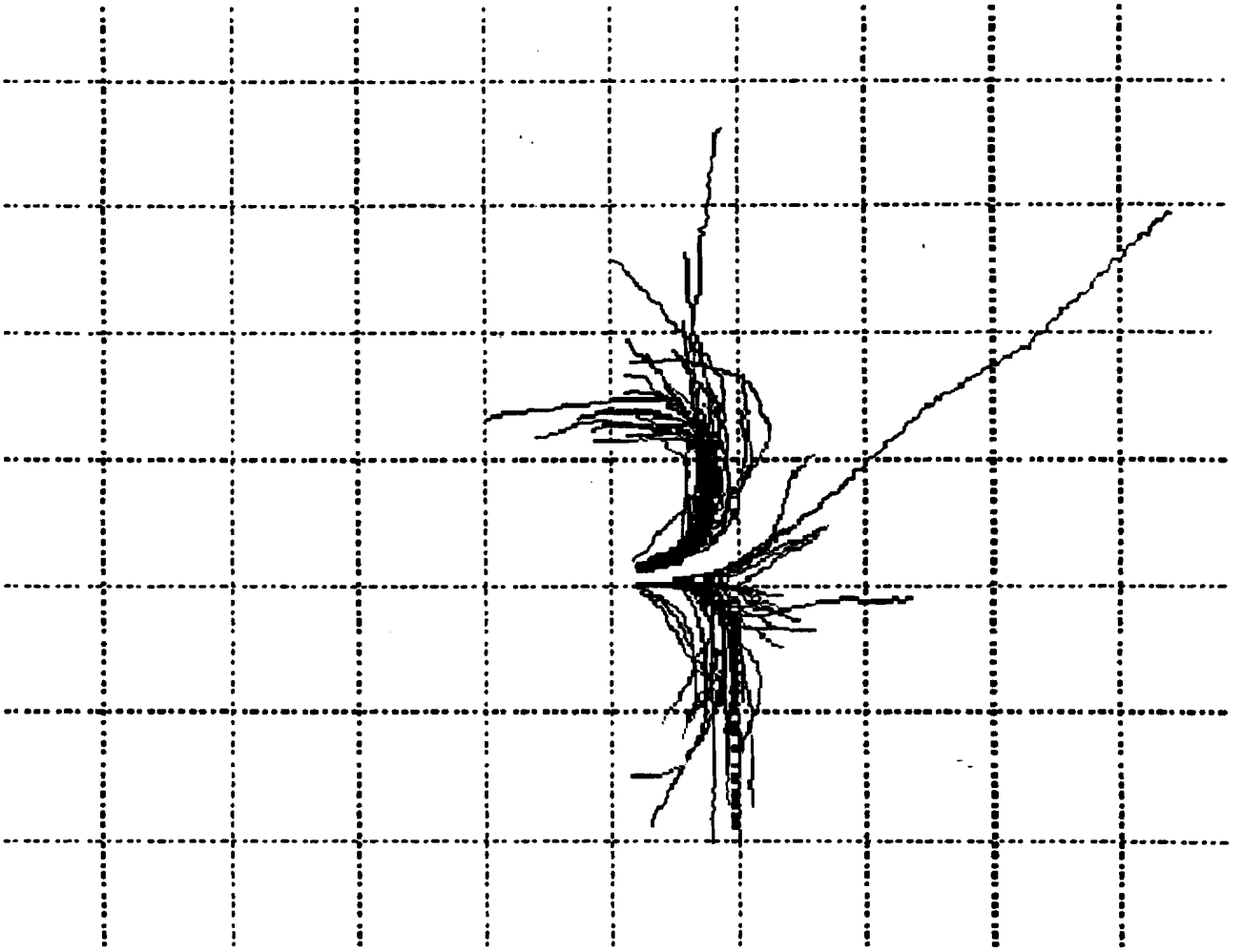
East Flow



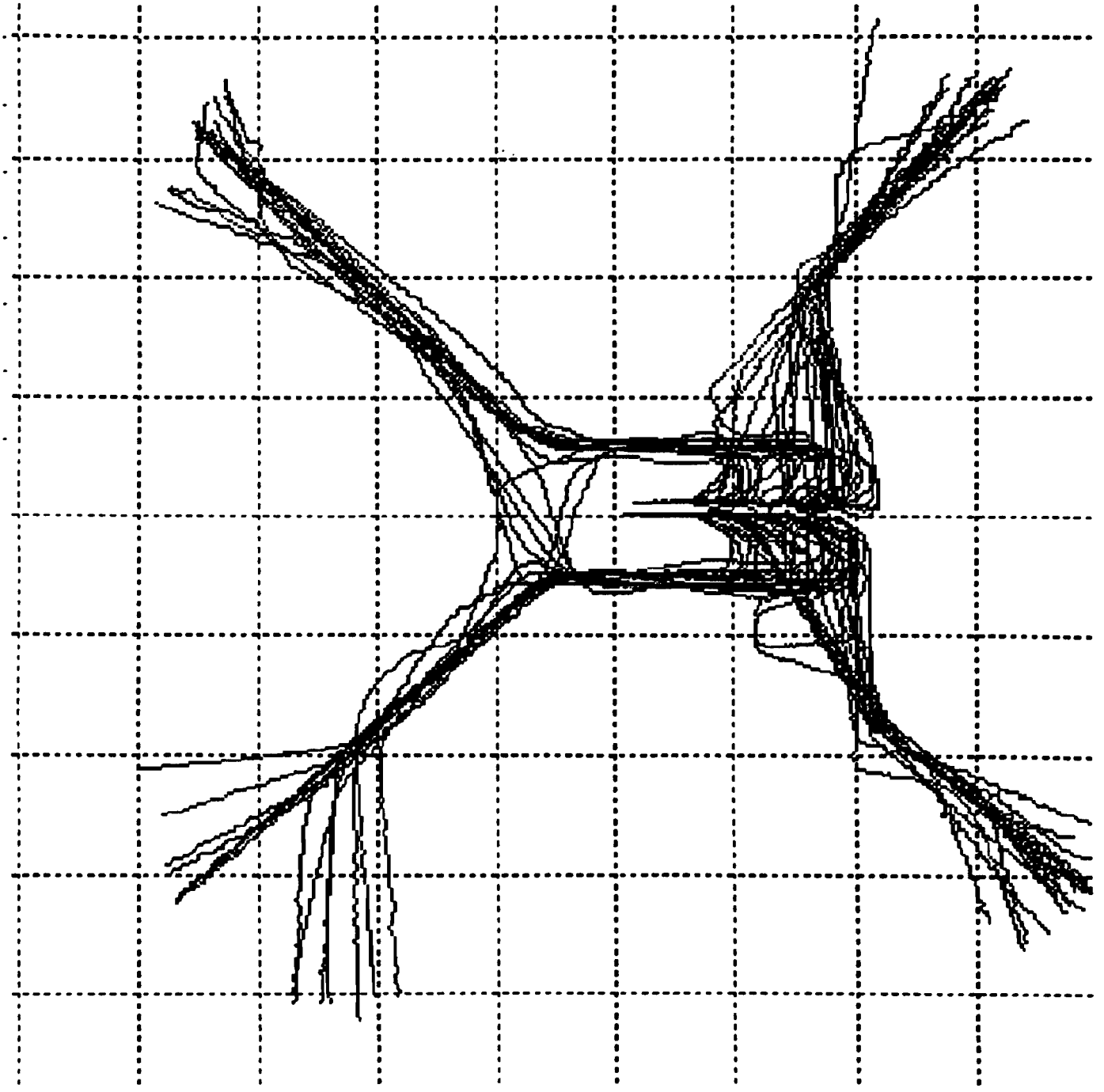
ATL ARTS Data - Arrivals 12 Noon 8/12/94
East Flow



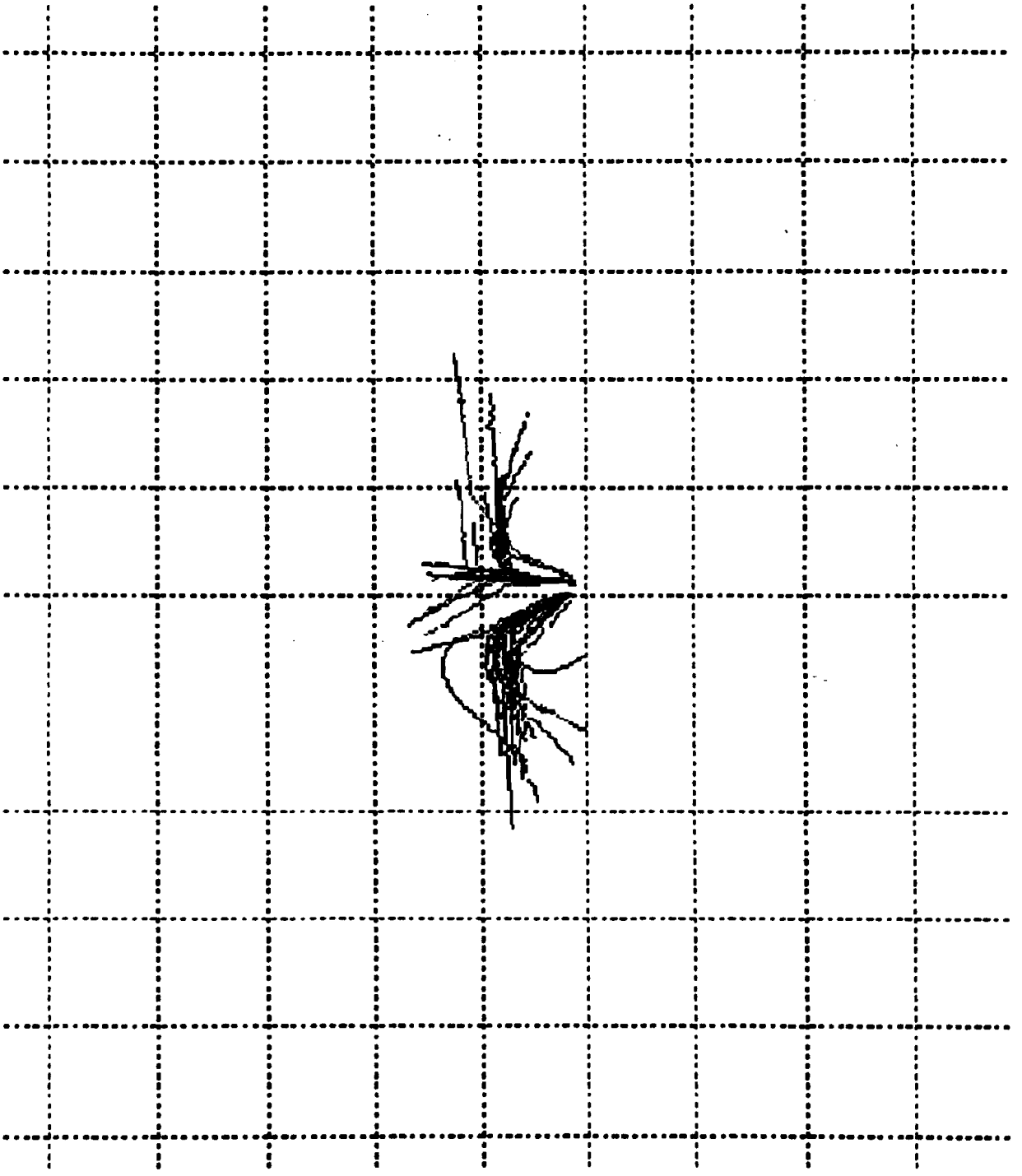
ATL ARTS Data - Departs 12 Noon 8/12/94
East Flow



ATL ARTS Data - Arrivals, 8 AM 9/6/94
West Flow

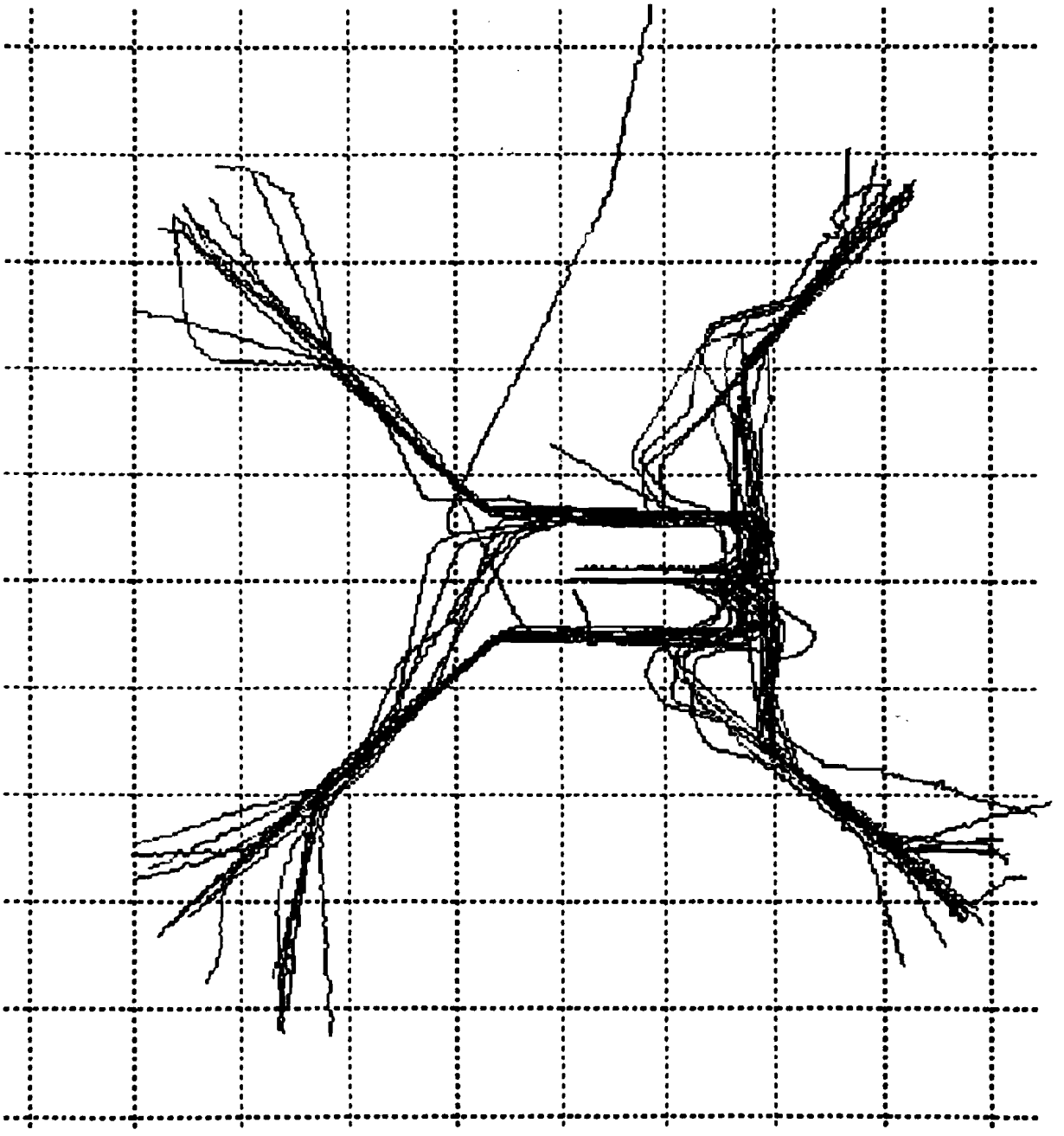


ATL ARTS Data - Departs, 8 AM 9/6/94
West Flow



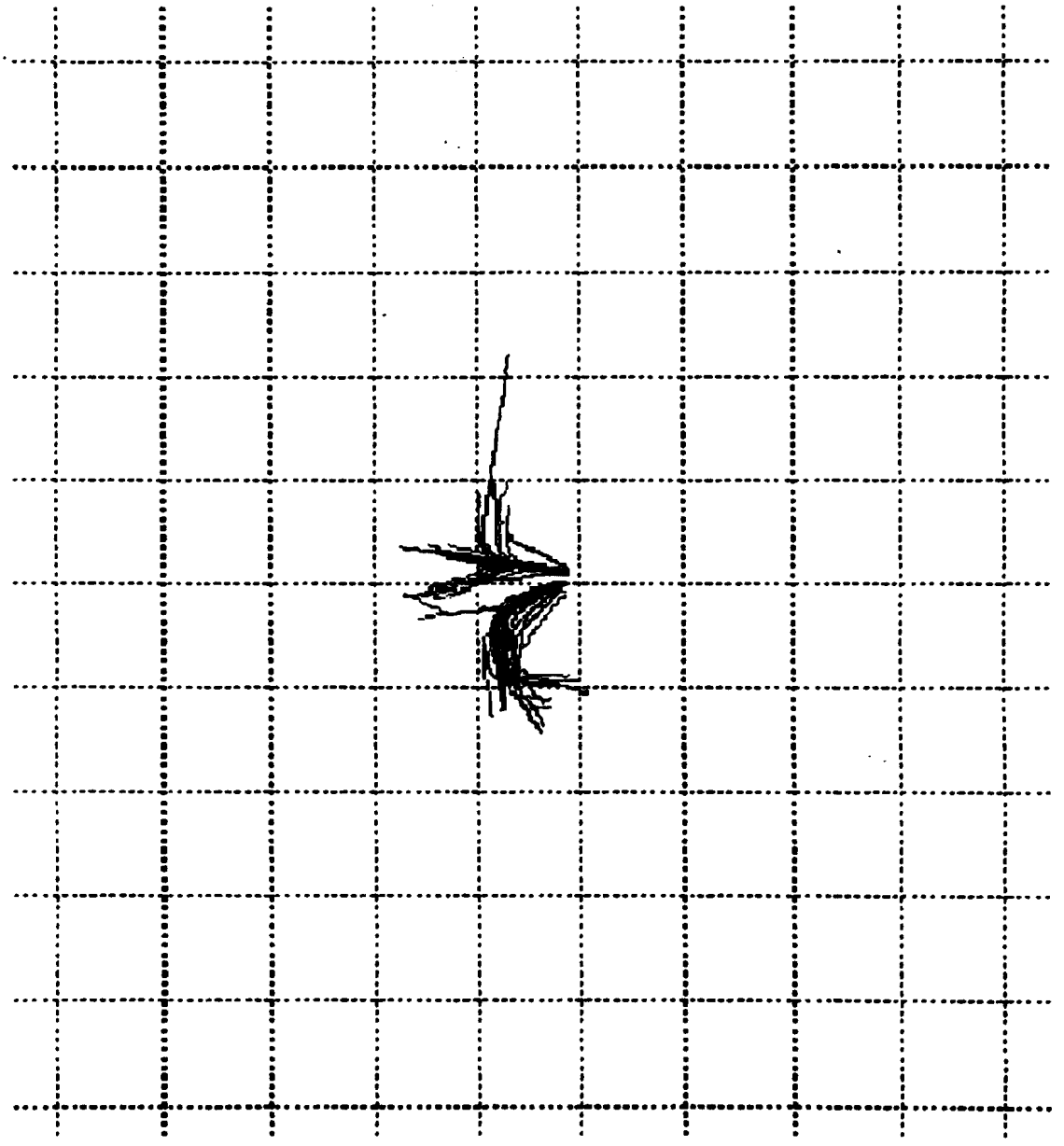
ATL ARTS Data - Arrivals, 12 Noon 9/6/94

West Flow



ATL ARTS Data - Departs, 12 Noon 9/6/94

West Flow



COMPARISON OF INPUTS - ATLANTA 1987 & 1995 STUDIES

Comparison of the Inputs for the 1987 and 1995 Studies at Atlanta reflect differences in demand levels, peaking characteristics, hub operations and aircraft operations as follows: The demand levels in the 1987 Study ranged from 775,000 to 797,000 annual operations, or 2,250 to 2,390 daily operations. In the 1995 Study, the demand levels ranged from 700,000 to 1,000,000 annual operations, or 2,090 to 3,000 daily operations. The operational change consists of a 2.5 nm arrival-to-arrival separation under IFR conditions implemented since the 1987 Study.

Aircraft operations in the 1987 Study were analyzed using four classes, i.e., heavy, large small twins and single engine. Each class was defined as follows:

- Class 1, heavy aircraft weighing more than 300,000 lbs.
- Class 2, large aircraft weighing 12,500 lbs. to 300,000 lbs.
- Class 3, small aircraft (e.g., twin engine props) weighing less than 12,500 lbs.
- Class 4, small aircraft (e.g., single engine props) weighing less than 12,500 lbs.

The aircraft mix remained essentially the same for all demand levels in the 1987 Study, and standard approach speeds and separation values were assigned to each class of aircraft. The aircraft mix for heavy, large, twins and singles was 11%, 72%, 16% and 3%, respectively.

Aircraft operations in the 1995 Study were analyzed using six classes, specifically to accommodate operations on the proposed new runway with the option to accommodate small jets and props or only props less than 100,000 lbs. Additionally, a class was devised to reflect current criteria applying to the B757, which differ from those applied to large aircraft. Each class was defined as follows:

- Class 1, heavy aircraft weighing more than 300,000 lbs.
- Class 2, B757s
- Class 3, large aircraft weighing 100,000 lbs. to 300,000 lbs.
- Class 4, large aircraft (jets) weighing 12,500 to 100,000 lbs.
- Class 5, large aircraft (turboprops) weighing 12,500 to 100,000 lbs.
- Class 6, small aircraft (twin and single engine props) weighing less than 12,500 lbs.

The aircraft mix varied at the three demand levels. Approach speeds adopted for this Study were higher than the standard approach speeds. Both approach speeds and separation values specifically were adjusted from Atlanta ARTS data. The aircraft mix for the 1995 Study showed an increase in the percentage of heavies, from 11% to 15%, and an increase in the percentage of large, from 72% to 82%. Conversely, the percentage of small aircraft decreased from 23% to 17%. These differences changed the characteristics of the operations at Atlanta. The mix also differed because of the change in peaking characteristics and two-to-one hub operations as reflected in the hourly distribution on the daily demand profiles of the two Studies.

There are also two exhibits to demonstrate the difference in the peak periods of the 1987 Study and the 1995 Study. The first of these exhibits presents the profile of the daily demand from the 1987 Study. The second presents the profile of the daily demand from the 1995 Study.

Aircraft Fleet Mix

Daily Demand	Annual Demand	1987 Study	Aircraft Class Cl 1	Cl 2	Cl 3	Cl 4
2,250	775,000	Baseline (1986)	11%	71%	17%	1%
2,340	780,000	Future 1 (1991)	11%	72%	16%	1%
2,387	796,500	Future 2 (1996)	11%	72%	16%	1%

Daily Demand	Annual Demand	1995 Study	Aircraft Class Cl 1	Cl 2	Cl 3	Cl 4	Cl 5	Cl 6
2,093	700,000	Baseline	15%	8%	51%	4%	19%	3%
2,550	850,000	Future 1	15%	12%	45%	5%	20%	3%
3,000	1,000,000	Future 2	16%	14%	41%	5%	22%	2%

Approach Speeds

1987 Study Approach Procedures	Aircraft Class Cl 1	Cl 2	Cl 3	Cl 4
VFR & IFR	140	130	120	100

1995 Study Approach Procedures	Aircraft Class Cl 1	Cl 2	Cl 3	Cl 4	Cl 5	Cl 6
VFR 1 & VFR 2	156	143	154	147	147	153
IFR 1	150	140	140	140	140	135
IFR 2	140	130	130	130	130	120

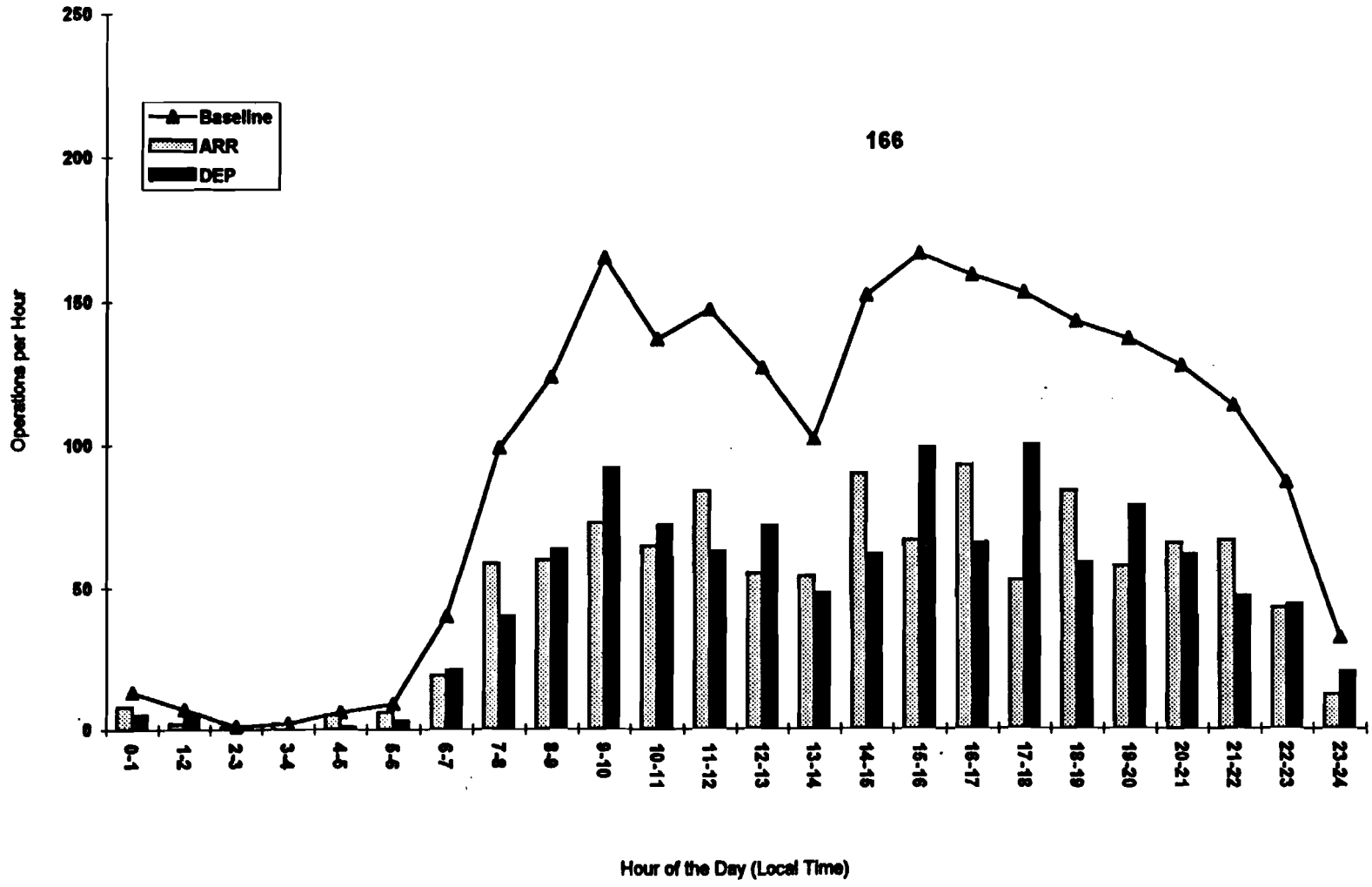
1987 Study		1995 Study	
Class 1	=	Class 1	Heavy aircraft weighing more than 300,000 lbs.
Class 2	=	Class 2	Large B757 aircraft.
Class 2	=	Class 3	Large aircraft weighing 100,000 to 300,000 lbs.
Class 2	=	Class 4	Large aircraft (jet) weighing 12,500 to 100,000 lbs.
Class 2	=	Class 5	Large aircraft (Turbo/Prop) weighing 12,500 to 100,000 lbs.
Class 3 & Class 4	=	Class 6	Small aircraft weighing 12,500 lbs. or less (twin/single engine props).

IFR Capacity Comparison

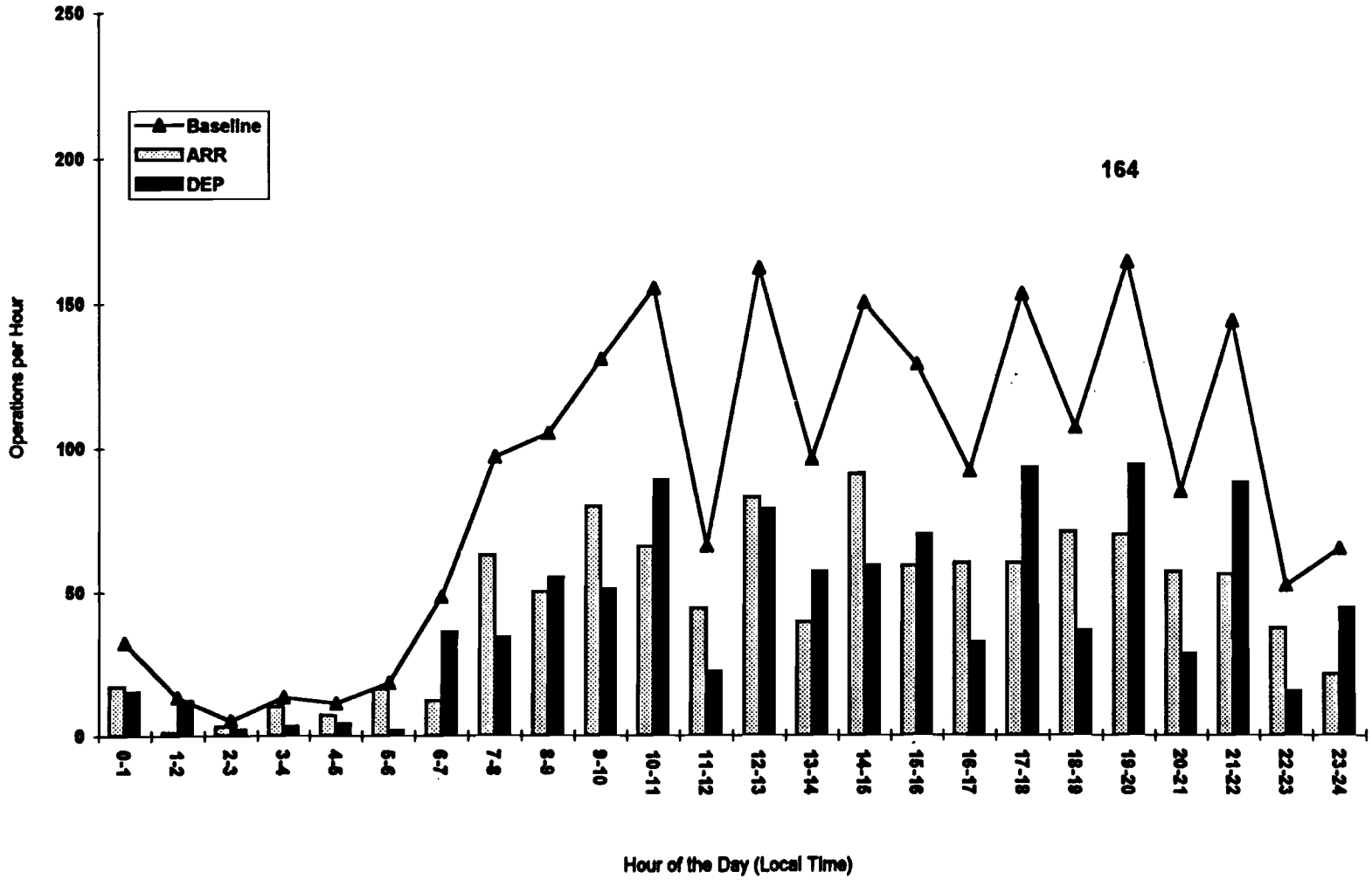
	1987 Study	ARR	DEP	Total
Current	IFR	49	68	117
Future	IFR	50	81	131

	1995 Study	ARR	DEP	Total
Current	IFR 1	64	64	128
	IFR 2	55	55	110
Future	IFR 1	86	86	172
	IFR 2	72	72	144

Profile of Daily Demand - Hourly Distribution 1987 Study



Profile of Daily Demand - Hourly Distribution 1995 Study



Capacity Analysis

Capacity Analysis

Capacity Analysis Comparison 1987 & 1995 C - 1

Capacity Analysis 1995 C - 4

Current Capacity - Four Flight Procedures & Three Demand Splits C - 6

Future Capacity - Four Flight Procedures & Single Demand Split C - 19

Current vs. Future Capacity - Four Flight Procedures and Single Demand Split C - 24

CAPACITY ANALYSIS - COMPARISON 1987 & 1995 STUDIES

The capacity analysis for ATL, 1987 study under visual (VFR) and instrumental (IFR) flight procedures with current and future runway configurations are summarized in the first two exhibits, entitled "Current Airfield Capacity Analysis" and "Future Airfield Capacity Analysis."

Capacity comparisons under instrument (IFR) flight procedures are presented between 1987 and 1995 studies. These are considered to be more critical as hourly operations exceed these values (more often) as demand levels change from baseline to future 2.

Instrument (IFR) capacity (flow rate) at 4 minute delay per operation (acceptable level) in hourly operations:

	1987 Study	ARR	DEP	Total
Current	IFR	49	68	117
Future	IFR	50	81	131

	1995 Study	ARR	DEP	Total
Current	IFR 1	64	64	128
	IFR 2	55	55	110
Future	IFR 1	86	86	172
	IFR 2	72	72	144

CURRENT AIRFIELD CAPACITY ANALYSIS

WILLIAM B. HARTSFIELD ATLANTA INTERNATIONAL AIRPORT

RUNWAY UTILIZATION			CAPACITY WITH ACCEPTABLE DELAY*	MAXIMUM THROUGHPUT** CAPACITY	AVERAGE DELAY (MIN)
1. 2N-2S	26R	VFR	ARR = 67	ARR = 77	49
	26L		DEP = 102	DEP = 110	25
	27R				
	27L	IFR	ARR = 49	ARR = 57	76
			DEP = 68	DEP = 77	48
2. 1N-2S	26R	VFR	ARR = 67	ARR = 76	49
	26L		DEP = 66	DEP = 82	51
	27R				
	27L	IFR	ARR = 49	ARR = 57	76
			DEP = 56	DEP = 67	62
3. 1N-1S	26R	VFR	ARR = 67	ARR = 76	37
	26L		DEP = 54	DEP = 55	54
	27R				
	27L	IFR	ARR = 49	ARR = 57	77
			DEP = 49	DEP = 56	77

ARRIVAL

DEPARTURE

* The Airport Capacity figures were generated by the Capacity/Demand Computer Model. 4 Min. Delay Considered as Acceptable Delay.

** Maximum throughput capacity means there is always an arrival or departure aircraft available for every possible slot under ideal weather conditions. This implies a large average delay would be required to achieve the maximum throughput capacity.

From 1987 Atlanta Study

FUTURE AIRFIELD CAPACITY ANALYSIS

WILLIAM B. HARTSFIELD ATLANTA INTERNATIONAL AIRPORT

RUNWAY UTILIZATION		CAPACITY WITH ACCEPTABLE DELAY*	MAXIMUM THROUGHPUT CAPACITY	MAXIMUM THROUGHPUT AVERAGE DELAY (MIN)
4a. 2N-2S PLUS 2 GA RWYS (26R, 26L, 27R, 27L, 27W, 24)	VFR	ARR = 84 DEP = 115	ARR = 102 DEP = 130	33 17
4b. 2N-2S PLUS 2 GA RWYS (26R, 26L, 27R, 27L, 27W, 24)	**IFR	ARR = 50 DEP - 81	ARR = 57 DEP = 101	76

ARRIVAL >———

DEPARTURE ———>

* 4 Min. Delay Considered as Acceptable Delay

** Below 800 ft. ceiling and 22 mile visibility

From 1987 Atlanta Study

Capacity Analysis - 1995

The capacity analysis for ATL, under visual (VFR1 & VFR2) and instrumental (IFR1 & IFR2) flight procedures with current traffic distribution and runway uses is presented on the following pages. East flow configurations with VFR1, VFR2, IFR1, and IFR2 procedures were evaluated under current runway use. These evaluations compare feasible capacity under the four flight procedures. These valuations were conducted with Arrival-Departure demand splits of 60/40; 50/50; and 40/60, to reflect arrival, equal, and departure pushes.

Visual approaches are labeled as VFR1; VFR flight procedures with ILS approaches are labeled as VFR2. Instrument flight procedures are labeled as IFR1 with CAT I and IFR2 with CAT II & III instrumentation.

The first exhibit, "Current Capacity Total Flow Versus Maintained Ratio Flow Analysis," tabulates the current capacity analysis for comparing total flow and maintained ratio flow values for the four flight procedures (VFR1, VFR2, IFR and IFR2) for each of the three demand splits (60/40; 50/50; and 40/60).

The next exhibit, "Current Capacity Curves - Maintained Ratio vs Total Flow," graphically shows current capacity curves (total flow & maintained ratio flow) for all the twelve combinations for east flow.

The capacity analysis was conducted by determining the flow rate (capacity) and associated delay per operation for steadily increasing hourly demands. Two values were determined, total flow and maintained ratio flow.

Total flow indicates the flow that can be achieved due to natural excess (surplus) of capacity for arrivals or departures for a given configuration, flight rule, and demand split In this case, the flow ratio does not necessarily maintain the demand split.

In the case of maintained ratio flow, flows are maintained in the same ratio of arrivals to departures as the demand splits. Because of maintaining this ratio, there is the possibility of unused arrival or departure capability.

Consequently, these exhibits also identify either arrivals, departures, or no excess (surplus) capacity, while comparing total and maintained ratio flows. For example, in the first exhibit, for "Current Configuration 1, East flow (VFR1 50/50)" there exists an excess capacity of 8 at a 4-minute delay flow rate and an excess capacity of 22 at a maximum flow rate.

Future field improvements with Runway 9S/27S on the South side, for arrivals only, also provide additional capacity as presented in the next two exhibits.

The first of these exhibits, "Future Capacity Analysis - Total Flow Versus Maintained Ratio Flow," tabulates future capacity analysis for comparing total flow and maintain ratio flow at 50/50 demand split.

The second exhibit, "Future Capacity Curves - Maintained Ratio vs Total Flow," graphically shows the corresponding future capacity curves for all four flight procedures for east flow.

The final three exhibits provide a comparison between the current capacity and the future capacity for the four flight procedures at the 50/50 demand split, at maintained ratio flow.

The first of these exhibits, "Capacity Analysis - Four Flight Procedures," tabulates, further, current and future capacity analysis with the four flight procedures for the 50/50 demand splits at maintained ratio flow.

The next exhibit, "Current Capacity Curves - Four Flight Procedures," shows the current capacity curves for average delay per operation versus number of operations (flow rate) by hourly demand. There are four capacity curves, one for each of the flight procedures (VFR1, VFR2, IFR1 and IFR2). These curves are shown for the 50/50 demand split.

The final exhibit, "Future Capacity Curves - Four Flight Procedures," shows the future capacity curves for average delay per operation versus number of operations (flow rate) by hourly demand. There are also four capacity curves, one for each of the flight procedures (VFR1, VFR2, IFR1 and IFR2). These curves are also shown for the 50/50 demand split.

Examination of these exhibits shows the change in feasible capacity with changing procedures for the east flow with current runway use. For example, under the current runway use with a 50/50 demand split, for a 4-minute average delay per operation, the capacity value (flow rate) changes from 110 to 128 to 162 to 182 operations per hour as procedures change from Instrument (IFR2 to IFR1) to Visual (VFR2 to VFR1). Similarly, under the future runway use with a 50/50 demand split, for a 4-minute average delay per operation, the capacity value (flow rate) changes from 144 to 173 to 214 to 222 operations per hour as procedures change from Instrument (IFR2 to IFR1) to Visual (VFR2 to VFR1).

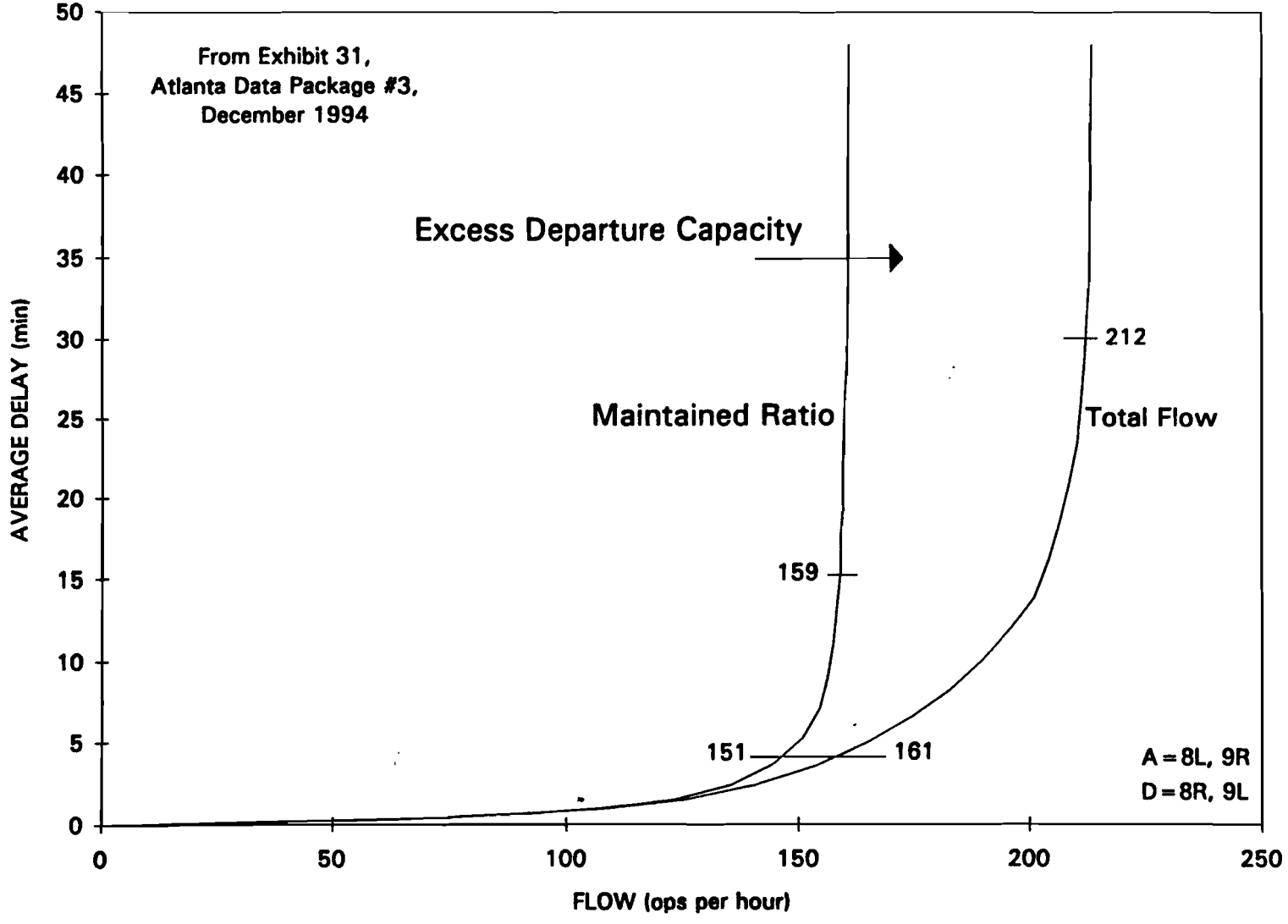
These capacity analyses for current airfield and future arrival-only runway to the south show an increase of operations per hour from 110 to 144 with Instrument (IFR2) to 182 to 222 with Visual (VFR1) procedures.

Current Capacity Total Flow Versus Maintained Ratio Flow Analysis

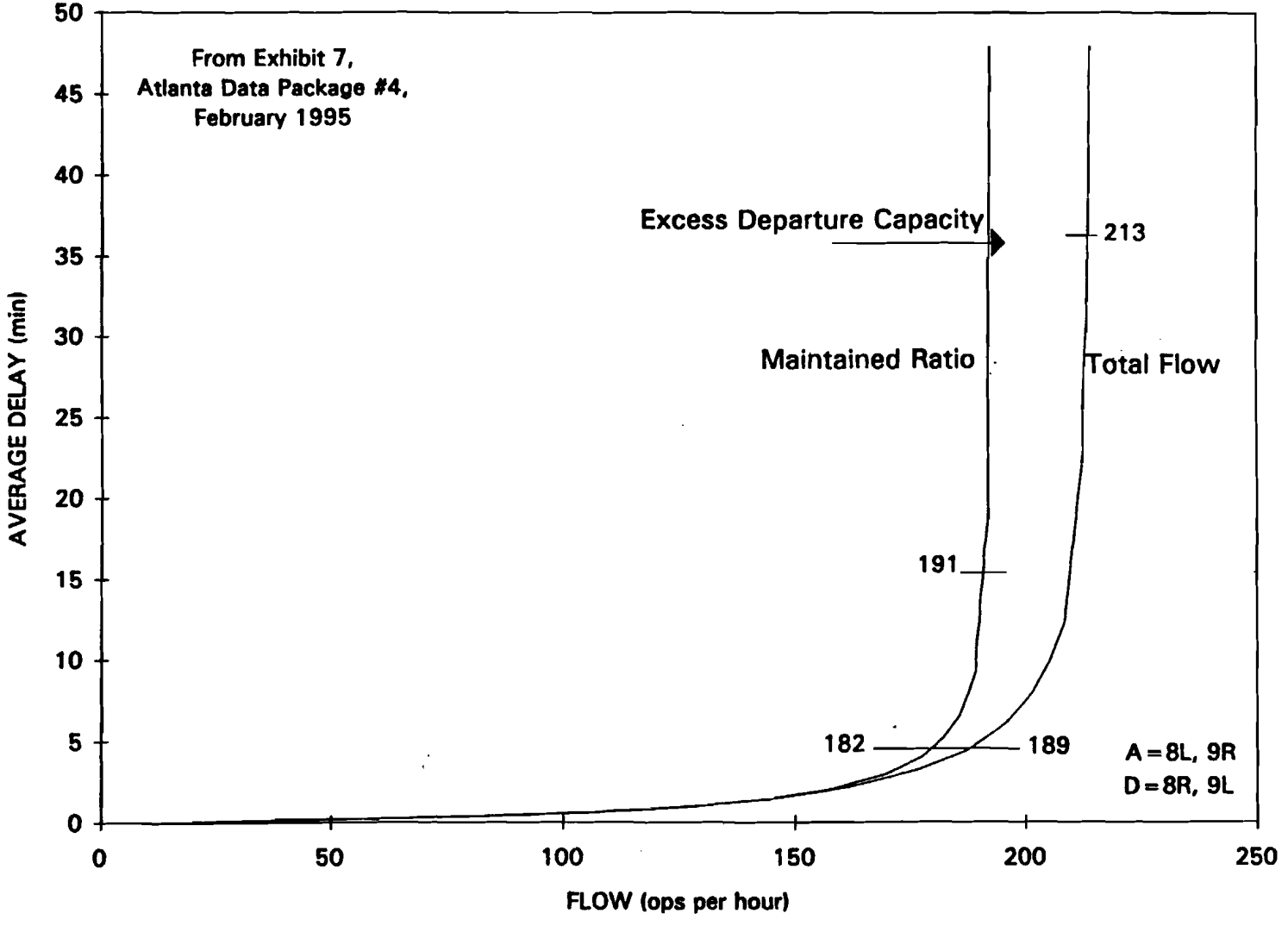
Demand Split	4-Minute Delay			Maximum Throughput		
	Total Flow	Maintained Ratio Flow	Excess Flow	Total Flow	Maintained Ratio Flow	Excess Flow
Current Configuration 1 - East Flow (A=8L, 9R; D=8R, 9L)						
VFR1						
60/40	161 (91/70)	151 (91/60)	10	212 (96/116)	159 (96/63)	53
50/50	189 (91/98)	182(91/90)	8	213 (96/117)	191 (96/95)	22
40/60	191 (80/111)	185 (74/111)	6	211 (94/117)	195(79/117)	16
VFR2						
60/40	143 (80/64)	133 (80/53)	10	203(86/117)	143 (86/57)	60
50/50	173 (81/92)	162 (81/81)	11	202 (85/117)	171 (85/86)	14
40/60	183 (75/108)	182 (73/109)	1	202 (85/117)	195 (78/117)	7
IFR1						
60/40	113(63/50)	104 (63/41)	29	175 (69/106)	113 (68/45)	62
50/50	139 (64/75)	128 (64/64)	11	174 (69/105)	137 (69/68)	37
40/60	157 (61/96)	155 (62/93)	2	174 (68/106)	170 (68/102)	4
IFR2						
60/40	103 (58/45)	97 (58/39)	6	144 (64/80)	106 (64/42)	38
50/50	118 (59/59)	110 (55/55)	8	141 (64/77)	118 (64/54)	23
40/60	134(52/82)	132 (53/79)	2	151 (59/92)	146 (59/87)	5

From Exhibit 30, Atlanta Data Package #3, December 1995

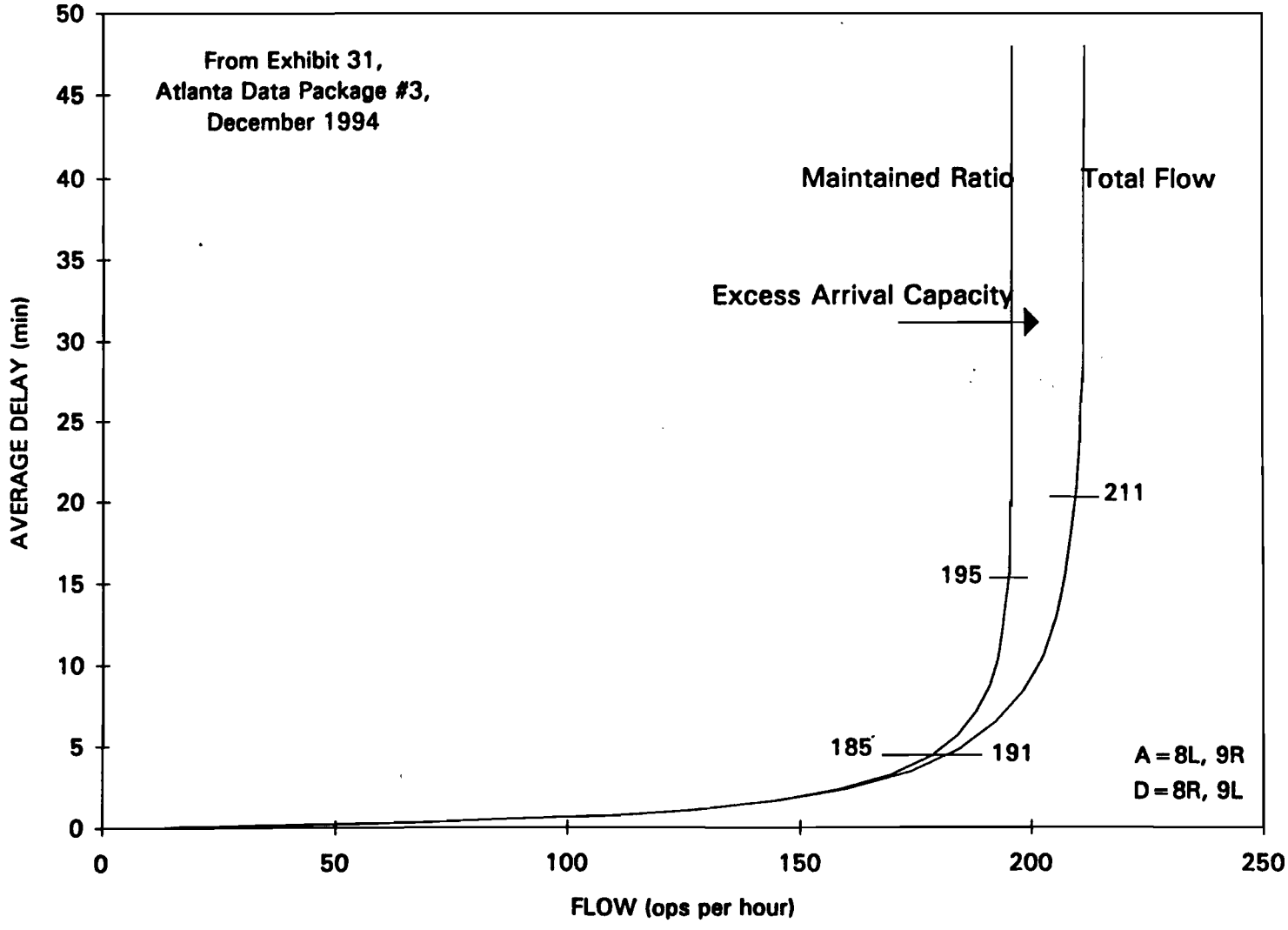
Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - VFR 1 - 60/40

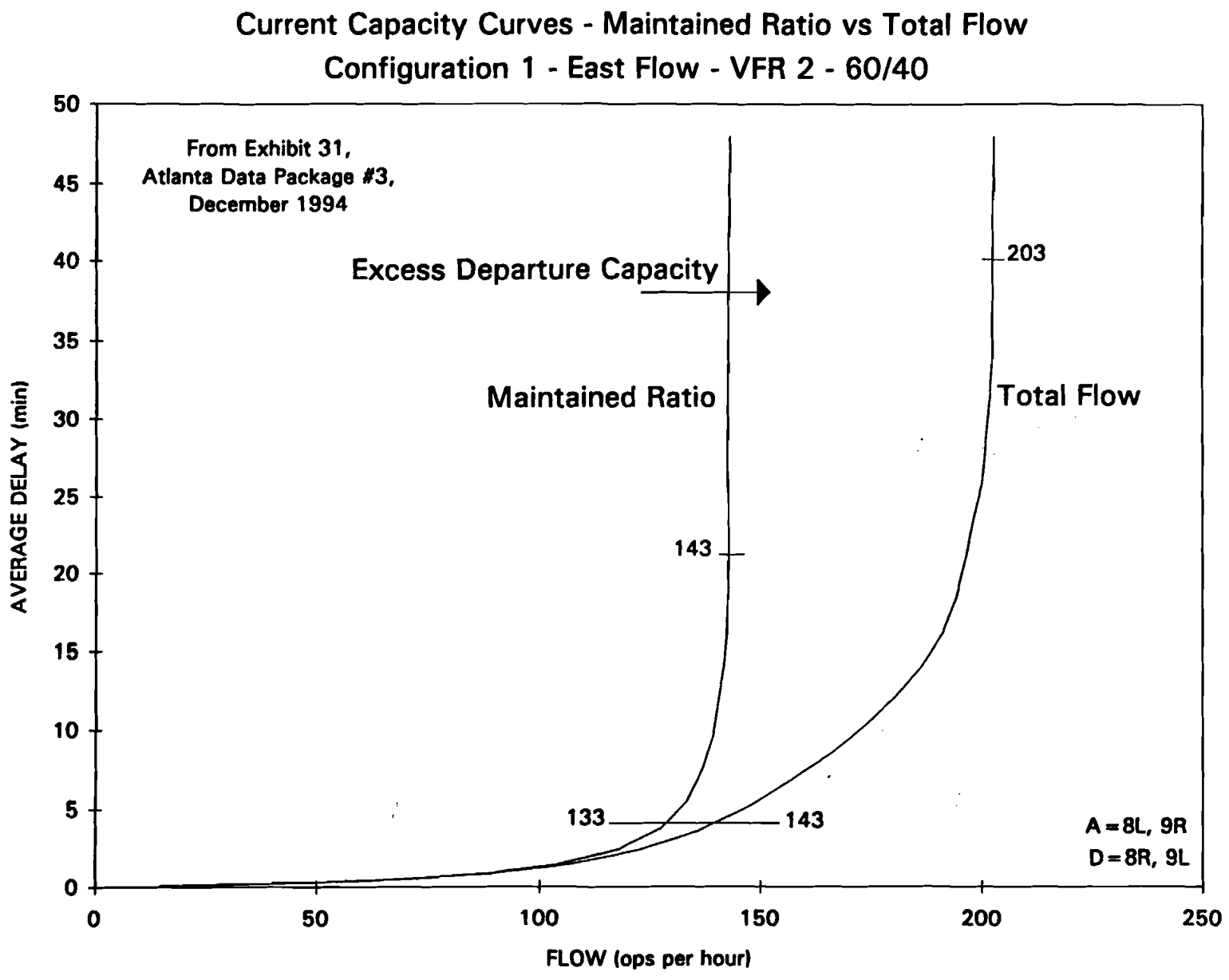


Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - VFR 1 - 50/50



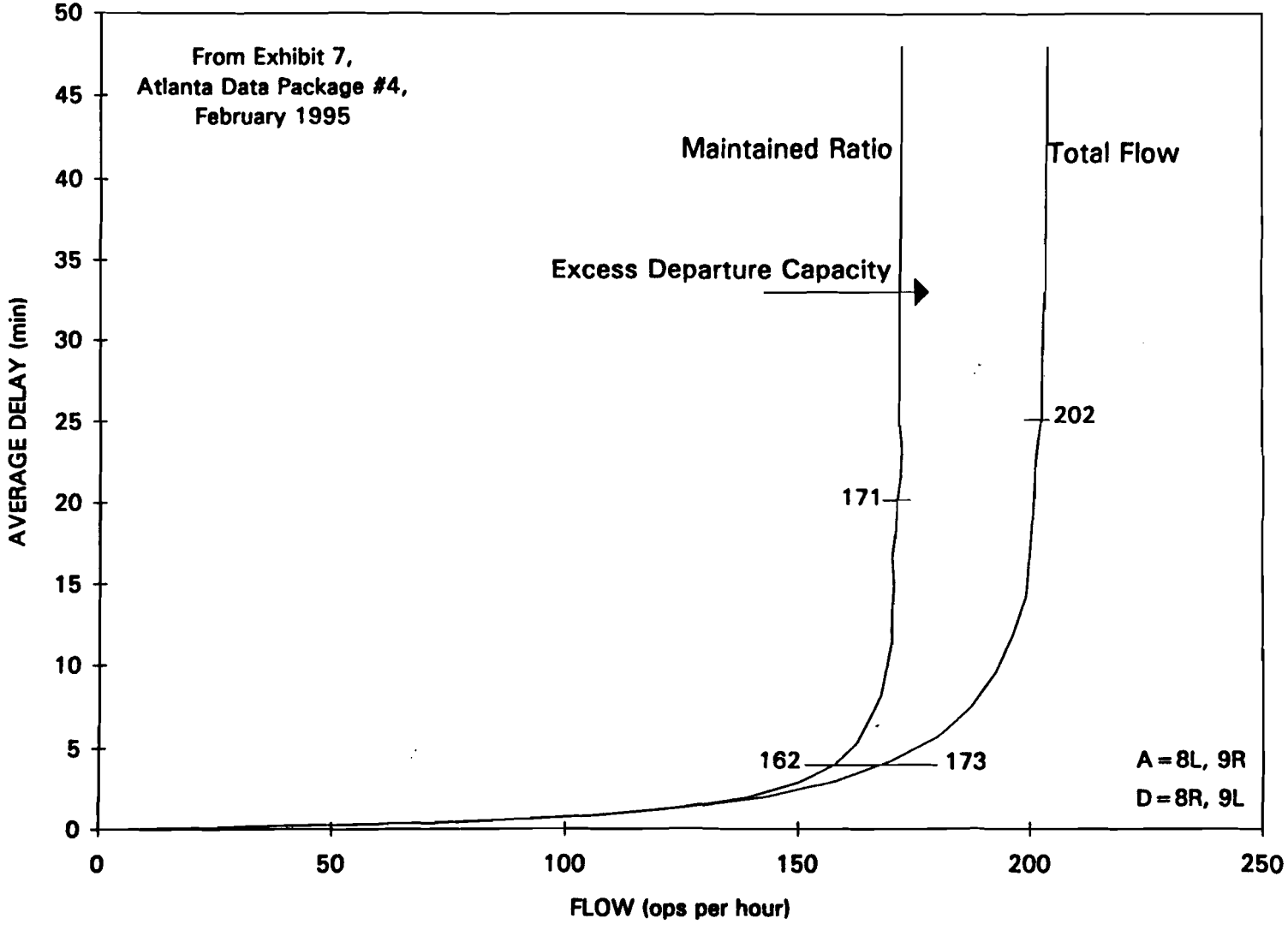
Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - VFR 1 - 40/60



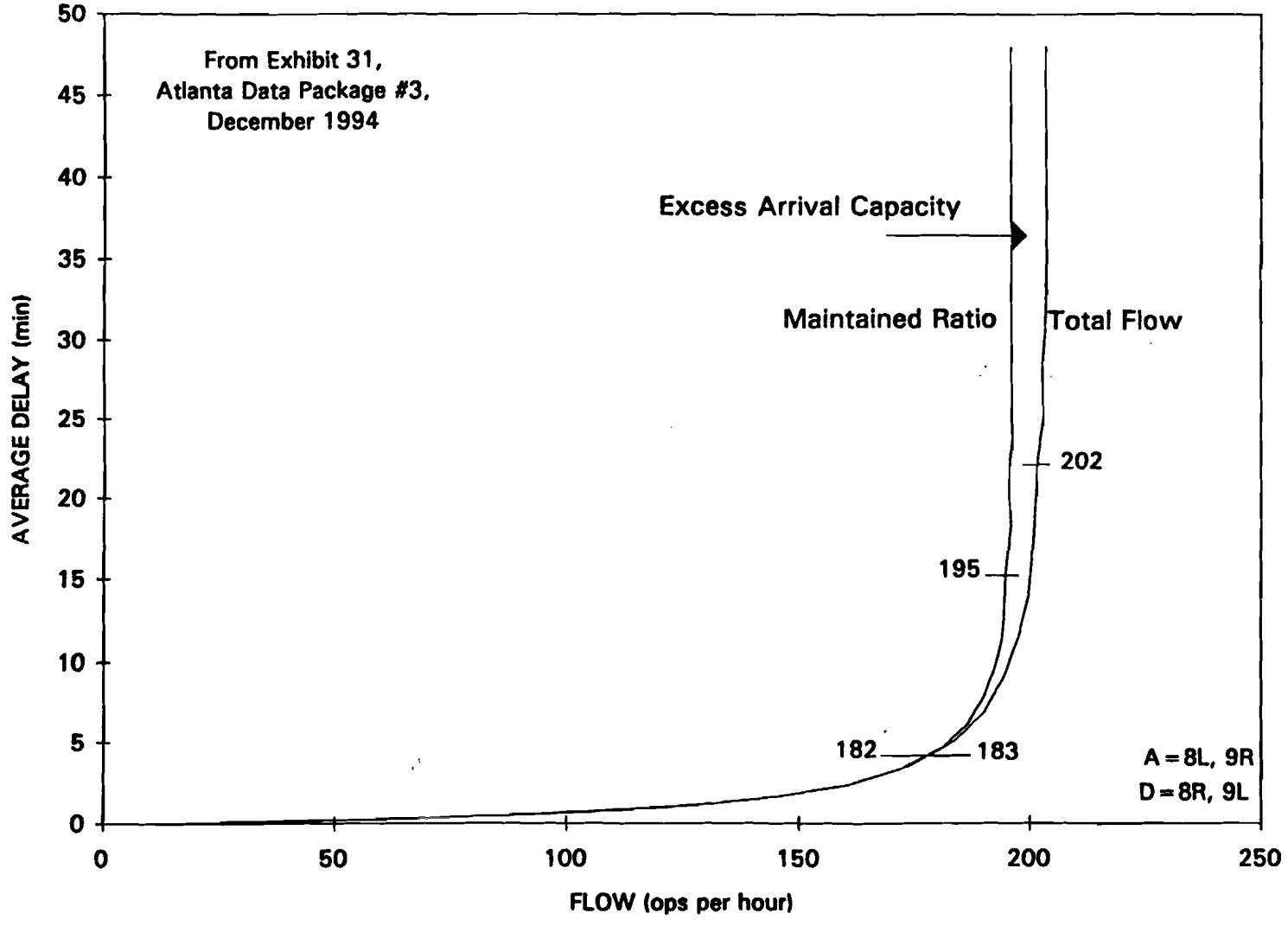

Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - VFR 2 - 60/40
From Exhibit 31,
Atlanta Data Package #3,
December 1994
Excess Departure Capacity
Maintained Ratio
Total Flow
203
143
133
143
A = 8L, 9R
D = 8R, 9L
AVERAGE DELAY (min)
FLOW (ops per hour)
0
5
10
15
20
25
30
35
40
45
50
0
50
100
150
200
250

Current Capacity Curves - Maintained Ratio vs Total Flow

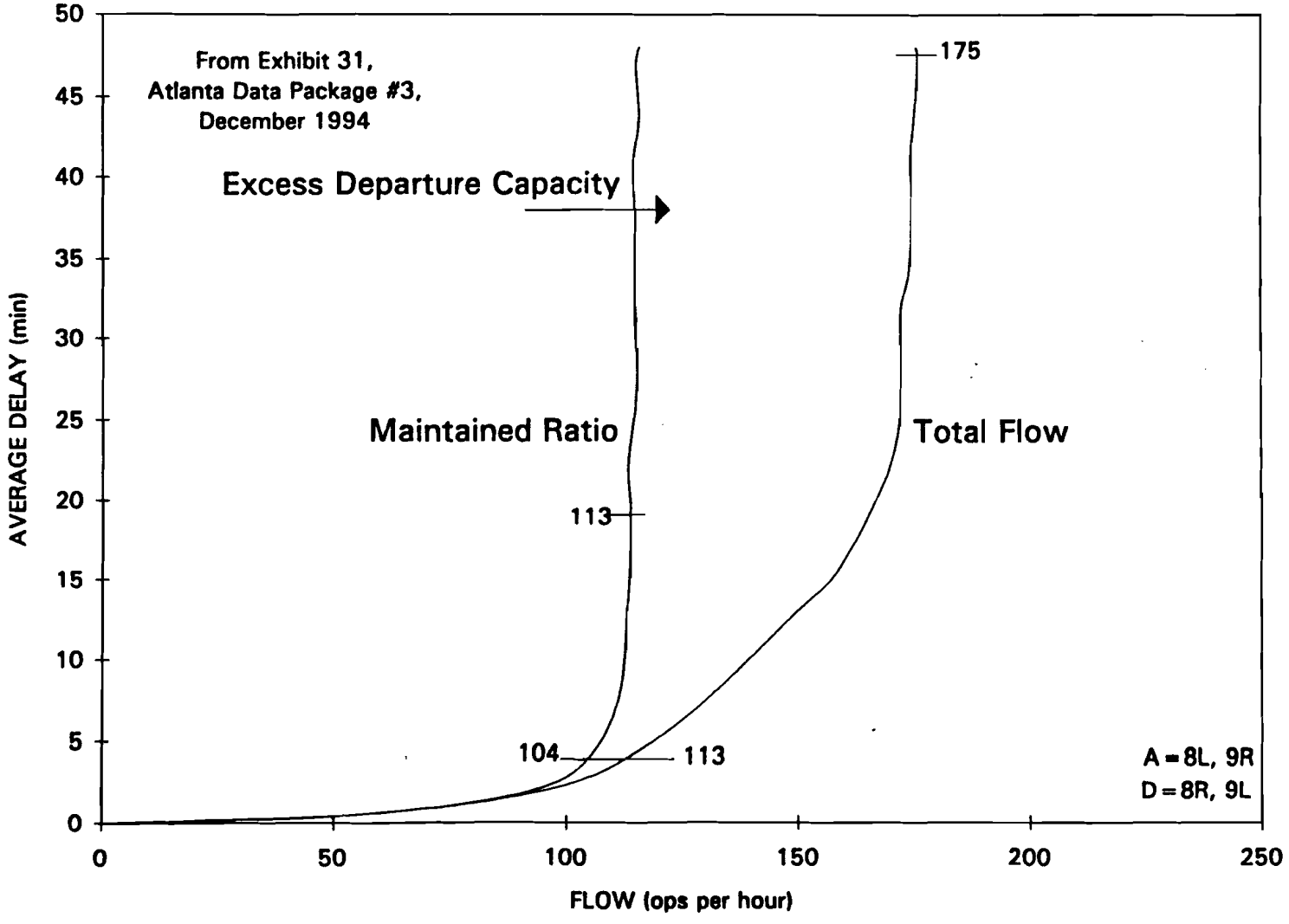
Configuration 1 - East Flow - VFR 2 - 50/50

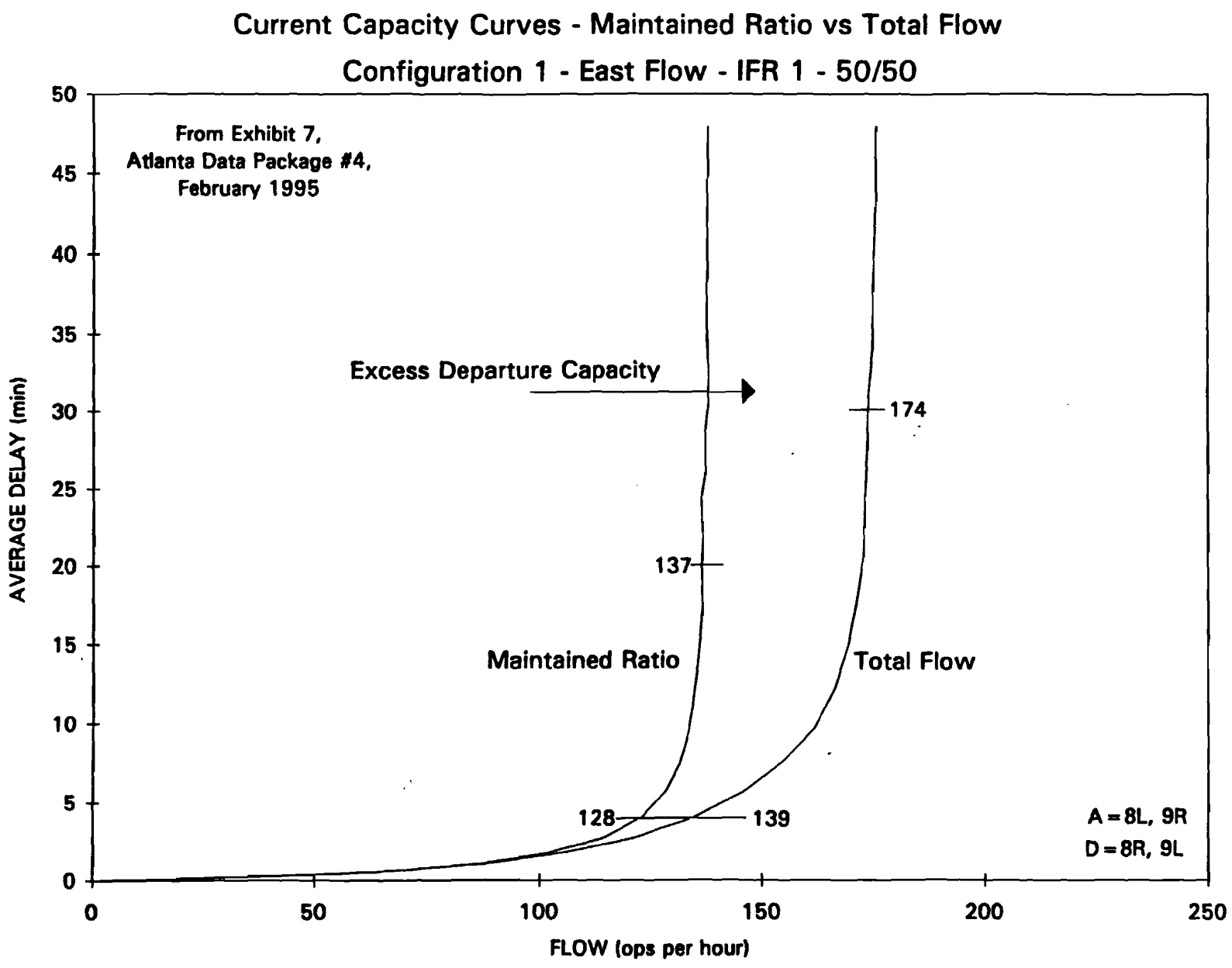


Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - VFR 2 - 40/60

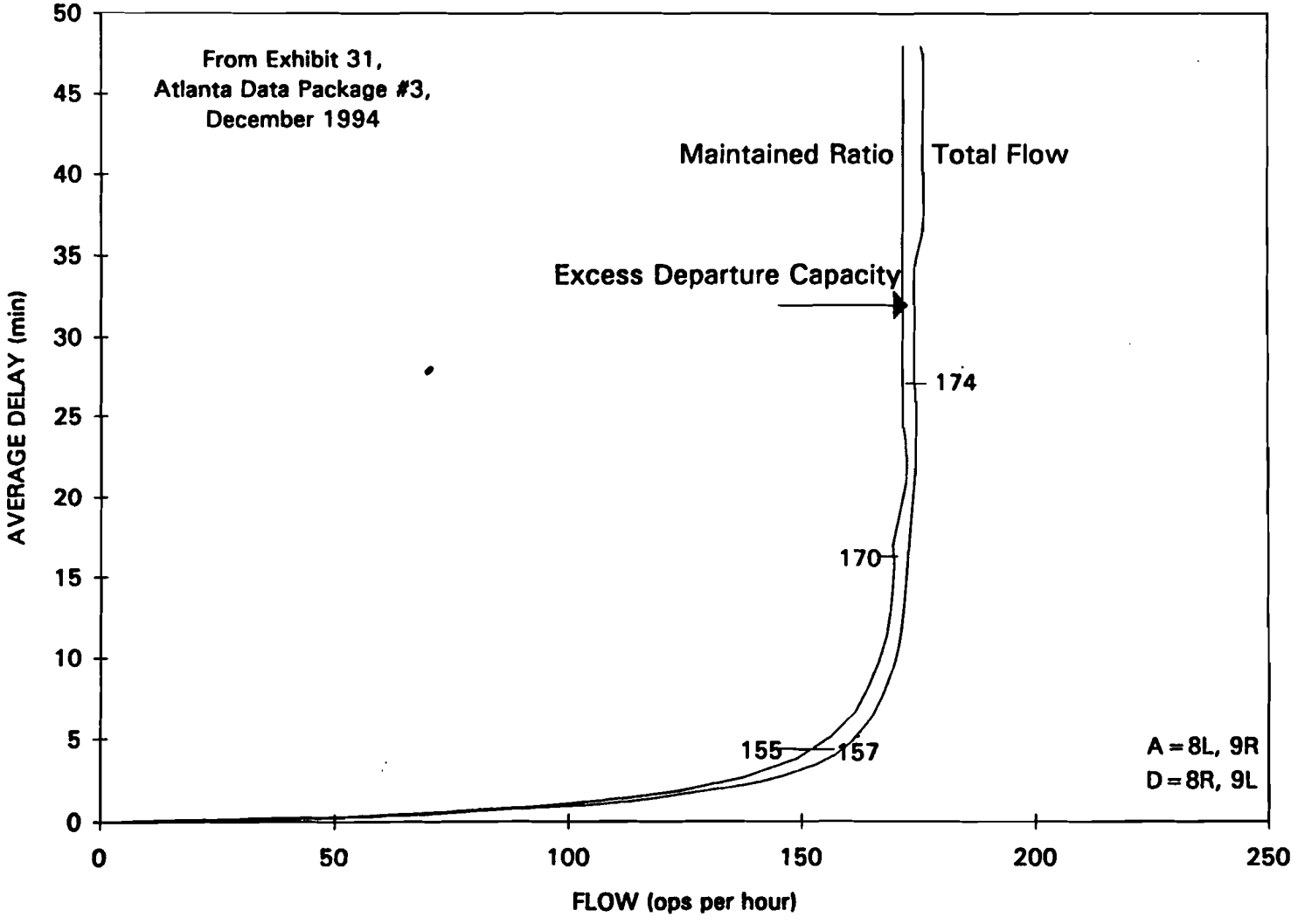


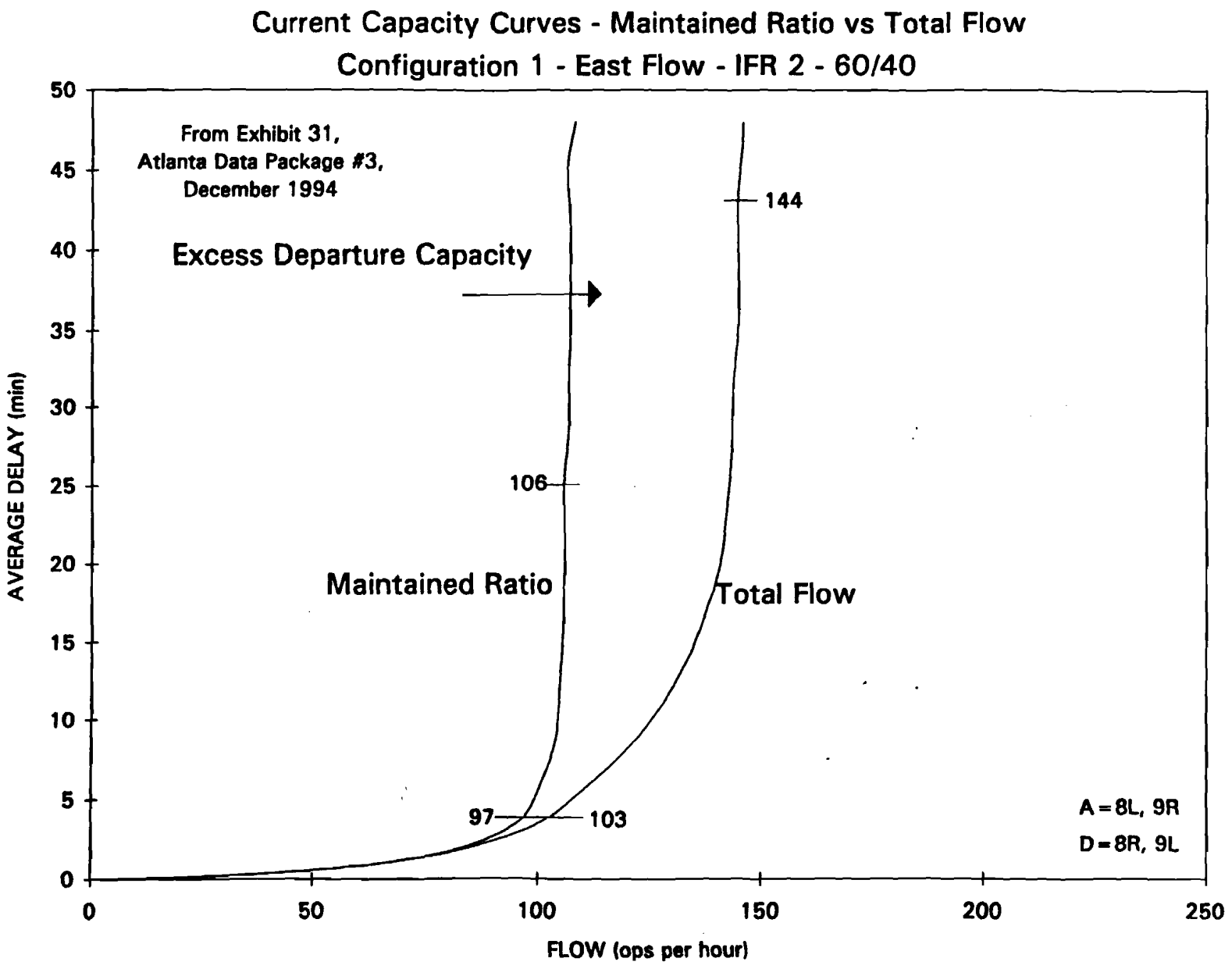
Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 1 - 60/40



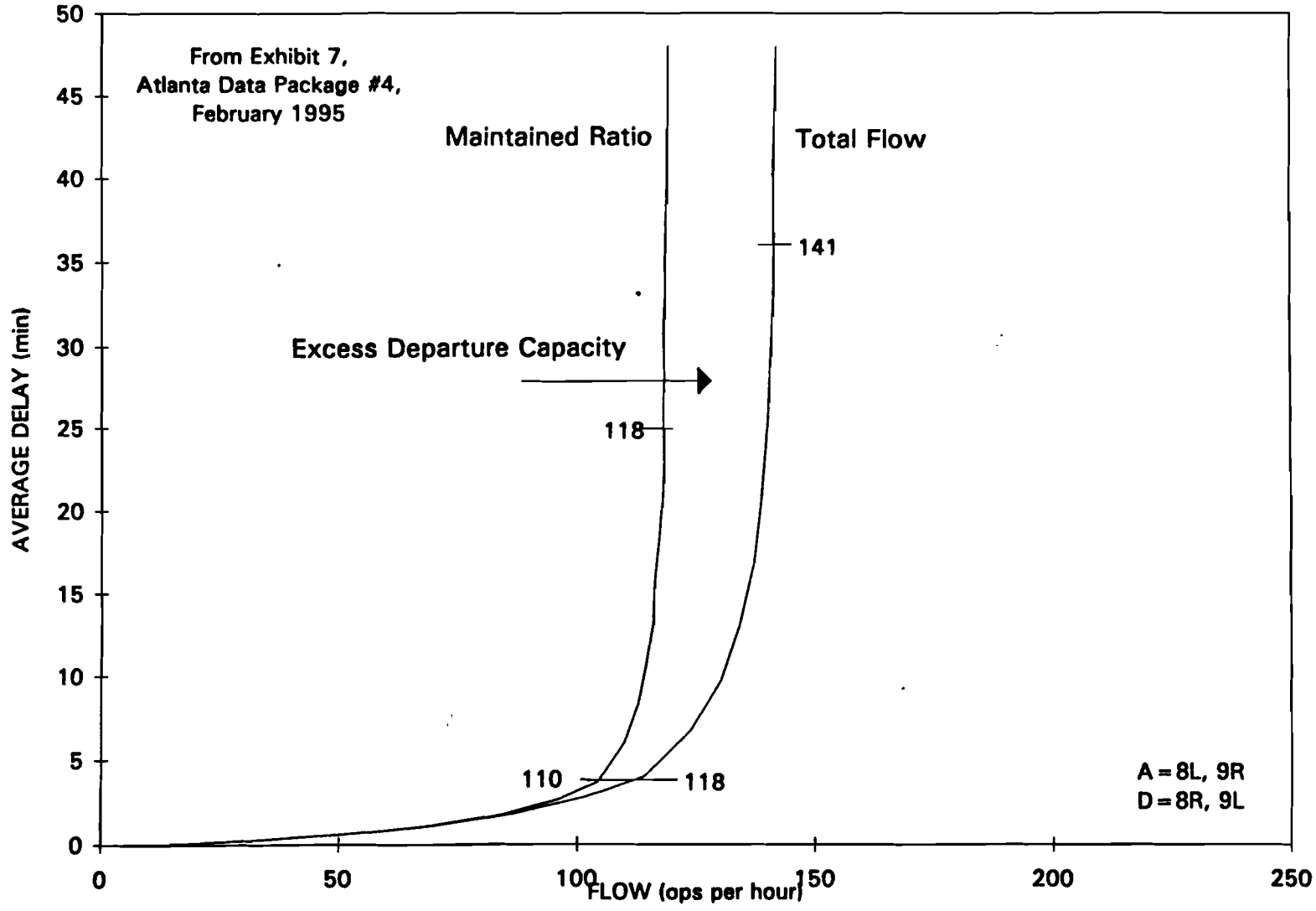

Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 1 - 50/50
From Exhibit 7,
Atlanta Data Package #4,
February 1995
Excess Departure Capacity
174
137
Maintained Ratio
Total Flow
128
139
A = 8L, 9R
D = 8R, 9L
AVERAGE DELAY (min)
FLOW (ops per hour)
0
5
10
15
20
25
30
35
40
45
50
0
50
100
150
200
250

Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 1 - 40/60

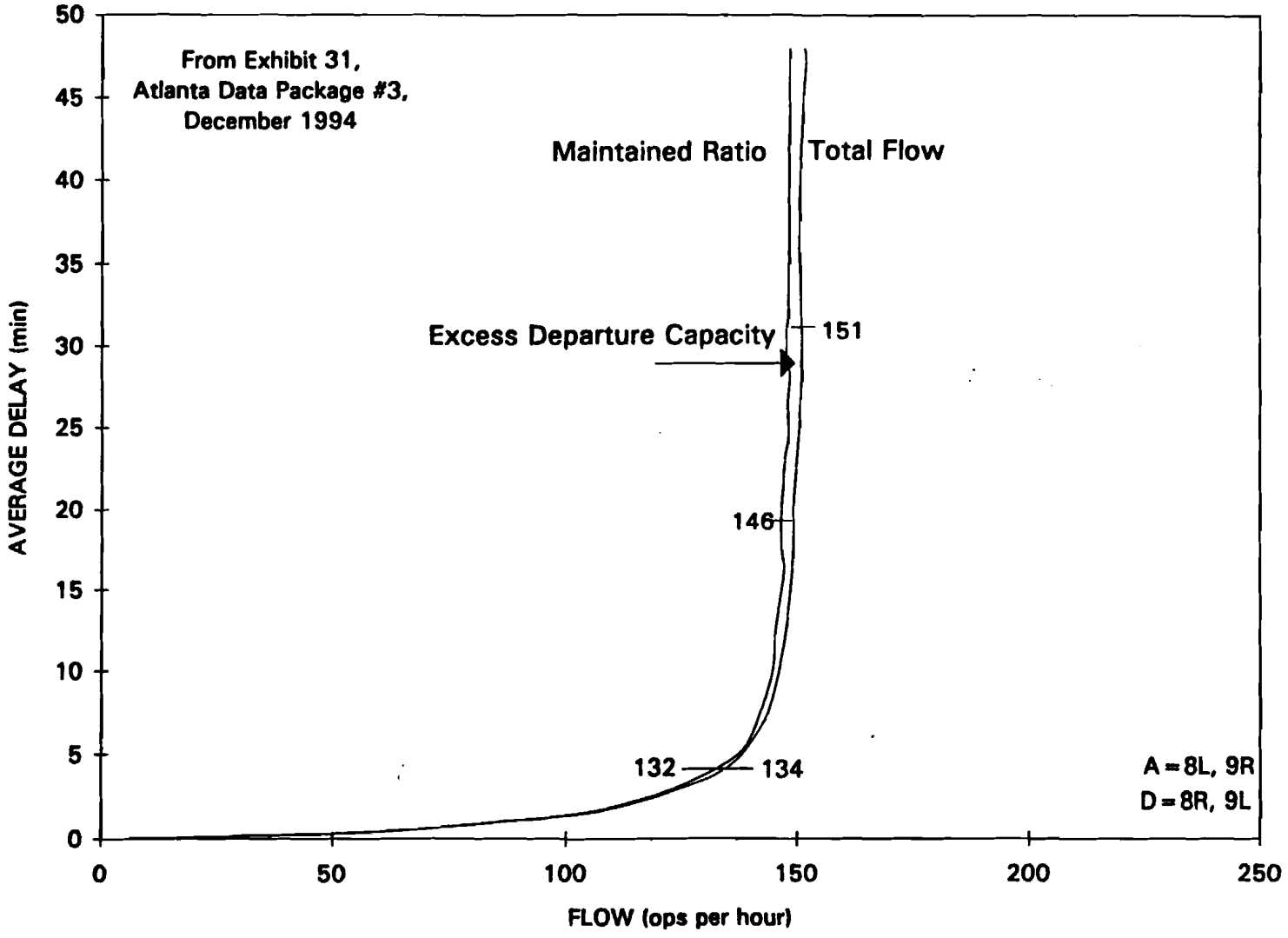



Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 2 - 60/40
From Exhibit 31,
Atlanta Data Package #3,
December 1994
Excess Departure Capacity
Maintained Ratio
Total Flow
106
144
97
103
A = 8L, 9R
D = 8R, 9L
AVERAGE DELAY (min)
FLOW (ops per hour)
0
5
10
15
20
25
30
35
40
45
50
0
50
100
150
200
250

Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 2 - 50/50



Current Capacity Curves - Maintained Ratio vs Total Flow
Configuration 1 - East Flow - IFR 2 - 40/60

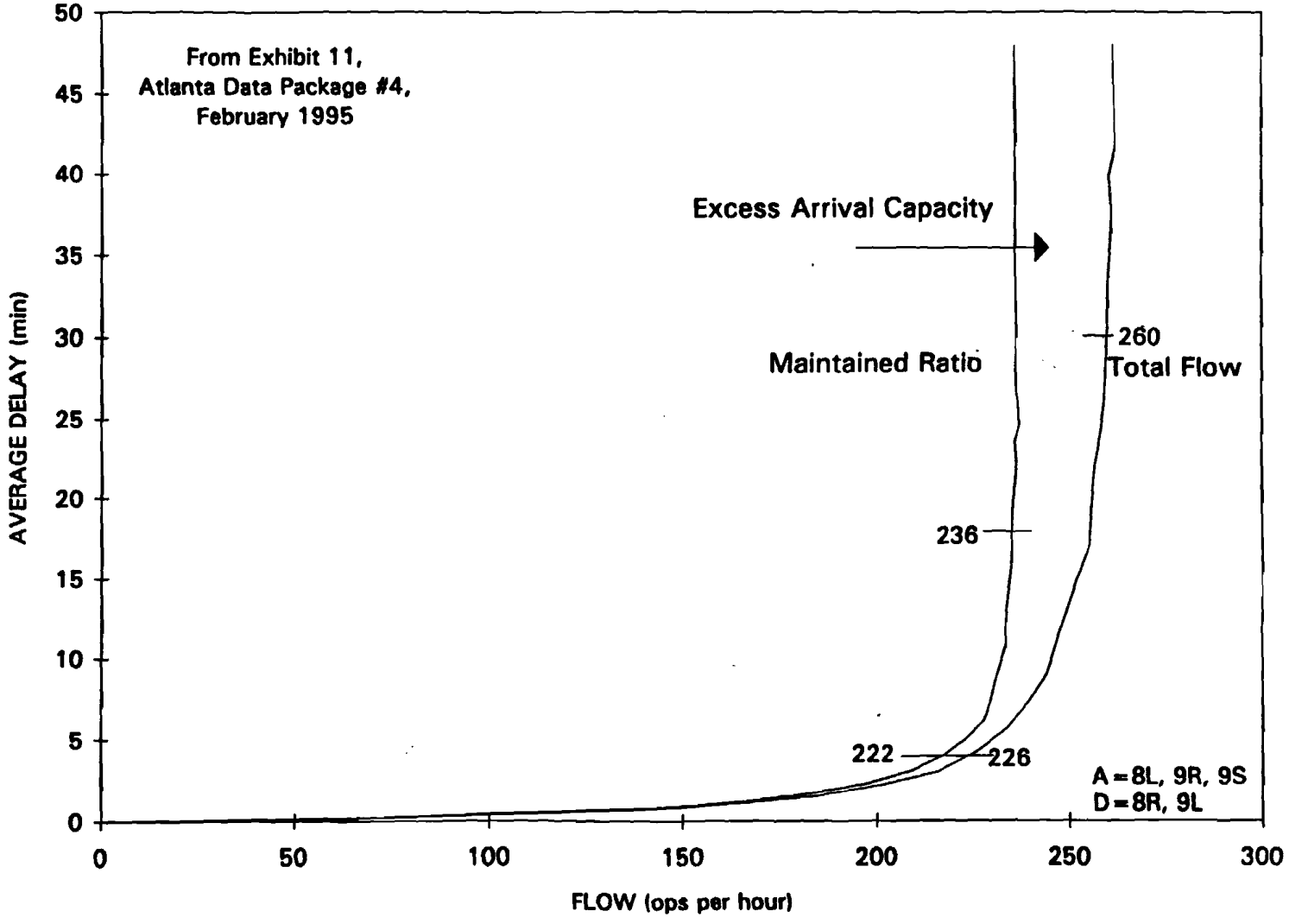


Future Capacity Analysis - Total Flow vs Maintained Ratio Flow

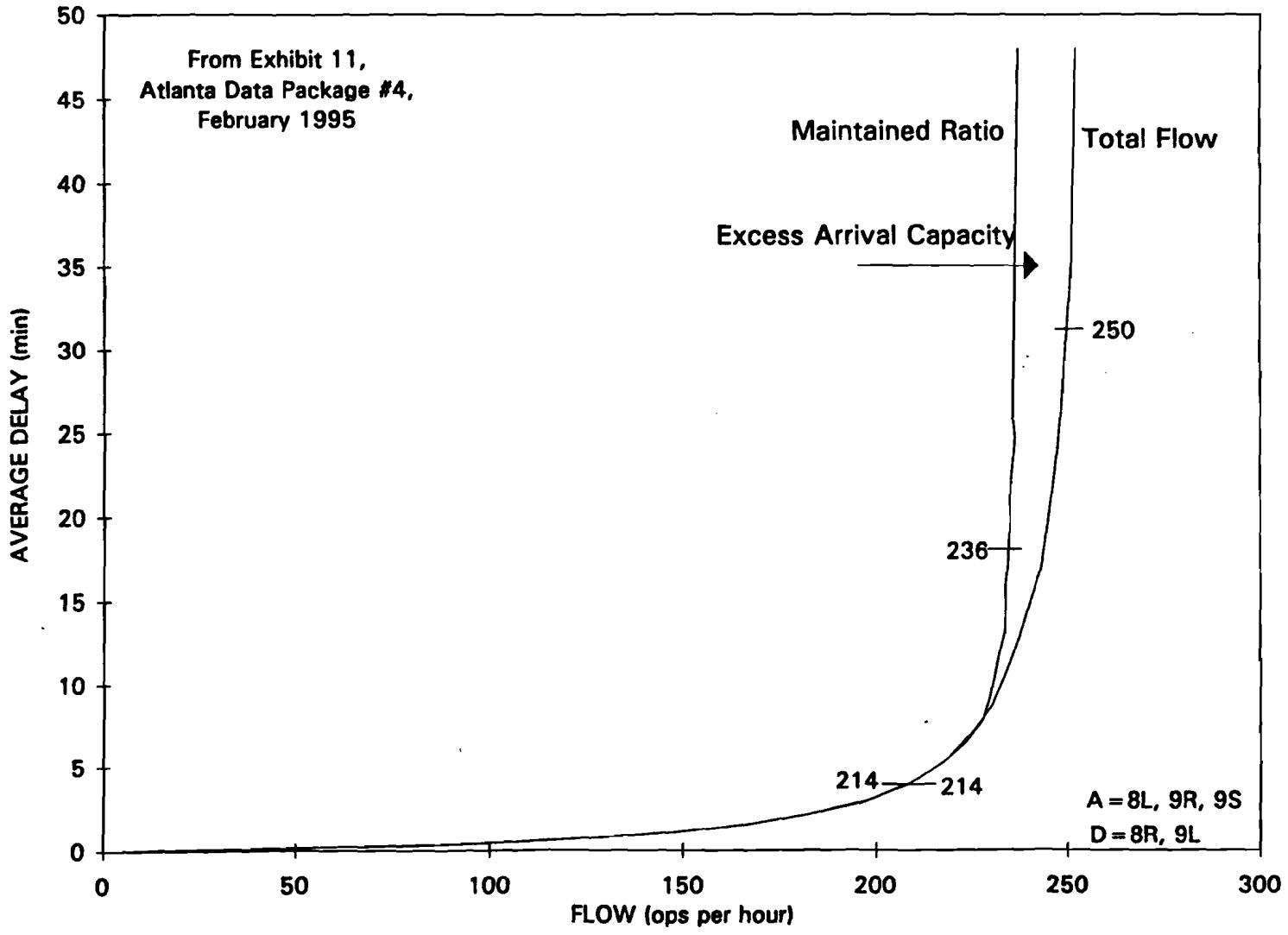
Demand Split 50/50	4-Minute Delay			Maximum Throughput		
	Total Flow	Maintained Ratio Flow	Excess Flow	Total Flow	Maintained Ratio Flow	Excess Flow
Future - Configuration 3 - East Flow (A=8L, 9R; D=8R, 9L)						
VFR1	226 (116/110)	222 (111/111)	4	260 (142/118)	236 (118/118)	24
VFR 2	214 (107/107)	214 (107/107)	0	250 (132/118)	236 (118/118)	14
IFR 1	176 (85/91)	173 (86/87)	3	210 (104/106)	208 (104/104)	3
IFR 2	144 (72/72)	144 (72/72)	0	184 (92/92)	184 (92/92)	0

From Exhibit 10, Atlanta Data Package #4, February 1995

Future Capacity Curves - Maintained Ratio vs Total Flow
Configuration 3 - East Flow - VFR 1 - 50/50

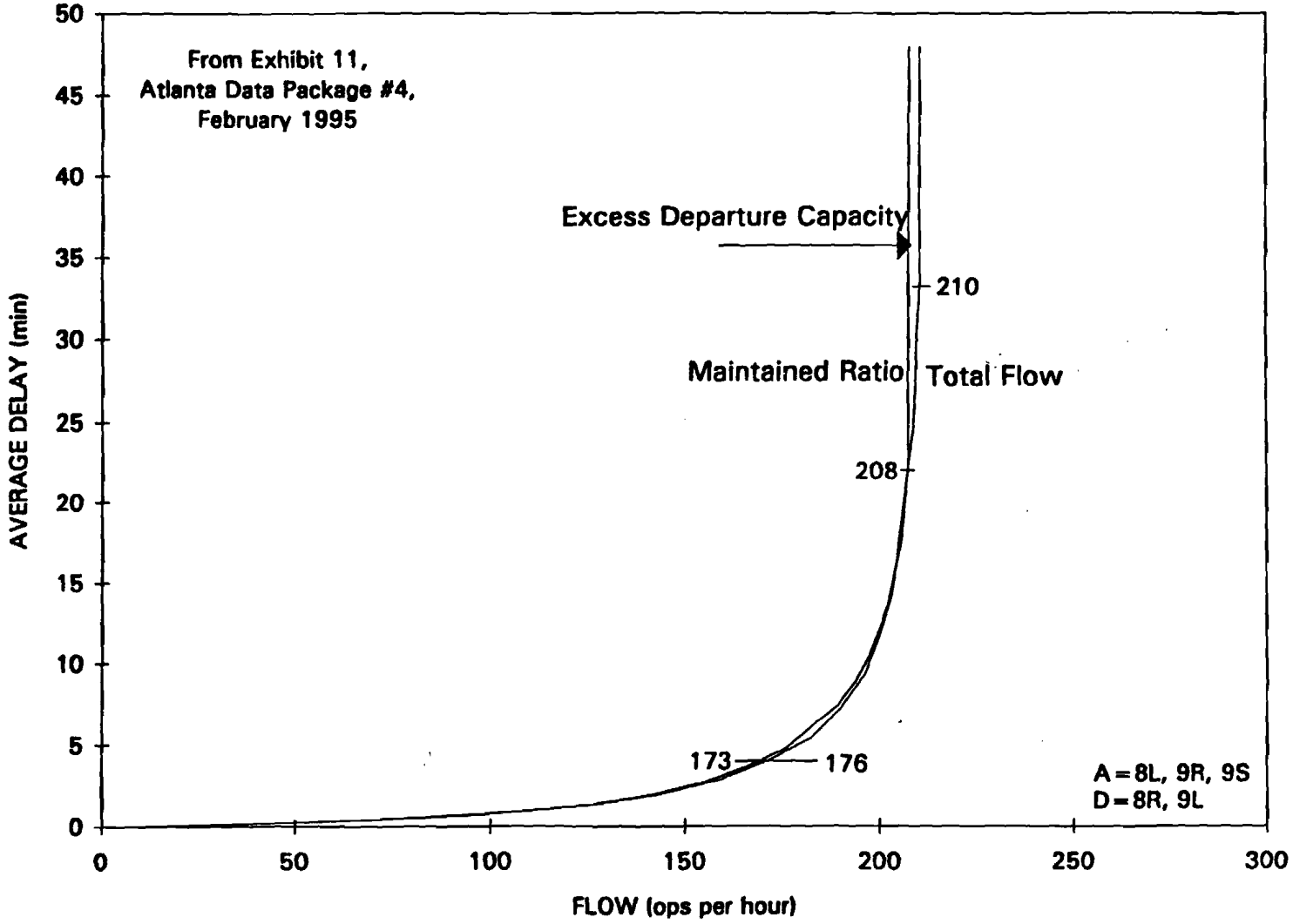


Future Capacity Curves - Maintained Ratio vs Total Flow
Configuration 3 - East Flow - VFR 2 - 50/50

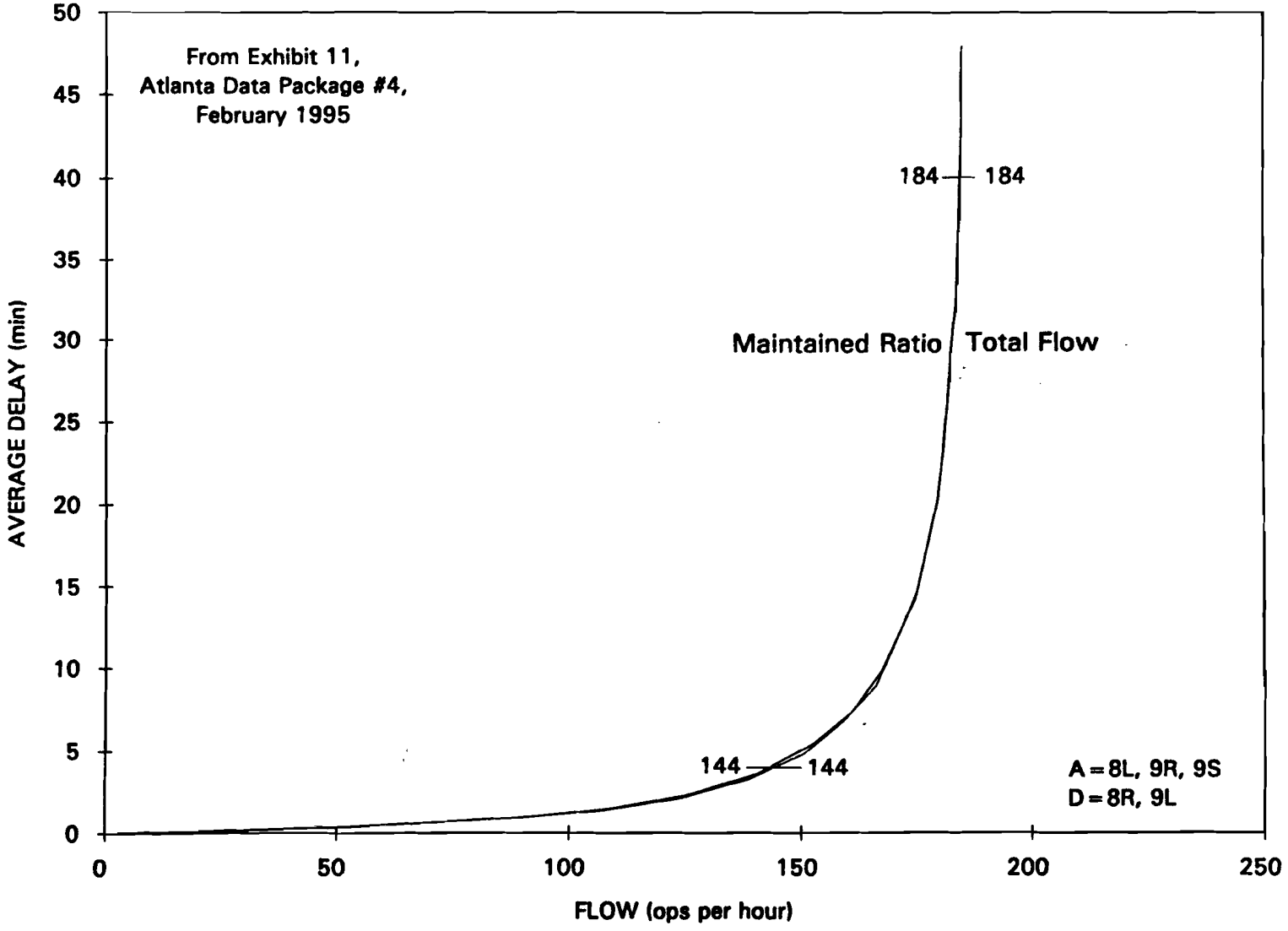


Future Capacity Curves - Maintained Ratio vs Total Flow

Configuration 3 - East Flow - IFR 1 - 50/50



Future - Capacity Curves - Maintained Ratio vs Total Flow
Configuration 3 - East Flow - IFR 2 - 50/50



Capacity Analysis - Four Flight Procedures

Current

Demand Split 50/50	4-Minute Delay Flow (A/D)	Maximum Throughput Flow (A/D)	Maximum Throughput Delay
Current Configuration 1 - East Flow (A=8L, 9R; D=8R, 9L)			
VFR1	182(91/91)	191(96/95)	15
VFR2	162 (81/81)	171 (85/86)	20
IFR 1	128 (64/64)	137 (69/68)	20
IFR2	110 (55/55)	118 (59/59)	25

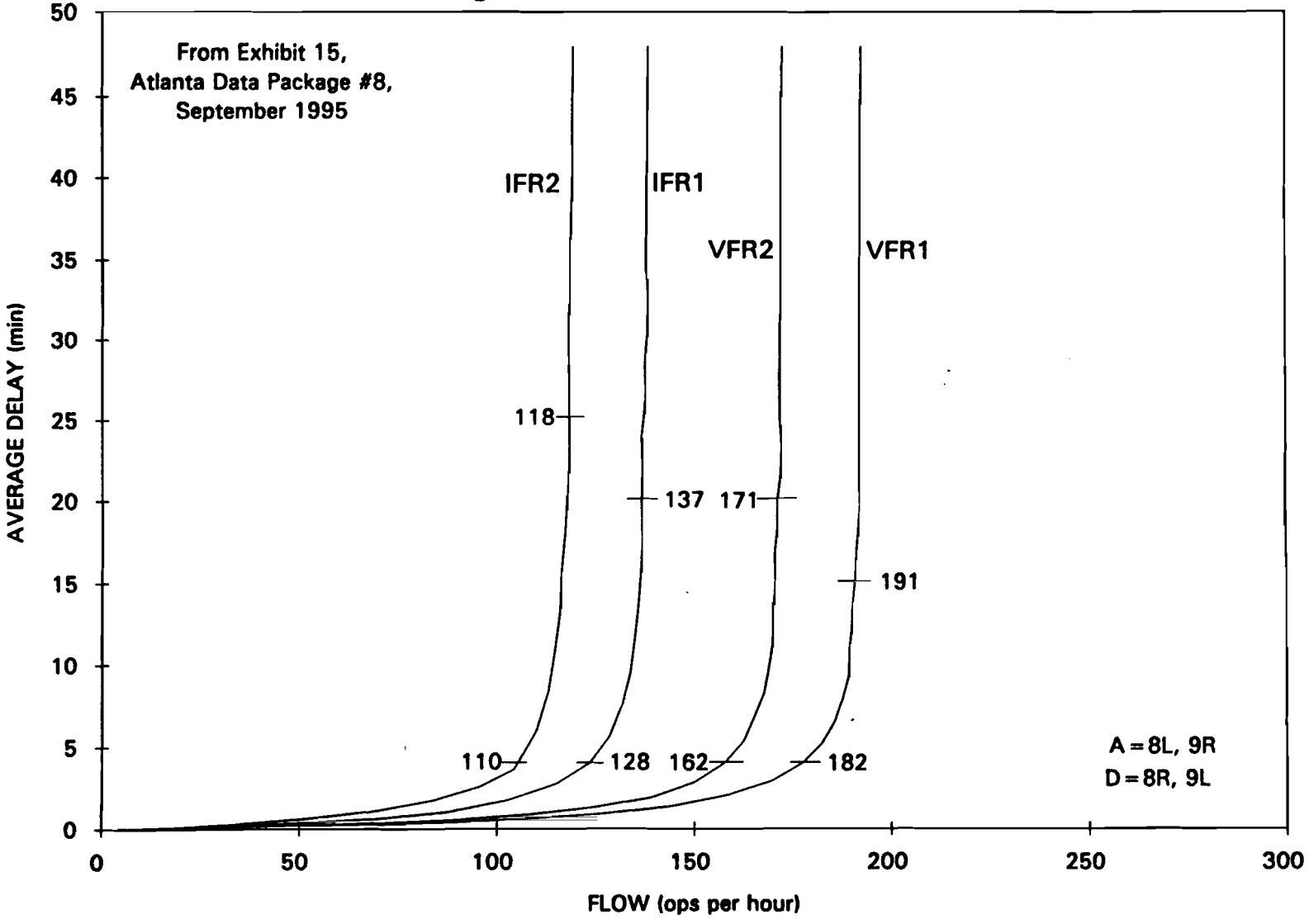
Future

Demand Split 50/50	4-Minute Delay	Maximum Throughput	Maximum Throughput Delay
Future Configuration 3 - East Flow (A=8L, 9R, 9S; D=8R, 9L)			
50/50			
VFR1	222 (111/111)	236 (118/118)	20
VFR2	214 (107/107)	236 (118/118)	20
IFR 1	173 (86/86)	208 (104/104)	23
IFR2	144 (72/72)	184 (92/92)	40

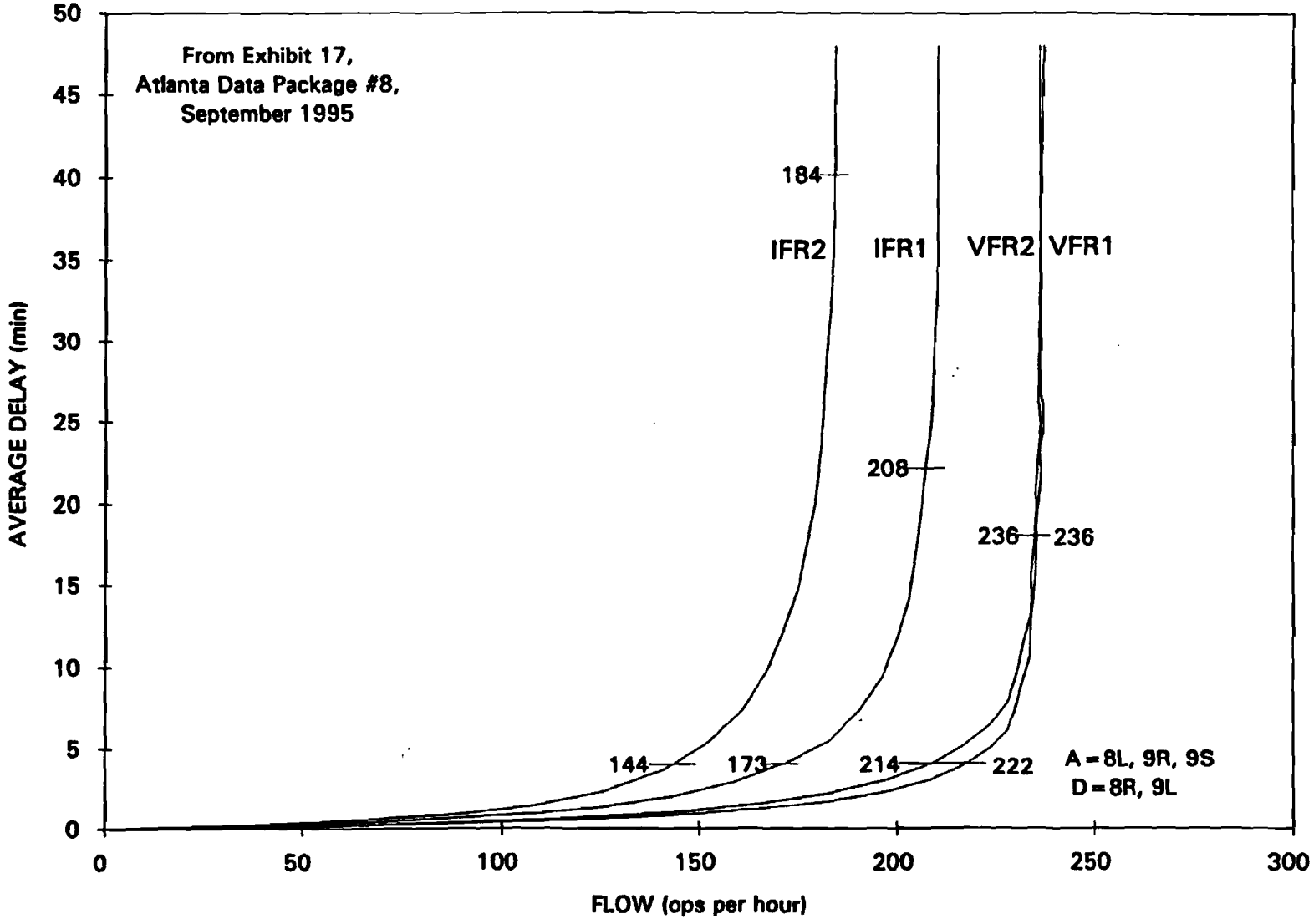
Note: Maintained Ratio Flow

From Exhibits 14 & 16, Atlanta Data Package #8, September 1995

Current Capacity Curves - Four Flight Procedures
Configuration 1 - East Flow - 50/50



Future Capacity Curves - Four Flight Procedures
Configuration 3 - East Flow - 50/50



RDSIM

RDSIM

RDSIM Experiments R - 1

Annual Delay Calculaitons - RDSIM R - 29

RDSIM Experiments

RDSIM experiments are completed for "Current Airfield" case for three demand levels (Baseline, Future 1, and Future 2) and East flow. For comparison, experiments with and without balancing of arrivals and departures are simulated. Experiments for future improvement, new South runway with aircraft with 100,000 pounds of take-off weight, (aircraft class 4, 5 & 6) are also complete. However, at this time, some experiments are not tied to a proposed list of improvement items. Consideration is given to Visual (VFR1 & VFR2) and Instrument (IFR1 & IFR2) flight procedures.

In Atlanta, RDSIM experiments have been assigned a sequence of three numbers for Baseline, Future 1 and Future 2 traffic sample schedules. Experiments with VFR1 separations will have odd numbers; VFR2 will have odd numbers with suffix "2"; IFR1 will have even numbers; and IFR2 will have even numbers with the suffix "2". The first digit will identify the configuration number assigned to runway use. The second digit will identify the demand level of the traffic schedule. For example, numbers 11, 13 and 15 are for Configuration 1 and VFR1 for the three demand levels of Baseline, Future 1 and Future 2; numbers 112, 132 and 152 are for Configuration 1 and VFR2 for the three demand levels; numbers 12, 14 and 16 are for Configuration 1 and IFR1 for the three demand levels; and numbers 122, 142 and 162 are for Configuration 1 and IFR2 for the three demand levels. Additionally, suffices are added as needed, such as "B" for balanced operations and "F" for future improvements/configurations.

Example of each experiment for Baseline, Future 1 and Future 2 is as follows:

	Experiment Number	Arrival Runway	Departure Runway
(0) VFR1	11, 13, 15	8L, 9R	8R, 9L
VFR2	112, 132, 152	8L, 9R	8R, 9L
IFR1	12, 14, 16	8L, 9R	8R, 9L
IFR2	122, 142, 162	8L, 9R	8R, 9L

Simulation results of the Atlanta RDSIM experiments are summarized on the following pages. Each experiment identifies the demand level, flight procedures used, daily delay incurred and daily demand in number of aircraft operations. Included in the daily delays are the delays by arrival and departure, as well as the total delay and the average delay per operation, in minutes, for each.

In the next exhibit, experiments are labeled as follows: (0) 1.1, (1a) 1.1, etc. The item labeled (0) 1.1 signifies Improvement Number (0), subset 1.1 of this improvement. The rest of these labels are derived in the same manner.

LIST OF ATL RDSIM EXPERIMENTS COMPLETED

(0)	1.1	Current Airfield - No Noise Restrictions
(0)	1.2	Current Airfield with Balanced (Relocating) Arrivals and Departures
(0)	2a	Current Airfield Three Runway Case - Arrivals and Departures on One Runway Only
(0)	2b	Current Airfield Three Runway Case - Arrivals and Departures on Three Runways
(0)	2c	Current Airfield Four Runway Case - Arrivals and Departures on All Four Runways
(1a)	1.1	New Runway on the South Side - Arrivals Only (Jets and Props, Class 4, 5 & 6 Aircraft)
(1a)	1.2	New Runway on the South Side - Arrivals Only (Jets and Props, Class 4, 5 & 6 Aircraft) Balanced Arrivals and Departures
(1a)	2	New Runway on the South Side - Arrivals Only (Props Only, Class 5 & 6 Aircraft)
(1a)	3.1	New Runway on the South Side - Arrivals Only (Jets and Props), Except no Aircraft from the Northwest Fix Arriving on Runway 9S
(1a)	3.2	New Runway on the South Side - Arrivals Only (Props Only), Except no Aircraft from the Northwest Fix on Runway 9S
(1b)	1	New Runway on the South Side - Arrivals and Departures (Jets and Props, Class 4, 5 & 6 Aircraft)
(1b)	2	New Runway on the South Side - Arrivals and Departures on 9S (Props Only, Class 5 & 6 Aircraft)
(1b)	3	New Runway on the South Side - Arrivals (Jets and Props, Class 4, 5 & 6 Aircraft) and Departures (Props Only, Class 5 & 6 Aircraft), Except no Aircraft from the Northwest Fix on Runway 9S
(1c)		Unrestricted Arrivals Only on Runway 9S
(1d)		Unrestricted Arrivals and Departures on Runway 9S
(12)	2b	Current Airfield Three Runway Case - Arrivals and Departures on Three Runways (No Wake Vortex)
(12)	2c	Current Airfield Four Runway Case - Arrivals and Departures on All Four Runways (No Wake Vortex)
(14)		Reduce Intrail Spacing from 2.5 NM to 2.0 NM
(15)	1	Current Airfield Three Departure Case
(15)	2	Current Airfield Four Departure Case
(15)	3.1	Current Airfield Three Departure Case, Turboprops to 2 Fixes
(15)	3.2	Current Airfield Three Departure Case, Turboprops to 3 Fixes
(16)	1	Current Airfield Three Departure Case (No Wake Vortex)
(16)	2	Current Airfield Four Departure Case (No Wake Vortex)
(21)		Uniformly Distributed Scheduled Commercial Operations
(22)		Current Airfield with Noise Restrictions (All Jets)

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(0) 1.1 Current Airfield Without Noise Restrictions									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9L									
11	Baseline	VFR1	2688	2.5	4556	4.5	7244	3.5	2093
13	Future 1	VFR1	7075	5.5	10259	8.1	17334	6.8	2550
15	Future 2	VFR1	18571	12.4	16539	11.0	35110	11.7	3000
112	Baseline	VFR2	4182	3.9	4375	4.3	8557	4.1	2093
132	Future 1	VFR2	11836	9.3	9542	7.5	21378	8.4	2550
152	Future 2	VFR2	47077	31.4	12621	8.4	59698	19.9	3000
12	Baseline	IFR1	13285	12.4	4069	4.0	17354	8.3	2093
14	Future 1	IFR1	73633	57.6	5053	4.0	78686	30.9	2550
16	Future 2	IFR1	207202	138.1	8256	5.5	215458	71.8	3000
122	Baseline	IFR2	41885	39.0	4987	4.9	46872	22.4	2093
142	Future 1	IFR2	165392	129.3	9425	7.4	174817	68.6	2550
162	Future 2	IFR2	341346	227.6	14387	9.6	355733	118.6	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(0) 1.2 Do Nothing with Balanced (Relocating) Arrivals and Departures									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9L									
11B	Baseline	VFR1	2347	2.2	4285	4.2	6632	3.2	2093
13B	Future 1	VFR1	6344	5.0	10203	8.0	16547	6.5	2550
15B	Future 2	VFR1	15364	10.2	16468	11.0	31832	10.6	3000
112B	Baseline	VFR2	3665	3.4	4141	4.1	7806	3.7	2093
132B	Future 1	VFR2	10296	8.1	9516	7.5	19812	7.8	2550
152B	Future 2	VFR2	50074	33.4	11861	7.9	61935	20.6	3000
12B	Baseline	IFR1	10580	9.9	4073	4.0	14653	7.0	2093
14B	Future 1	IFR1	75870	59.3	4879	3.8	80749	31.7	2550
16B	Future 2	IFR1	209971	140.0	7789	5.2	217760	72.6	3000
122B	Baseline	IFR2	42414	39.5	4555	4.5	46969	22.4	2093
142B	Future 1	IFR2	168203	131.5	8765	6.9	176968	69.4	2550
162B	Future 2	IFR2	351373	234.2	12995	8.7	364368	121.5	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(0) 2a Current Airfield Three Runway Case - Arrivals and Departures on one runway only									
Configuration 2A, East Flow A=Rwys 8L, 9R D=8L, 9L									
21A	Baseline	VFR1	2695	2.5	8653	8.5	11348	5.4	2093
23A	Future 1	VFR1	7071	5.5	3131	24.6	38389	15.1	2550
25A	Future 2	VFR1	18552	12.4	97556	65.0	116108	38.7	3000
212A	Baseline	VFR2	4141	3.9	8323	8.2	12464	6.0	2093
232A	Future 1	VFR2	11813	9.2	28598	22.5	40411	15.8	2550
252A	Future 2	VFR2	46678	31.1	77897	51.9	124575	41.5	3000
22A	Baseline	IFR1	13298	12.4	12879	12.6	26177	12.5	2093
24A	Future 1	IFR1	73415	57.4	22267	17.5	95682	37.5	2550
26A	Future 2	IFR1	207005	138.0	41608	27.7	248613	82.9	3000
222A	Baseline	IFR2	41754	38.9	12509	12.3	54263	25.9	2093
242A	Future 1	IFR2	165036	129.0	33044	26.0	198080	77.7	2550
262A	Future 2	IFR2	341117	227.4	89442	59.6	430559	143.5	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(0) 2b Current Airfield Three Runway Case - Arrivals and Departures on Three Runways									
Configuration 2B East Flow A=Rwys 8L, 9R, 9L D=8L, 9R, 9L									
21B	Baseline	VFR1	1132	1.1	4546	4.5	5678	2.7	2093
23B	Future 1	VFR1	3360	2.6	12933	10.2	16293	6.4	2550
25B	Future 2	VFR1	7192	4.8	40291	26.9	47483	15.8	3000
212B	Baseline	VFR2	2770	2.6	4487	4.4	7257	3.5	2093
232B	Future 1	VFR2	13985	10.9	12895	10.1	26880	10.5	2550
252B	Future 2	VFR2	59157	39.4	28831	19.2	87988	29.3	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(0) 2c Do Nothing Four Runway Case - Arrivals and Departures on all Four Runways									
Configuration 2C, East Flow A=Rwys 8R, 8L, 9R, 9L D=8R, 8L, 9R, 9L									
21C	Baseline	VFR1	991	0.9	2741	2.7	3732	1.8	2093
23C	Future 1	VFR1	2253	1.8	6424	5.1	8677	3.4	2550
25C	Future 2	VFR1	4519	3.0	12087	8.1	16606	5.5	3000
212C	Baseline	VFR2	1794	1.7	2733	2.7	4527	2.2	2093
232C	Future 1	VFR2	5099	4.0	6621	5.2	11720	4.6	2550
252C	Future 2	VFR2	11976	8.0	14022	9.3	25998	8.7	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
1a) 1.1 New Runway on the South Side - Arrivals Only (Both Jets and Props Class 4, 5 & 6 Aircraft) - Balanced Arrivals Only									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31	Baseline	VFR1	826	0.8	4691	4.6	5517	2.6	2093
33	Future 1	VFR1	1782	1.4	10865	8.5	12647	5.0	2550
35	Future 2	VFR1	3559	2.4	18612	12.4	22171	7.4	3000
312	Baseline	VFR2	1125	1.0	4675	4.6	5800	2.8	2093
332	Future 1	VFR2	2575	2.0	10784	8.5	13359	5.2	2550
352	Future 2	VFR2	5249	3.5	18323	12.2	23572	7.9	3000
32	Baseline	IFR1	2904	2.7	5596	5.5	8500	4.1	2093
34	Future 1	IFR1	7498	5.9	11750	9.2	19248	7.5	2550
36	Future 2	IFR1	21385	14.3	18715	12.5	40100	13.4	3000
322	Baseline	IFR2	4895	4.6	8278	8.1	13173	6.3	2093
342	Future 1	IFR2	15196	11.9	21169	16.7	36365	14.3	2550
362	Future 2	IFR2	54710	36.5	44276	29.5	98986	33.0	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1a) 1.2 New Runway on the South Side - Arrivals Only (Both Jets and Props Class 4, 5 & 6 Aircraft) - Balanced Arrivals and Departures									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31B	Baseline	VFR1	834	0.8	4395	4.3	5229	2.5	2093
33B	Future 1	VFR1	1777	1.4	10725	8.4	12502	4.9	2550
35B	Future 2	VFR1	3563	2.4	18154	12.1	21717	7.2	3000
312B	Baseline	VFR2	1127	1.1	4409	4.3	5536	2.6	2093
332B	Future 1	VFR2	2588	2.0	10617	8.4	13205	5.2	2550
352B	Future 2	VFR2	5245	3.5	17916	11.9	23161	7.7	3000
32B	Baseline	IFR1	2879	2.7	5280	5.2	8159	3.9	2093
34B	Future 1	IFR1	7498	5.9	11579	9.1	19077	7.5	2550
36B	Future 2	IFR1	21253	14.2	17134	11.4	38387	12.8	3000
322B	Baseline	IFR2	4934	4.6	7821	7.7	12755	6.1	2093
342B	Future 1	IFR2	15145	11.8	18107	14.2	33252	13.0	2550
362B	Future 2	IFR2	54974	36.6	40906	27.3	95880	32.0	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1a) 2 New Runway on the South Side - Arrivals Only (Props only Class 5 & 6 Aircraft) Balanced Arrivals only									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31P	Baseline	VFR1	903	0.8	4694	4.6	5597	2.7	2093
33P	Future 1	VFR1	2021	1.6	10853	8.5	12874	5.0	2550
35P	Future 2	VFR1	3984	2.7	18523	12.3	22507	7.5	3000
312P	Baseline	VFR2	1255	1.2	4665	4.6	5920	2.8	2093
332P	Future 1	VFR2	3057	2.4	10742	8.5	13799	5.4	2550
352P	Future 2	VFR2	6098	4.1	18169	12.1	24267	8.1	3000
32P	Baseline	IFR1	3352	3.1	5549	5.4	8901	4.3	2093
34P	Future 1	IFR1	9364	7.3	11451	9.0	20815	8.2	2550
36P	Future 2	IFR1	30082	20.1	17218	11.5	47300	15.8	3000
322P	Baseline	IFR2	6006	5.6	8632	8.5	14638	7.0	2093
342P	Future 1	IFR2	25782	20.2	20156	15.9	45938	18.0	2550
362P	Future 2	IFR2	90025	60.0	36511	24.3	126536	42.2	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1a) 3.1 New Runway on the South Side - Arrivals Only (Both Jets and Props except no Aircraft from Northwest fix arriving on Rwy 9S) - Balanced Arrivals only									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31NNW	Baseline	VFR1	1012	0.9	4688	4.6	5700	2.7	2093
33NNW	Future 1	VFR1	2263	1.8	10814	8.5	13077	5.1	2550
35NNW	Future 2	VFR1	4649	3.1	18374	12.2	23023	7.7	3000
312NNW	Baseline	VFR2	1416	1.3	4643	4.6	6059	2.9	2093
332NNW	Future 1	VFR2	3472	2.7	10653	8.4	14125	5.5	2550
352NNW	Future 2	VFR2	7176	4.8	17973	12.0	25149	8.4	3000
32NNW	Baseline	IFR1	3829	3.6	5455	5.3	9284	4.4	2093
34NNW	Future 1	IFR1	10407	8.1	11196	8.8	21603	8.5	2550
36NNW	Future 2	IFR1	36950	24.6	15627	10.4	52577	17.5	3000
322NNW	Baseline	IFR2	6927	6.5	8692	8.5	15619	7.5	2093
342NNW	Future 1	IFR2	28310	22.1	18927	14.9	47237	18.5	2550
362NNW	Future 2	IFR2	98230	65.5	33899	22.6	132129	44.0	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1a) 3.2 New Runway on the South Side - Arrivals Only (Props only Class 5 & 6 Aircraft) Balanced Arrivals and no Arrivals from Northwest fix on Rwy 9S									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31PN	Baseline	VFR1	1083	1.0	4669	4.6	5752	2.7	2093
33PN	Future 1	VFR1	2506	2.0	10821	8.5	13327	5.2	2550
35PN	Future 2	VFR1	5184	3.5	18343	12.2	23527	7.8	3000
312PN	Baseline	VFR2	1525	1.4	4630	4.5	6155	2.9	2093
332PN	Future 1	VFR2	3974	3.1	10624	8.4	14598	5.7	2550
352PN	Future 2	VFR2	8165	5.4	17816	11.9	25981	8.7	3000
32PN	Baseline	IFR1	4219	3.9	5391	5.3	9610	4.6	2093
34PN	Future 1	IFR1	12875	10.1	10833	8.5	23708	9.3	2550
36PN	Future 2	IFR1	52524	35.0	13823	9.2	66347	22.1	3000
322PN	Baseline	IFR2	7994	7.5	8835	8.7	16829	8.0	2093
342PN	Future 1	IFR2	43523	34.0	16689	13.1	60212	23.6	2550
362PN	Future 2	IFR2	127953	85.3	29522	19.7	157475	52.5	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1b) 1 New Runway on the South Side - Arrivals and Departures (Both Jets and Props Class 4, 5 and 6 Aircraft) - Balanced Arrivals Only									
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31AD	Baseline	VFR1	833	0.8	3080	3.0	3913	1.9	2093
33AD	Future 1	VFR1	1786	1.4	7016	5.5	8802	3.5	2550
35AD	Future 2	VFR1	3569	2.4	12186	8.1	15755	5.3	3000
312AD	Baseline	VFR2	1128	1.1	3076	3.0	4204	2.0	2093
332AD	Future 1	VFR2	2606	2.0	6955	5.5	9561	3.7	2550
352AD	Future 2	VFR2	5225	3.5	11973	8.0	17198	5.7	3000
32AD	Baseline	IFR1	2903	2.7	3818	3.7	6721	3.2	2093
34AD	Future 1	IFR1	7500	5.9	7759	6.1	15259	6.2	2550
36AD	Future 2	IFR1	21442	14.3	12695	8.5	34137	11.4	3000
322AD	Baseline	IFR2	4918	4.6	5764	5.7	10682	5.1	2093
342AD	Future 1	IFR2	15235	11.9	14689	11.7	30104	11.8	2550
362AD	Future 2	IFR2	54839	36.6	25834	17.2	80673	26.9	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1b) 2 New Runway on the South Side - Arrivals and Departures on 9S (Props only Class 5 & 6 Aircraft) - Balanced Arrivals only									
Configuration 3ADP, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31ADP	Baseline	VFR1	1075	1.0	3063	3.0	4138	2.0	2093
33ADP	Future 1	VFR1	2508	2.0	7108	5.6	9616	3.8	2550
35ADP	Future 2	VFR1	5168	3.4	12170	8.1	17338	5.8	3000
312ADP	Baseline	VFR2	1528	1.4	3057	3.0	4585	2.2	2093
332ADP	Future 1	VFR2	3965	3.1	6973	5.5	10938	4.3	2550
352ADP	Future 2	VFR2	8172	5.4	11760	7.8	19932	6.6	3000
32ADP	Baseline	IFR1	4216	3.9	3696	3.6	7912	3.8	2093
34ADP	Future 1	IFR1	12802	10.0	7134	5.6	19936	7.8	2550
36ADP	Future 2	IFR1	52156	34.8	8785	5.9	60941	20.3	3000
322ADP	Baseline	IFR2	8008	7.5	6125	6.0	14133	6.8	2093
342ADP	Future 1	IFR2	43348	33.9	11075	8.7	54423	21.3	2550
362ADP	Future 2	IFR2	127974	85.3	17510	11.7	145484	48.5	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1b) 3 New Runway on the South Side - Arrivals Jets and Props, Departures Props only Except no Aircraft arrive from Northwest fix on Rwy 9S									
Configuration 3ANDP, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L, 9S									
31ANDP	Baseline	VFR1	1005	0.9	3084	3.0	4089	2.0	2093
33ANDP	Future 1	VFR1	2276	1.8	7158	6.5	9434	3.7	2550
35ANDP	Future 2	VFR1	4638	3.1	12261	8.2	16899	5.6	3000
312ANDP	Baseline	VFR2	1418	1.3	3066	3.0	4484	2.1	2093
332ANDP	Future 1	VFR2	3462	2.7	7044	5.5	10506	4.1	2550
352ANDP	Future 2	VFR2	7149	4.8	11954	8.0	19103	6.4	3000
32ANDP	Baseline	IFR1	3799	3.5	3742	3.7	7541	3.6	2093
34ANDP	Future 1	IFR1	10501	8.2	7430	5.8	17931	7.0	2550
36ANDP	Future 2	IFR1	37090	24.7	10038	6.7	47128	15.7	3000
322ANDP	Baseline	IFR2	6929	6.5	6139	6.0	13068	6.2	2093
342ANDP	Future 1	IFR2	28246	22.1	12869	10.1	41115	16.1	2550
362ANDP	Future 2	IFR2	97798	65.2	19937	13.3	117735	39.2	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1c) New Runway on the South Side - Unrestricted Arrivals only									
Configuration 3UA, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L									
31UA	Baseline	VFR1	734	0.7	4001	3.9	4735	2.3	2093
33UA	Future 1	VFR1	1507	1.2	9409	7.4	10916	4.3	2550
35UA	Future 2	VFR1	2960	2.0	15990	10.7	18950	6.3	3000
312UA	Baseline	VFR2	1008	0.9	4007	3.9	5051	2.4	2093
332UA	Future 1	VFR2	2228	1.7	9342	7.4	11570	4.5	2550
352UA	Future 2	VFR2	4688	3.1	15856	10.6	20544	6.8	3000
32UA	Baseline	IFR1	2420	2.3	4891	4.8	7311	3.5	2093
34UA	Future 1	IFR1	6137	4.8	10491	8.3	16628	6.5	2550
36UA	Future 2	IFR1	13756	9.2	17541	11.7	31297	10.4	3000
322UA	Baseline	IFR2	4336	4.0	6944	6.8	11280	5.4	2093
342UA	Future 1	IFR2	11083	8.7	17694	13.9	28777	11.3	2550
362UA	Future 2	IFR2	38524	25.7	36309	24.2	74833	24.9	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(1d) New Runway on the South Side - Unrestricted Arrivals and Departures									
Configuration 3UAD, East Flow A=Rwys 8L, 9R, 9S D=8R, 9L, 9S									
31UAD	Baseline	VFR1	740	0.7	2284	2.2	3024	1.4	2093
33UAD	Future 1	VFR1	1501	1.2	6074	4.8	7575	3.0	2550
35UAD	Future 2	VFR1	2967	2.0	10912	7.3	13879	4.6	3000
312UAD	Baseline	VFR2	1005	0.9	2259	2.2	3264	1.6	2093
332UAD	Future 1	VFR2	2214	1.7	5967	4.7	8181	3.2	2550
352UAD	Future 2	VFR2	4694	3.1	10629	7.1	15323	5.1	3000
32UAD	Baseline	IFR1	2425	2.3	2855	2.8	5280	2.5	2093
34UAD	Future 1	IFR1	6123	4.8	6950	5.5	13073	5.1	2550
36UAD	Future 2	IFR1	13738	9.2	11563	7.1	25301	8.4	3000
322UAD	Baseline	IFR2	4317	4.0	3809	3.7	8126	3.9	2093
342UAD	Future 1	IFR2	11125	8.7	10117	8.0	21242	8.3	2550
362UAD	Future 2	IFR2	38970	26.0	17337	11.6	56307	18.8	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(12) 2b Current Airfield Three Runway Case - Arrivals and Departures on three runways (No Wake Vortex)									
Configuration 2BW East Flow A=Rwys 8L, 9R, 9L D=8L, 9R, 9L									
21BW	Baseline	VFR1	833	0.8	3435	3.4	4268	2.0	2093
23BW	Future 1	VFR1	1533	1.2	10231	8.0	11764	4.6	2550
25BW	Future 2	VFR1	3379	2.3	27501	18.3	30880	10.3	3000
212BW	Baseline	VFR2	1102	1.0	3368	3.3	4470	2.1	2093
232BW	Future 1	VFR2	2253	1.8	9954	7.8	12207	4.8	2550
252BW	Future 2	VFR2	5273	3.5	26865	17.9	32138	10.7	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(12) 2c Current Airfield Four Runway Case - Arrivals and Departures on all Four runways (No Wake Vortex)									
Configuration 2CW, East Flow A=Rwys 8R, 8L, 9R, 9L D=8R, 8L, 9R, 9L									
21CW	Baseline	VFR1	896	0.8	2387	2.3	3283	1.6	2093
23CW	Future 1	VFR1	2014	1.6	5366	4.2	7380	2.9	2550
25CW	Future 2	VFR1	4044	2.7	9906	6.6	13950	4.7	3000
212CW	Baseline	VFR2	1272	1.2	2373	2.3	3645	1.7	2093
232CW	Future 1	VFR2	3074	2.4	5198	4.1	8272	3.2	2550
252CW	Future 2	VFR2	6213	4.1	9733	6.5	15946	5.3	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(14) Reduce Intrail Spacing from 2.5 to 2.0 NM									
Configuration 1NM, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9L									
12NM	Baseline	IFR1	9938	9.3	4560	4.5	14498	6.9	2093
14NM	Future 1	IFR1	50352	39.4	6533	5.1	56885	22.3	2550
16NM	Future 2	IFR1	167767	111.8	9103	6.1	176870	59.0	3000
122NM	Baseline	IFR2	29112	27.1	6422	6.3	35534	17.0	2093
142NM	Future 1	IFR2	136259	106.5	10545	8.3	146804	5706	2550
162NM	Future 2	IFR2	297241	198.2	16147	10.8	313388	104.5	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(15) 1 Current Airfield - Three Departure case									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9R, 9L									
11A2D3	Baseline	VFR1	2683	2.5	3308	3.2	5991	2.9	2093
13A2D3	Future 1	VFR1	7065	5.5	8751	6.9	15816	6.2	2550
15A2D3	Future 2	VFR1	18524	12.3	18957	12.6	37481	12.5	3000
112A2D3	Baseline	VFR2	4169	3.9	3102	3.0	7271	3.5	2093
132A2D3	Future 1	VFR2	11792	9.2	8125	6.4	19917	7.8	2550
152A2D3	Future 2	VFR2	47244	31.5	13166	8.8	60410	20.1	3000
12A2D3	Baseline	IFR1	13313	12.4	7007	6.9	20320	9.7	2093
14A2D3	Future 1	IFR1	73388	57.4	20928	16.5	94316	37.0	2550
16A2D3	Future 2	IFR1	207616	138.4	32780	21.9	240396	80.1	3000
122A2D3	Baseline	IFR2	41885	39.0	7967	7.8	49852	23.8	2093
142A2D3	Future 1	IFR2	165460	129.4	17054	13.4	182514	71.6	2550
162A2D3	Future 2	IFR2	341642	227.8	36602	24.4	378244	126.1	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(15) 2 Current Airfield - Four Departure case									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 8L, 9R, 9L									
11A2D4	Baseline	VFR1	2687	2.5	2356	2.3	5043	2.4	2093
13A2D4	Future 1	VFR1	7065	5.5	8751	6.9	15816	6.2	2550
15A2D4	Future 2	VFR1	18593	12.4	19527	13.0	38120	12.7	3000
112A2D4	Baseline	VFR2	4179	3.9	2250	2.2	6429	3.1	2093
132A2D4	Future 1	VFR2	11784	9.2	5970	4.7	17754	7.0	2550
152A2D4	Future 2	VFR2	47086	31.4	11291	7.5	58377	19.5	3000
12A2D4	Baseline	IFR1	13336	12.4	5308	5.2	18644	8.9	2093
14A2D4	Future 1	IFR1	73573	57.5	8829	6.9	82402	32.3	2550
16A2D4	Future 2	IFR1	207139	138.1	17242	11.5	224381	74.8	3000
122A2D4	Baseline	IFR2	41829	39.0	5290	5.2	47119	22.5	2093
142A2D4	Future 1	IFR2	165234	129.2	10410	8.2	175644	68.9	2550
162A2D4	Future 2	IFR2	341362	227.6	17503	11.7	358865	119.6	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(15) 3.1 Current Airfield - Three Departure case - Turboprops To Two Fixes									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9R, 9L									
	Baseline	VFR1	2683	2.5	3678	3.6	6361	3.0	2093
	Future 1	VFR1	7081	5.5	8681	6.8	15762	6.2	2550
	Future 2	VFR1	18544	12.4	14128	9.4	32672	10.9	3000
	Baseline	VFR2	4133	3.9	3577	3.5	7710	3.7	2093
	Future 1	VFR2	11751	9.2	8033	6.3	19784	7.8	2550
	Future 2	VFR2	47124	31.4	10799	7.2	57923	19.3	3000

Departing turboprops on Runway 9R to two fixes (S2 & W).

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(15) 3.2 Current Airfield - Three Departure case - Turboprops To Three Fixes									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9R, 9L									
112A3DTP	Baseline	VFR1	2695	2.5	3412	3.3	6107	2.9	2093
132A3DTP	Future 1	VFR1	7070	5.5	7915	6.2	14985	5.9	2550
152A3DTP	Future 2	VFR1	18565	12.4	13301	8.9	31866	10.6	3000
1122A3DTP	Baseline	VFR2	4163	3.9	3325	3.3	7488	3.6	2093
1322A3DTP	Future 1	VFR2	11799	9.2	7328	5.8	19127	7.5	2550
1522A3DTP	Future 2	VFR2	47091	31.4	10082	6.7	57173	19.1	3000

Departing turboprops on Runway 9R to three fixes (S1, S2 & W).

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(16) 1 Current Airfield - Three Departure case - No Wake Vortex									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9R, 9L									
11A2D3N	Baseline	VFR1	2688	2.5	2393	2.3	5081	2.4	2093
13A2D3N	Future 1	VFR1	7057	5.5	6274	4.9	13331	5.2	2550
15A2D3N	Future 2	VFR1	18690	12.5	11596	7.7	30286	10.1	3000
112A2D3N	Baseline	VFR2	4165	3.9	2249	2.2	6414	3.1	2093
132A2D3N	Future 1	VFR2	11784	9.2	7325	5.8	19112	7.5	2550
152A2D3N	Future 2	VFR2	47003	31.3	8578	5.7	55581	18.5	3000
12A2D3N	Baseline	IFR1	13304	12.4	2452	2.4	15756	7.5	2093
14A2D3N	Future 1	IFR1	73157	57.2	3588	2.8	76745	30.1	2550
16A2D3N	Future 2	IFR1	207182	138.1	5375	3.6	212557	70.9	3000
122A2D3N	Baseline	IFR2	41815	39.0	2578	2.5	44393	21.2	2093
142A2D3N	Future 1	IFR2	165298	129.2	5014	3.9	170312	66.8	2550
162A2D3N	Future 2	IFR2	341125	227.4	8044	5.4	349169	116.4	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(16) 2 Current Airfield - Four Departure case - No Wake Vortex									
Configuration 1, East Flow A=Rwys 8L, 9R D= Rwys 8R, 8L, 9R, 9L									
11A2D4N	Baseline	VFR1	2707	2.5	1899	1.9	4606	2.2	2093
13A2D4N	Future 1	VFR1	7040	5.5	4134	3.3	11174	4.4	2550
15A2D4N	Future 2	VFR1	18512	12.3	9113	6.1	27625	9.2	3000
112A2D4N	Baseline	VFR2	4145	3.9	1793	1.8	5938	2.8	2093
132A2D4N	Future 1	VFR2	11779	9.2	5863	4.6	17642	6.9	2550
152A2D4N	Future 2	VFR2	46920	31.3	6311	4.2	53231	17.7	3000
12A2D4N	Baseline	IFR1	13311	12.4	2123	2.1	15434	7.4	2093
14A2D4N	Future 1	IFR1	73202	57.2	2734	2.2	75936	29.8	2550
16A2D4N	Future 2	IFR1	207119	138.1	4053	2.7	211172	70.4	3000
122A2D4N	Baseline	IFR2	41928	39.1	2178	2.1	44106	21.1	2093
142A2D4N	Future 1	IFR2	165422	129.3	3496	2.8	168918	66.2	2550
162A2D4N	Future 2	IFR2	340988	227.3	4899	3.3	345887	115.3	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(21) Uniformly Distributed Scheduled Commercial operations									
Configuration 1UN, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9L									
11UN	Baseline	VFR1	1377	1.3	852	0.8	2229	1.1	2093
13UN	Future 1	VFR1	3136	2.5	3057	2.4	6193	2.4	2550
15UN	Future 2	VFR1	12569	8.4	7532	5.0	20101	6.7	3000
112UN	Baseline	VFR2	2168	2.0	843	0.8	3011	1.4	2093
132UN	Future 1	VFR2	6478	5.1	3035	2.4	9513	3.7	2550
152UN	Future 2	VFR2	38511	25.7	7376	4.9	45887	15.3	3000
12UN	Baseline	IFR1	9992	9.3	1252	1.2	11244	5.4	2093
14UN	Future 1	IFR1	66434	51.9	3510	2.8	69944	27.4	2550
16UN	Future 2	IFR1	197243	131.5	7337	4.9	204580	68.2	3000
122UN	Baseline	IFR2	39111	36.4	3133	3.1	42244	20.2	2093
142UN	Future 1	IFR2	159176	124.5	8415	6.6	167591	65.7	2550
162UN	Future 2	IFR2	332165	221.4	15010	10.0	347175	115.7	3000

From Exhibit 11, Atlanta Data Package #6 - Appendix, June 1995

Exp #	Demand Level	Flight Procedures	Arrival Delay Total	Arrival Delay Average	Departure Delay Total	Departure Delay Average	Total Delay Total	Total Delay Average	Total Daily Demand
(22) Current Airfield With Noise Restrictions Effect of Noise Abatement Procedures (all jets)									
Configuration 1DD, East Flow A=Rwys 8L, 9R D= Rwys 8R, 9L									
11DD	Baseline	VFR1	2689	2.5	60891	6.0	8778	4.2	2093
13DD	Future 1	VFR1	7028	5.5	12872	10.1	19900	7.8	2550
15DD	Future 2	VFR1	18573	12.4	23117	15.4	41690	13.9	3000
112DD	Baseline	VFR2	4161	3.9	5953	5.8	10114	4.8	2093
132DD	Future 1	VFR2	11779	9.2	12041	9.5	23820	9.3	2550
152DD	Future 2	VFR2	46963	31.3	18365	12.2	65328	21.8	3000

From Exhibit 20, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATION - RDSIM

At Atlanta, RDSIM results (daily delay in minutes) are annualized per runway configuration use, based on configurations and flight procedures.

A weighted cost in dollars per minute or hour of delay is considered to compute annual values.

A weighted cost is based on the Atlanta daily traffic sample, type of aircraft distribution and operating cost data for scheduled and non-scheduled operations.

Computed Breakdown:

Demand Level	Daily Traffic	Equivalent Days	Annual*
Baseline	2093	333	700
Future 1	2550	333	850
Future 2	3000	333	1000

Note: * Annual aircraft operations in thousands.

A weighted cost of $33.00 per minute or $1980.00 per hour of delay is considered to compile cost/savings at Atlanta, based upon data presented on the following two pages.

A value of 333 equivalent days and an IFR factor of 1.0 for annualization is used for all three demand levels.

The weighted cost of $33.00 per minute of delay at Atlanta is computed as follows:

Baseline - $33.00 per minute

Aircraft Class	# of Aircraft	Ratio	Cost per hour	Cost per minute	Weighted cost per min
1	305	.15	$3911	$65.18	$9.78
2	170	.08	2539	42.32	3.39
3	1067	.51	2010	33.50	17.09
4	89	.04	1677	27.50	1.11
5	399	.19	539	8.79	1.71
6	63	.03	60	1.0	.03
	2093	1.00			$33.11

Future 1 - $33.00 per minute

Aircraft Class	# of Aircraft	Ratio	Cost per hour	Cost per minute	Weighted cost per min
1	390	.15	$3911	$65.18	$9.78
2	300	.12	2539	42.32	5.08
3	1146	.45	2010	33.50	15.08
4	128	.05	1677	27.95	1.40
5	512	.20	539	8.99	1.80
6	74	.03	60	1.0	.03
	2550	1.00			$33.17

Future 2 - $33.00 per minute

Aircraft Class	# of Aircraft	Ratio	Cost per hour	Cost per minute	Weighted cost per min
1	482	.16	$3911	$65.18	10.43
2	420	.14	2539	42.32	5.92
3	1226	.41	2010	33.50	13.74
4	150	.05	1677	27.95	1.40
5	662	.22	539	8.99	1.98
6	60	.02	60	1.0	.02
	3000	1.00			$33.49

Aircraft operational costs for scheduled and non-scheduled operations are developed from Aviation Daily-Avitas Aviation tables for various aircraft operating costs, second quarter 1994, Regional Aviation first quarter 1994, ASA data and APO - 110 - FAA APO - 94, Aviation Data Service values updated with APO-110: FAA - APO - 94 report.

The costs are based on various types of aircraft and airline specific total operating cost when feasible.

		Cost per hour	Overall cost per hour
Class 1	L1011	$3997	
	B767	3701	$3911
Class 2	B757	2545	$2539
Class 3	MD80	1921	
	DC9	1486	
	B727	2515	
	B737	2208	$2010
Class 4	F100	1688	$1677
Class 5	EM2	545	$539
Class 6	Twin Engine	66	
	Single Engine	23	$60

Annualized Savings

Annualized Savings are computed from the differences between the annualized cost of "Current Airfield" and various improvements.

The following exhibits present the annualized savings for each item based on RDSIM simulations at the three demand levels, and their respective costs.

Detailed computation of annualized costs for each item are also presented. Annualized costs are based on daily delay from the RDSIM simulation, the percent use of each configuration, the equivalent day and cost per minute of delay at the three demand levels: Baseline, Future 1 and Future 2.

ATLANTA RDSIM ANNUALIZED SAVINGS

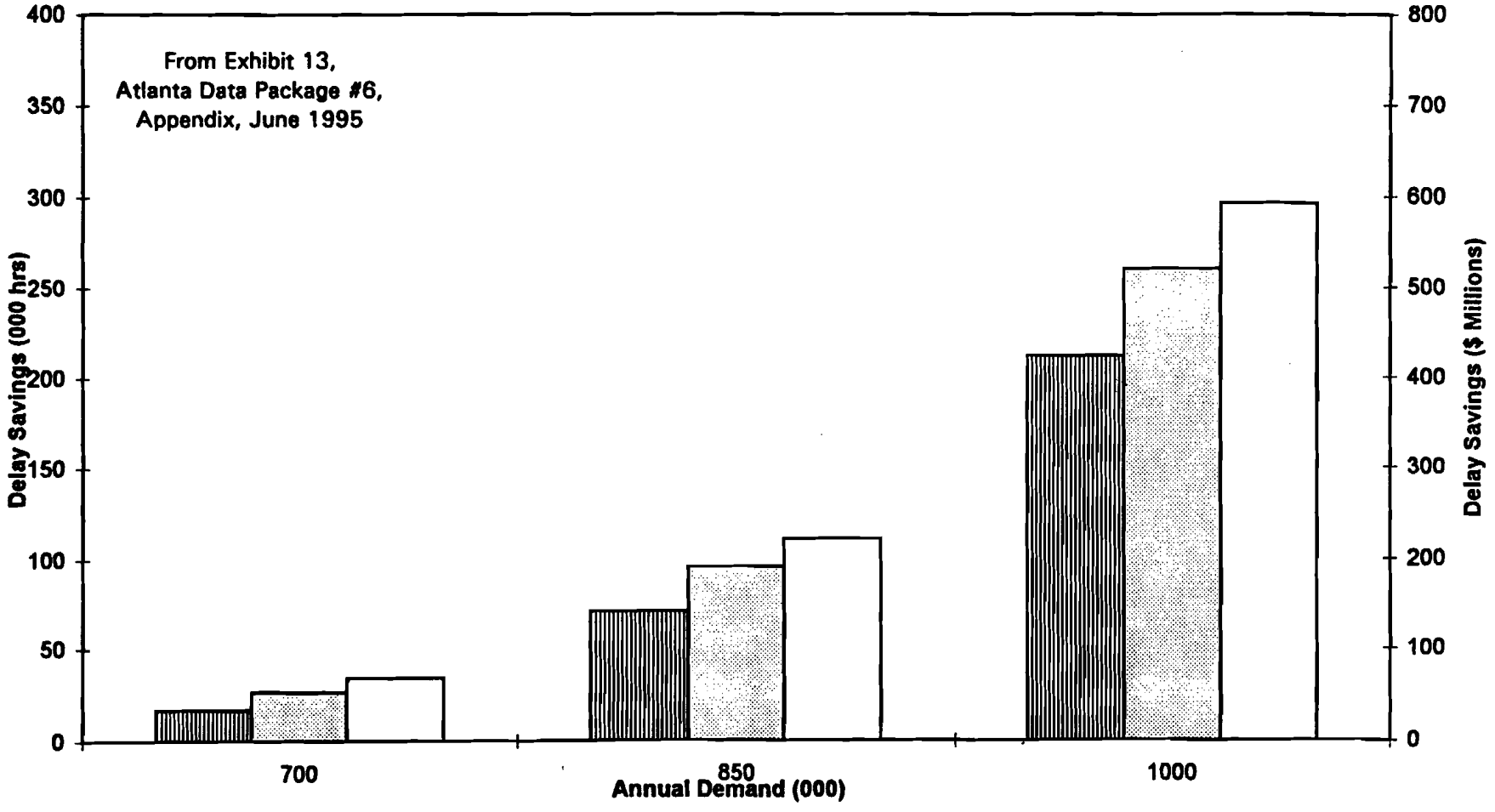
	Baseline		Future 1		Future2	
	000 (HRS)	$ (Millions)	000 (HRS)	$ (Millions)	000 (HRS)	$ (Millions)
(0) 1.2 Current Airfield Balanced	4.87	9.64	3.82	7.56	2.75	5.45
(7) (0) 2a Current Airfield Arr and Dep on one Rwy	(25.64)	(50.77)	(110.69)	(219.17)	(388.33)	(768.89)
(7) (12) (0) 2b Current Airfield Arr and Dep on three Rwys (With Wake Vortex)	7.05	13.96	(7.68)	(15.21)	(90.67)	(179.53)
(12) (0) 2c Current Airfield Arr and Dep on four Rwys (With Wake Vortex)	17.97	35.58	43.75	86.63	118.85	235.32
(1a) 1.1 New Rwy Arr only Jets and Props	19.49	38.59	80.76	159.90	243.07	481.28
(1a) 1.2 New Rwy Arr only Jets and Props Balanced	21.09	41.76	81.93	162.22	246.57	488.21
(1a) 2 New Rwy Arr only Props only	18.62	36.87	77.23	152.92	233.29	461.91
(1a) 3.1 New Rwy Arr only Jets andProps, no A/C from NW fix on 9s	17.71	35.07	75.39	149.27	226.24	447.96
(1a) 3.2 New Rwy Arr only Props only, no A/C from NW fix on 9s	17.03	33.72	71.02	140.62	211.96	419.68
(1b) 1 New Rwy Arr and Dep, Jets and Props	28.58	56.59	102.37	202.69	279.64	553.69
(1b) 2 New Rwy Arr and Dep, Props only	26.08	51.64	91.79	181.74	246.20	487.48
(1b) 3 New Rwy Arr Jets and Props, Dep Props only, no A/C from NW fix on 9s	26.76	52.98	95.85	189.78	260.59	515.97
(1c) Unrestricted Arrivals only on Rwy 9s	24.14	47.80	91.68	181.53	266.30	527.27
(1d) Unrestriced Arrivals and Departures on Rwy 9s	34.08	67.48	110.91	219.60	296.79	587.64
(10) Cat I and Cat II on New Runway	9.75	19.31	51.94	102.84	129.18	255.78
(12) 2b Current Airfield Arr and Dep on three Rwys (No Wake Vortex)	16.53	32.73	33.89	67.10	65.74	130.17
(12) 2c Current Airfield Arr and Dep on four Rwys (No Wake Vortex)	20.96	41.50	54.19	107.30	146.05	289.18
(14) Reduce Intrail Spacing to 2.0 NM	3.01	5.96	16.42	32.51	28.25	55.94
(15) 1 Current Airfield three Dep case	3.98	7.88	(3.17)	(6.28)	(25.95)	(51.38)
(15) 2 Current Airfield four Dep case	9.68	19.17	9.06	17.94	(11.92)	(23.60)
(15) 3.1 Current Airfield three Dep case to 2 fixes	4.17	8.26	7.64	15.13	10.48	20.75
(15) 3.2 Current Airfield three Dep case to 2 fixes	5.36	10.61	11.60	22.10	14.26	28.23
(16) 1 Current Airfield three Dep case - No Wake Vortex	11.66	23.09	17.64	34.93	24.41	48.33
(16) 2 Current Airfield four Dep case - No Wake Vortex	14.18	28.08	27.37	54.19	37.87	74.98
(21) Uniformly Distributed Scheduled Commercial Operations	29.49	58.39	61.34	121.45	77.73	153.91
(22) Current Airfield without Noise Restrictions (all jets)	7.45	14.75	12.14	24.04	29.93	59.26

Annualized values @ $1980 per hour or $33 per minute of delay

Note: Current Airfield = Current airfield with no physical improvements

From Exhibit 21, Atlanta Data Package #8, September 1995

ATL Annual Delay Savings



(1a) 3.2 New Rwy Arr only Props only, no A/C from NW fix on 9s
(1b) 3 New Rwy Arr Jets and Props, Dep Props only, no A/C from NW fix on 9s
(1d) Unrestriced Arrivals and Departures on Rwy 9s

ATLANTA RDSIM ANNUALIZED COSTS

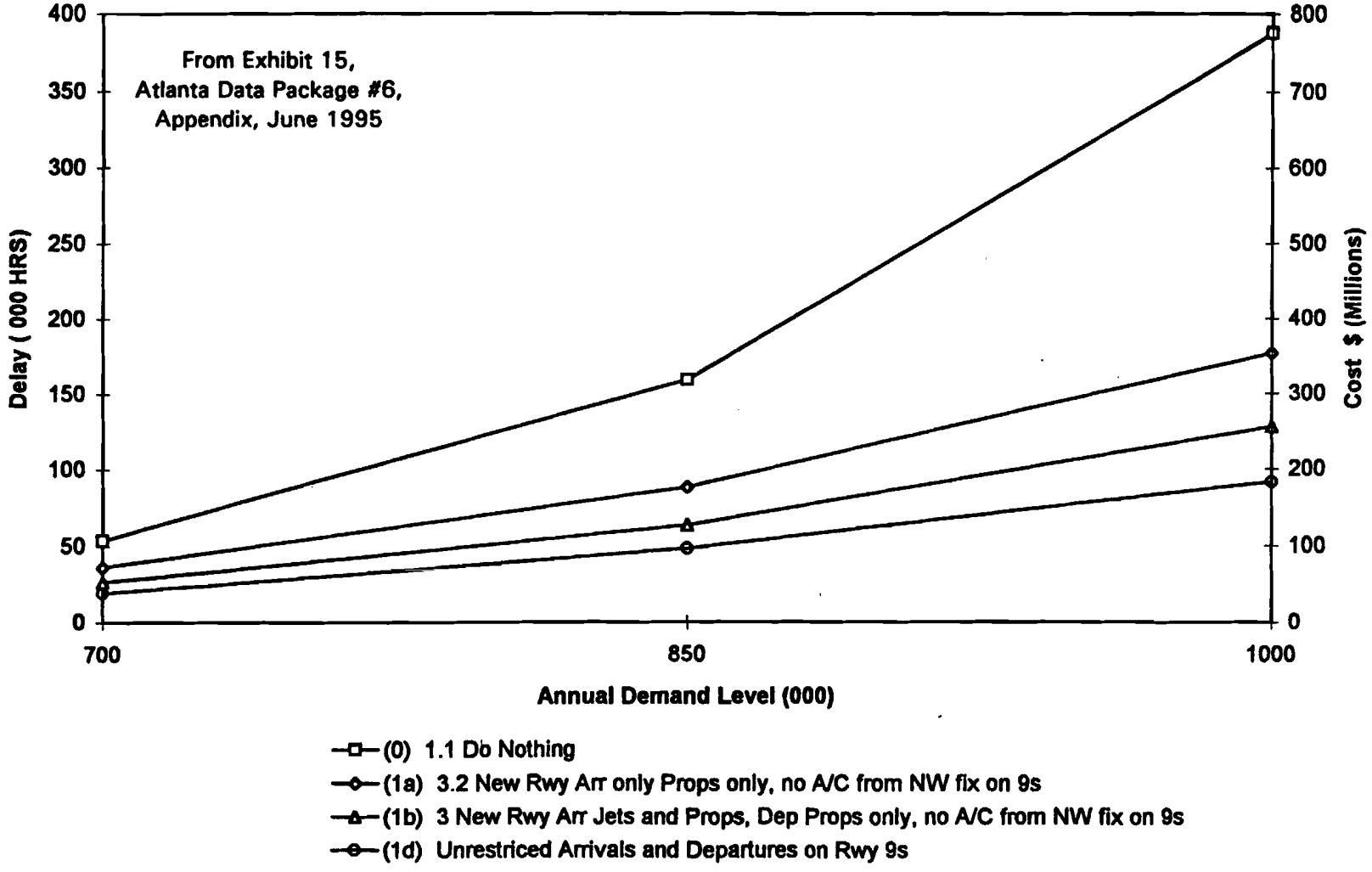
	Baseline		Future 1		Future2	
	000 (HRS)	$ (Millions)	000 (HRS)	$ (Millions)	000 (HRS)	$ (Millions)
(22) Current Airfield with Noise Restrictions (all jets)	60.78	120.34	171.14	338.86	418.24	828.12
(0) 1.1 Current Airfield without Noise Procedures in Place	53.33	105.59	159.00	314.82	388.31	768.85
(0) 1.2 Current Airfield Balanced	48.46	95.95	155.18	307.26	385.56	763.41
(7)(0) 2a Current Airfield Arr and Dep on one Rwy	78.97	156.36	269.69	533.99	776.64	1537.75
(7)(12)(0) 2b Current Airfield Arr and Dep on three Rwys	46.28	91.63	166.68	330.03	478.98	948.38
(12)(0) 2c Current Airfield Arr and Dep on four Rwys	35.36	70.01	115.25	228.20	269.46	533.53
(1a) 1.1 New Rwy Arr only Jets and Props	33.84	67.00	78.24	154.92	145.24	287.58
(1a) 1.2 New Rwy Arr only Jets and Props Balanced	32.24	63.84	77.07	152.60	141.74	280.65
(1a) 2 New Rwy Arr only Props only	34.71	68.73	81.77	161.90	155.02	306.94
(1a) 3.1 New Rwy Arr only Jets and Props, no A/C from NW fix on 9s	35.62	70.53	83.61	165.55	162.07	320.90
(1a) 3.2 New Rwy Arr only Props only, no A/C from NW fix on 9s	36.30	71.87	87.98	174.20	176.35	349.17
(1b) 1 New Rwy Arr and Dep, Jets and Props	24.75	49.01	56.63	112.13	108.67	215.17
(1b) 2 New Rwy Arr and Dep, Props only	27.25	53.96	67.21	133.08	142.11	281.38
(1b) 3 New Rwy Arr Jets and Props, Dep Props only, no A/C from NW fix on 9s	26.57	52.61	63.15	125.04	127.72	252.89
(1c) Unrestricted Arrivals only on Rwy 9s	29.19	57.80	67.32	133.29	122.01	241.58
(1d) Unrestricted Arrivals and Departures on Rwy 9s	19.25	38.12	48.09	95.22	91.52	181.21
(10) Cat I and Cat II on New Runway	43.58	86.29	107.06	211.98	259.13	513.08
(12) 2b Current Airfield Arr and Dep on three Rwys (No Wake Vortex)	36.80	72.86	125.11	247.72	322.57	638.69
(12) 2c Current Airfield Arr and Dep on four Rwys (No Wake Vortex)	32.37	64.09	104.81	207.52	242.26	479.67
(14) Reduce Intrail Spacing to 2.0 NM	50.32	99.63	142.58	282.31	360.06	712.92
(15) 1 Current Airfield three Dep case	49.35	97.71	162.17	321.10	414.26	820.23
(15) 3.1 Current Airfield three Dep case to two fixes	49.16	97.34	151.36	299.69	377.83	748.10
(15) 3.2 Current Airfield three Dep case to three fixes	47.97	94.98	147.84	292.72	374.05	740.62
(15) 2 Current Airfield four Dep case	43.65	86.43	149.94	296.88	400.23	792.46
(16) 1 Current Airfield three Dep case - No Wake Vortex	41.67	82.51	141.36	279.89	363.90	720.52
(16) 2 Current Airfield four Dep case - No Wake Vortex	39.15	77.52	131.63	260.63	350.44	693.87
(21) Uniformly Distributed Scheduled Commercial Operations	23.84	47.20	97.66	193.37	310.58	614.95

Annualized values @ $1980 per hour or $33 per minute of delay

Note: Current Airfield = Current airfield with no physical improvements

From Exhibit 22, Atlanta Data Package #8, September 1995

ATL ANNUAL DELAY COST



ANNUAL DELAY CALCULATIONS

(0) 1.1 Current Airfield

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	7244	0.52	1	333	20906.18
West	VFR1	0	0.00	1	333	0.00
East	VFR2	8557	0.35	1	333	16621.97
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	53325.57

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	17334	0.52	1	333	50025.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	21378	0.35	1	333	41526.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	158995.18

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	35110	0.52	1	333	101327.46
West	VFR1	0	0.00	1	333	0.00
East	VFR2	59698	0.35	1	333	115963.37
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	388314.30

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(0) 1.2 Do Nothing Balanced Arrivals and Departures

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	6632	0.52	1	333	19139.95
West	VFR1	0	0.00	1	333	0.00
East	VFR2	7806	0.35	1	333	15163.16
West	VFR2	0	0.00	1	333	0.00
East	IFR1	14653	0.11	1	333	8945.66
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46969	0.02	1	333	5213.56
West	IFR2	0	0.00	1	333	0.00
					Total Delay	48462.32

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	16547	0.52	1	333	47754.64
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19812	0.35	1	333	38484.81
West	VFR2	0	0.00	1	333	0.00
East	IFR1	80749	0.11	1	333	49297.26
West	IFR1	0	0.00	1	333	0.00
East	IFR2	176968	0.02	1	333	19643.45
West	IFR2	0	0.00	1	333	0.00
					Total Delay	155180.16

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	31832	0.52	1	333	91867.15
West	VFR1	0	0.00	1	333	0.00
East	VFR2	61935	0.35	1	333	120308.74
West	VFR2	0	0.00	1	333	0.00
East	IFR1	217760	0.11	1	333	132942.48
West	IFR1	0	0.00	1	333	0.00
East	IFR2	364368	0.02	1	333	40444.85
West	IFR2	0	0.00	1	333	0.00
					Total Delay	385563.22

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(0) 2a Current Airfield Three Runway Case - Arrivals and Departures on one Rwy only

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	11348	0.52	1	333	32750.33
West	VFR1	0	0.00	1	333	0.00
East	VFR2	12464	0.35	1	333	24211.32
West	VFR2	0	0.00	1	333	0.00
East	IFR1	26177	0.11	1	333	15981.06
West	IFR1	0	0.00	1	333	0.00
East	IFR2	54263	0.02	1	333	6023.19
West	IFR2	0	0.00	1	333	0.00
					Total Delay	78965.90

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	38389	0.52	1	333	110790.65
West	VFR1	0	0.00	1	333	0.00
East	VFR2	40411	0.35	1	333	78498.37
West	VFR2	0	0.00	1	333	0.00
East	IFR1	95682	0.11	1	333	58413.86
West	IFR1	0	0.00	1	333	0.00
East	IFR2	198080	0.02	1	333	21986.88
West	IFR2	0	0.00	1	333	0.00
					Total Delay	269689.76

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	116108	0.52	1	333	335087.69
West	VFR1	0	0.00	1	333	0.00
East	VFR2	124575	0.35	1	333	241986.94
West	VFR2	0	0.00	1	333	0.00
East	IFR1	248613	0.11	1	333	151778.24
West	IFR1	0	0.00	1	333	0.00
East	IFR2	430559	0.02	1	333	47792.05
West	IFR2	0	0.00	1	333	0.00
					Total Delay	776644.91

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(0) 2b Current Airfield Three Runway Case - Arrivals and Departures on three Rwys

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5678	0.52	1	333	16386.71
West	VFR1	0	0.00	1	333	0.00
East	VFR2	7257	0.35	1	333	14096.72
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	46280.84

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	16293	0.52	1	333	47021.60
West	VFR1	0	0.00	1	333	0.00
East	VFR2	26880	0.35	1	333	52214.40
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	166678.49

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	47483	0.52	1	333	137035.94
West	VFR1	0	0.00	1	333	0.00
East	VFR2	87988	0.35	1	333	170916.69
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	478976.10

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(0) 2c Do Nothing Four Runway Case - Arrivals and Departures on all four Rwys

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	3732	0.52	1	333	10770.55
West	VFR1	0	0.00	1	333	0.00
East	VFR2	4527	0.35	1	333	8793.70
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	35361.66

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	8677	0.52	1	333	25041.82
West	VFR1	0	0.00	1	333	0.00
East	VFR2	11720	0.35	1	333	22766.10
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	115250.41

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	16608	0.52	1	333	47930.69
West	VFR1	0	0.00	1	333	0.00
East	VFR2	25998	0.35	1	333	50501.12
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	269455.28

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1a) 1.1 New Runway on the South Side - Arrivals Only (Both Jets and Props)

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5517	0.52	1	333	15922.06
West	VFR1	0	0.00	1	333	0.00
East	VFR2	5800	0.35	1	333	11266.50
West	VFR2	0	0.00	1	333	0.00
East	IFR1	8500	0.11	1	333	5189.25
West	IFR1	0	0.00	1	333	0.00
East	IFR2	13173	0.02	1	333	1462.20
West	IFR2	0	0.00	1	333	0.00
					Total Delay	33840.02

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	12647	0.52	1	333	36499.24
West	VFR1	0	0.00	1	333	0.00
East	VFR2	13359	0.35	1	333	25949.86
West	VFR2	0	0.00	1	333	0.00
East	IFR1	19248	0.11	1	333	11750.90
West	IFR1	0	0.00	1	333	0.00
East	IFR2	36365	0.02	1	333	4036.52
West	IFR2	0	0.00	1	333	0.00
					Total Delay	78236.52

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	22171	0.52	1	333	63985.51
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23572	0.35	1	333	45788.61
West	VFR2	0	0.00	1	333	0.00
East	IFR1	40100	0.11	1	333	24481.05
West	IFR1	0	0.00	1	333	0.00
East	IFR2	98986	0.02	1	333	10987.45
West	IFR2	0	0.00	1	333	0.00
					Total Delay	145242.61

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1a) 1.2 New Runway on the South Side - Arrivals Only (Both Jets and Props) Balanced Arrivals and Departures

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5229	0.52	1	333	15090.89
West	VFR1	0	0.00	1	333	0.00
East	VFR2	5536	0.35	1	333	10753.68
West	VFR2	0	0.00	1	333	0.00
East	IFR1	8159	0.11	1	333	4981.07
West	IFR1	0	0.00	1	333	0.00
East	IFR2	12755	0.02	1	333	1415.81
West	IFR2	0	0.00	1	333	0.00
					Total Delay	32241.45

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	12502	0.52	1	333	36080.77
West	VFR1	0	0.00	1	333	0.00
East	VFR2	13205	0.35	1	333	25650.71
West	VFR2	0	0.00	1	333	0.00
East	IFR1	19077	0.11	1	333	11646.51
West	IFR1	0	0.00	1	333	0.00
East	IFR2	33252	0.02	1	333	3690.97
West	IFR2	0	0.00	1	333	0.00
					Total Delay	77068.97

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	21717	0.52	1	333	62675.26
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23161	0.35	1	333	44990.24
West	VFR2	0	0.00	1	333	0.00
East	IFR1	38387	0.11	1	333	23435.26
West	IFR1	0	0.00	1	333	0.00
East	IFR2	95880	0.02	1	333	10642.68
West	IFR2	0	0.00	1	333	0.00
					Total Delay	141743.45

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1a) 2 New Runway on South Side Arrivals Only - Props Only

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5597	0.52	1	333	16152.94
West	VFR1	0	0.00	1	333	0.00
East	VFR2	5920	0.35	1	333	11499.60
West	VFR2	0	0.00	1	333	0.00
East	IFR1	8901	0.11	1	333	5434.06
West	IFR1	0	0.00	1	333	0.00
East	IFR2	14638	0.02	1	333	1624.82
West	IFR2	0	0.00	1	333	0.00
					Total Delay	34711.42

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	12874	0.52	1	333	37154.36
West	VFR1	0	0.00	1	333	0.00
East	VFR2	13799	0.35	1	333	26804.56
West	VFR2	0	0.00	1	333	0.00
East	IFR1	20815	0.11	1	333	12707.56
West	IFR1	0	0.00	1	333	0.00
East	IFR2	45938	0.02	1	333	5099.12
West	IFR2	0	0.00	1	333	0.00
					Total Delay	81765.60

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	22507	0.52	1	333	64955.20
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24267	0.35	1	333	47138.65
West	VFR2	0	0.00	1	333	0.00
East	IFR1	47300	0.11	1	333	28876.65
West	IFR1	0	0.00	1	333	0.00
East	IFR2	126536	0.02	1	333	14045.50
West	IFR2	0	0.00	1	333	0.00
					Total Delay	155016.00

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1a) 3.1 New Runway on South Side Arrivals Only - Both Jets and Props only - Except no aircraft from NW Fix to 9S

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5700	0.52	1	333	16450.20
West	VFR1	0	0.00	1	333	0.00
East	VFR2	6059	0.35	1	333	11769.61
West	VFR2	0	0.00	1	333	0.00
East	IFR1	9284	0.11	1	333	5667.88
West	IFR1	0	0.00	1	333	0.00
East	IFR2	15619	0.02	1	333	1733.71
West	IFR2	0	0.00	1	333	0.00
					Total Delay	35621.40

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	13077	0.52	1	333	37740.22
West	VFR1	0	0.00	1	333	0.00
East	VFR2	14125	0.35	1	333	27437.81
West	VFR2	0	0.00	1	333	0.00
East	IFR1	21603	0.11	1	333	13188.63
West	IFR1	0	0.00	1	333	0.00
East	IFR2	47237	0.02	1	333	5243.31
West	IFR2	0	0.00	1	333	0.00
					Total Delay	83609.97

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	23023	0.52	1	333	66444.38
West	VFR1	0	0.00	1	333	0.00
East	VFR2	25149	0.35	1	333	48851.93
West	VFR2	0	0.00	1	333	0.00
East	IFR1	52577	0.11	1	333	32098.26
West	IFR1	0	0.00	1	333	0.00
East	IFR2	132129	0.02	1	333	14666.32
West	IFR2	0	0.00	1	333	0.00
					Total Delay	162060.89

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1a) 3.2 New Runway on South Side Arrivals Only - Props Only with no aircraft from NW Fix to 9S

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5752	0.52	1	333	16600.27
West	VFR1	0	0.00	1	333	0.00
East	VFR2	6155	0.35	1	333	11956.09
West	VFR2	0	0.00	1	333	0.00
East	IFR1	9610	0.11	1	333	5866.91
West	IFR1	0	0.00	1	333	0.00
East	IFR2	16829	0.02	1	333	1868.02
West	IFR2	0	0.00	1	333	0.00
					Total Delay	36291.28

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	13327	0.52	1	333	38461.72
West	VFR1	0	0.00	1	333	0.00
East	VFR2	14598	0.35	1	333	28356.62
West	VFR2	0	0.00	1	333	0.00
East	IFR1	23708	0.11	1	333	14473.73
West	IFR1	0	0.00	1	333	0.00
East	IFR2	60212	0.02	1	333	6683.53
West	IFR2	0	0.00	1	333	0.00
					Total Delay	87975.60

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	23527	0.52	1	333	67898.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	25981	0.35	1	333	50468.09
West	VFR2	0	0.00	1	333	0.00
East	IFR1	66347	0.11	1	333	40504.84
West	IFR1	0	0.00	1	333	0.00
East	IFR2	157475	0.02	1	333	17479.73
West	IFR2	0	0.00	1	333	0.00
					Total Delay	176351.58

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1b) 1 New Runway on the South Side - Arrivals and Departures both Jets and Props

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	3913	0.52	1	333	11292.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	4204	0.35	1	333	8166.27
West	VFR2	0	0.00	1	333	0.00
East	IFR1	6721	0.11	1	333	4103.17
West	IFR1	0	0.00	1	333	0.00
East	IFR2	10682	0.02	1	333	1185.70
West	IFR2	0	0.00	1	333	0.00
					Total Delay	24748.06

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	8802	0.52	1	333	25402.57
West	VFR1	0	0.00	1	333	0.00
East	VFR2	9561	0.35	1	333	18572.24
West	VFR2	0	0.00	1	333	0.00
East	IFR1	15259	0.11	1	333	9315.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	30104	0.02	1	333	3341.54
West	IFR2	0	0.00	1	333	0.00
					Total Delay	56631.98

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	15755	0.52	1	333	45468.93
West	VFR1	0	0.00	1	333	0.00
East	VFR2	17198	0.35	1	333	33407.12
West	VFR2	0	0.00	1	333	0.00
East	IFR1	34137	0.11	1	333	20840.64
West	IFR1	0	0.00	1	333	0.00
East	IFR2	80673	0.02	1	333	8954.70
West	IFR2	0	0.00	1	333	0.00
					Total Delay	108671.39

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1b) 2 New Runway on the South Side - Arrivals and Departures on 9S
props only

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	4138	0.52	1	333	11942.27
West	VFR1	0	0.00	1	333	0.00
East	VFR2	4585	0.35	1	333	8906.36
West	VFR2	0	0.00	1	333	0.00
East	IFR1	7912	0.11	1	333	4830.28
West	IFR1	0	0.00	1	333	0.00
East	IFR2	14133	0.02	1	333	1568.76
West	IFR2	0	0.00	1	333	0.00
					Total Delay	27247.67

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	9616	0.52	1	333	27751.78
West	VFR1	0	0.00	1	333	0.00
East	VFR2	10938	0.35	1	333	21247.07
West	VFR2	0	0.00	1	333	0.00
East	IFR1	19936	0.11	1	333	12170.93
West	IFR1	0	0.00	1	333	0.00
East	IFR2	54423	0.02	1	333	6040.95
West	IFR2	0	0.00	1	333	0.00
					Total Delay	67210.72

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	17338	0.52	1	333	50037.47
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19932	0.35	1	333	38717.91
West	VFR2	0	0.00	1	333	0.00
East	IFR1	60941	0.11	1	333	37204.48
West	IFR1	0	0.00	1	333	0.00
East	IFR2	145485	0.02	1	333	16148.84
West	IFR2	0	0.00	1	333	0.00
					Total Delay	142108.69

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1b) 3 New Runway on the South Side - Arrivals Jets and Props, Departures props only except no A/C arrive from NW fix on Rwy 9s

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	4089	0.52	1	333	11800.85
West	VFR1	0	0.00	1	333	0.00
East	VFR2	4484	0.35	1	333	8710.17
West	VFR2	0	0.00	1	333	0.00
East	IFR1	7541	0.11	1	333	4603.78
West	IFR1	0	0.00	1	333	0.00
East	IFR2	13068	0.02	1	333	1450.55
West	IFR2	0	0.00	1	333	0.00
					Total Delay	26565.35

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	9434	0.52	1	333	27226.52
West	VFR1	0	0.00	1	333	0.00
East	VFR2	10506	0.35	1	333	20407.91
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17931	0.11	1	333	10946.88
West	IFR1	0	0.00	1	333	0.00
East	IFR2	41115	0.02	1	333	4563.77
West	IFR2	0	0.00	1	333	0.00
					Total Delay	63145.07

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	16899	0.52	1	333	48770.51
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19103	0.35	1	333	37107.58
West	VFR2	0	0.00	1	333	0.00
East	IFR1	47128	0.11	1	333	28771.64
West	IFR1	0	0.00	1	333	0.00
East	IFR2	117735	0.02	1	333	13068.59
West	IFR2	0	0.00	1	333	0.00
					Total Delay	127718.32

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1c) New Runway on the South Side - Unrestricted Arrivals only

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	4735	0.52	1	333	13665.21
West	VFR1	0	0.00	1	333	0.00
East	VFR2	5051	0.35	1	333	9811.57
West	VFR2	0	0.00	1	333	0.00
East	IFR1	7311	0.11	1	333	4463.37
West	IFR1	0	0.00	1	333	0.00
East	IFR2	11280	0.02	1	333	1252.08
West	IFR2	0	0.00	1	333	0.00
					Total Delay	29192.22

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	10916	0.52	1	333	31503.58
West	VFR1	0	0.00	1	333	0.00
East	VFR2	11570	0.35	1	333	22474.73
West	VFR2	0	0.00	1	333	0.00
East	IFR1	16628	0.11	1	333	10151.39
West	IFR1	0	0.00	1	333	0.00
East	IFR2	28777	0.02	1	333	3194.25
West	IFR2	0	0.00	1	333	0.00
					Total Delay	67323.94

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	18950	0.52	1	333	54689.70
West	VFR1	0	0.00	1	333	0.00
East	VFR2	20544	0.35	1	333	39906.72
West	VFR2	0	0.00	1	333	0.00
East	IFR1	31297	0.11	1	333	19106.82
West	IFR1	0	0.00	1	333	0.00
East	IFR2	74833	0.02	1	333	8306.46
West	IFR2	0	0.00	1	333	0.00
					Total Delay	122009.70

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(1d) New Runway on the South Side - Unrestricted Arrivals and Departures

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	3024	0.52	1	333	8727.26
West	VFR1	0	0.00	1	333	0.00
East	VFR2	3264	0.35	1	333	6340.32
West	VFR2	0	0.00	1	333	0.00
East	IFR1	5380	0.11	1	333	3284.49
West	IFR1	0	0.00	1	333	0.00
East	IFR2	8126	0.02	1	333	901.99
West	IFR2	0	0.00	1	333	0.00
					Total Delay	19254.06

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	7575	0.52	1	333	21861.45
West	VFR1	0	0.00	1	333	0.00
East	VFR2	8181	0.35	1	333	15891.59
West	VFR2	0	0.00	1	333	0.00
East	IFR1	13073	0.11	1	333	7981.07
West	IFR1	0	0.00	1	333	0.00
East	IFR2	21242	0.02	1	333	2357.86
West	IFR2	0	0.00	1	333	0.00
					Total Delay	48091.97

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	13879	0.52	1	333	40054.79
West	VFR1	0	0.00	1	333	0.00
East	VFR2	15323	0.35	1	333	29764.93
West	VFR2	0	0.00	1	333	0.00
East	IFR1	25301	0.11	1	333	15446.26
West	IFR1	0	0.00	1	333	0.00
East	IFR2	56307	0.02	1	333	6250.08
West	IFR2	0	0.00	1	333	0.00
					Total Delay	91516.06

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(10) Cat I and Cat II on New Runway

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	7244	0.52	1	333	20906.18
West	VFR1	0	0.00	1	333	0.00
East	VFR2	8557	0.35	1	333	16621.97
West	VFR2	0	0.00	1	333	0.00
East	IFR1	7541	0.11	1	333	4603.78
West	IFR1	0	0.00	1	333	0.00
East	IFR2	13068	0.02	1	333	1450.55
West	IFR2	0	0.00	1	333	0.00
					Total Delay	43582.49

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	17334	0.52	1	333	50025.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	21378	0.35	1	333	41526.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17931	0.11	1	333	10946.88
West	IFR1	0	0.00	1	333	0.00
East	IFR2	41115	0.02	1	333	4563.77
West	IFR2	0	0.00	1	333	0.00
					Total Delay	107063.33

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	35110	0.52	1	333	101327.46
West	VFR1	0	0.00	1	333	0.00
East	VFR2	59698	0.35	1	333	115963.37
West	VFR2	0	0.00	1	333	0.00
East	IFR1	47128	0.11	1	333	28771.64
West	IFR1	0	0.00	1	333	0.00
East	IFR2	117735	0.02	1	333	13068.59
West	IFR2	0	0.00	1	333	0.00
					Total Delay	259131.05

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(12)2b Current Airfield Three Runway Case - Arrivals and Departures on three Rwys (No wake vortex)

Baseline

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	4268	0.52	1	333	12317.45
West	VFR1	0	0.00	1	333	0.00
East	VFR2	4470	0.35	1	333	8682.98
West	VFR2	0	0.00	1	333	0.00
East	IFR1	8977	0.11	1	333	5480.46
West	IFR1	0	0.00	1	333	0.00
East	IFR2	12517	0.02	1	333	1389.39
West	IFR2	0	0.00	1	333	0.00
					Total Delay	27870.27

Future 1

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	11764	0.52	1	333	33950.90
West	VFR1	0	0.00	1	333	0.00
East	VFR2	12207	0.35	1	333	23712.10
West	VFR2	0	0.00	1	333	0.00
East	IFR1	20441	0.11	1	333	12479.23
West	IFR1	0	0.00	1	333	0.00
East	IFR2	34752	0.02	1	333	3857.47
West	IFR2	0	0.00	1	333	0.00
					Total Delay	73999.70

Future 2

Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	30880	0.52	1	333	89119.68
West	VFR1	0	0.00	1	333	0.00
East	VFR2	32138	0.35	1	333	62428.07
West	VFR2	0	0.00	1	333	0.00
East	IFR1	48992	0.11	1	333	29909.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	99641	0.02	1	333	11060.15
West	IFR2	0	0.00	1	333	0.00
					Total Delay	192517.51

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(12) 2c Current Airfield Four Runway Case - Arrivals on all four Rwys (No wake vortex)

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	3288	0.52	1	333	9489.17
West	VFR1	0	0.00	1	333	0.00
East	VFR2	3645	0.35	1	333	7080.41
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	32366.99

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	7380	0.52	1	333	21298.68
West	VFR1	0	0.00	1	333	0.00
East	VFR2	8272	0.35	1	333	16068.36
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	104809.53

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	13950	0.52	1	333	40259.70
West	VFR1	0	0.00	1	333	0.00
East	VFR2	15946	0.35	1	333	30975.11
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	242258.28

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(14) Reduce Intrail Spacing from 2.5 to 2.0 NM

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	7244	0.52	1	333	20906.18
West	VFR1	0	0.00	1	333	0.00
East	VFR2	8557	0.35	1	333	16621.97
West	VFR2	0	0.00	1	333	0.00
East	IFR1	14498	0.11	1	333	8851.03
West	IFR1	0	0.00	1	333	0.00
East	IFR2	35534	0.02	1	333	3944.27
West	IFR2	0	0.00	1	333	0.00
					Total Delay	50323.46

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	17334	0.52	1	333	50025.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	21378	0.35	1	333	41526.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	56885	0.11	1	333	34728.29
West	IFR1	0	0.00	1	333	0.00
East	IFR2	146804	0.02	1	333	16295.24
West	IFR2	0	0.00	1	333	0.00
					Total Delay	142576.23

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	35110	0.52	1	333	101327.46
West	VFR1	0	0.00	1	333	0.00
East	VFR2	59698	0.35	1	333	115963.37
West	VFR2	0	0.00	1	333	0.00
East	IFR1	176870	0.11	1	333	107979.14
West	IFR1	0	0.00	1	333	0.00
East	IFR2	313388	0.02	1	333	34786.07
West	IFR2	0	0.00	1	333	0.00
					Total Delay	360056.03

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(15) 1 Current Airfield - Three Departure case

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5991	0.52	1	333	17290.03
West	VFR1	0	0.00	1	333	0.00
East	VFR2	7271	0.35	1	333	14123.92
West	VFR2	0	0.00	1	333	0.00
East	IFR1	20320	0.11	1	333	12405.36
West	IFR1	0	0.00	1	333	0.00
East	IFR2	49852	0.02	1	333	5533.57
West	IFR2	0	0.00	1	333	0.00
					Total Delay	49352.88

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	15816	0.52	1	333	45644.98
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19917	0.35	1	333	38688.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	94316	0.11	1	333	57579.92
West	IFR1	0	0.00	1	333	0.00
East	IFR2	182514	0.02	1	333	20259.05
West	IFR2	0	0.00	1	333	0.00
					Total Delay	162172.72

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	37481	0.52	1	333	108170.17
West	VFR1	0	0.00	1	333	0.00
East	VFR2	60410	0.35	1	333	117346.43
West	VFR2	0	0.00	1	333	0.00
East	IFR1	240396	0.11	1	333	146761.76
West	IFR1	0	0.00	1	333	0.00
East	IFR2	378244	0.02	1	333	41985.08
West	IFR2	0	0.00	1	333	0.00
					Total Delay	414263.43

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(15) 2 Current Airfield - Four Departure case

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5043	0.52	1	333	14554.10
West	VFR1	0	0.00	1	333	0.00
East	VFR2	6429	0.35	1	333	12488.33
West	VFR2	0	0.00	1	333	0.00
East	IFR1	18644.	0.11	1	333	11382.16
West	IFR1	0	0.00	1	333	0.00
East	IFR2	47119	0.02	1	333	5230.21
West	IFR2	0	0.00	1	333	0.00
					Total Delay	43654.80

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	15816	0.52	1	333	45644.98
West	VFR1	0	0.00	1	333	0.00
East	VFR2	17754	0.35	1	333	34487.15
West	VFR2	0	0.00	1	333	0.00
East	IFR1	82402	0.11	1	333	50306.42
West	IFR1	0	0.00	1	333	0.00
East	IFR2	175644	0.02	1	333	19496.48
West	IFR2	0	0.00	1	333	0.00
					Total Delay	149935.03

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	38120	0.52	1	333	110014.32
West	VFR1	0	0.00	1	333	0.00
East	VFR2	58377	0.35	1	333	113397.32
West	VFR2	0	0.00	1	333	0.00
East	IFR1	224381	0.11	1	333	136984.60
West	IFR1	0	0.00	1	333	0.00
East	IFR2	358865	0.02	1	333	39834.02
West	IFR2	0	0.00	1	333	0.00
					Total Delay	400230.26

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(15) 3.1 Current Airfield - Three Departure case with Two fixes

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	6361	0.52	1	333	18357.85
West	VFR1	0	0.00	1	333	0.00
East	VFR2	7710	0.35	1	333	14976.68
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	49131.93

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	15762	0.52	1	333	45489.13
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19784	0.35	1	333	38430.42
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	151362.04

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	32672	0.52	1	333	94291.39
West	VFR1	0	0.00	1	333	0.00
East	VFR2	57923	0.35	1	333	112515.43
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	377830.29

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(15) 3.2 Current Airfield - Three Departure case with Three fixes

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	6107	0.52	1	333	17624.80
West	VFR1	0	0.00	1	333	0.00
East	VFR2	7488	0.35	1	333	14545.44
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	47967.65

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	14985	0.52	1	333	43246.71
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19127	0.35	1	333	37154.20
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	147843.40

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	31866	0.52	1	333	91965.28
West	VFR1	0	0.00	1	333	0.00
East	VFR2	57173	0.35	1	333	111058.55
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	374047.30

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(16) 1 Current Airfield - Three Departure case - No Wake Vortex

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	5081	0.52	1	333	14663.77
West	VFR1	0	0.00	1	333	0.00
East	VFR2	6414	0.35	1	333	12459.20
West	VFR2	0	0.00	1	333	0.00
East	IFR1	15756	0.11	1	333	9619.04
West	IFR1	0	0.00	1	333	0.00
East	IFR2	44393	0.02	1	333	4927.62
West	IFR2	0	0.00	1	333	0.00
					Total Delay	41669.62

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	13331	0.52	1	333	38473.27
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19112	0.35	1	333	37125.06
West	VFR2	0	0.00	1	333	0.00
East	IFR1	76745	0.11	1	333	46852.82
West	IFR1	0	0.00	1	333	0.00
East	IFR2	170312	0.02	1	333	18904.63
West	IFR2	0	0.00	1	333	0.00
					Total Delay	141355.78

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	30286	0.52	1	333	87405.40
West	VFR1	0	0.00	1	333	0.00
East	VFR2	55581	0.35	1	333	107966.09
West	VFR2	0	0.00	1	333	0.00
East	IFR1	212557	0.11	1	333	129766.05
West	IFR1	0	0.00	1	333	0.00
East	IFR2	349169	0.02	1	333	38757.76
West	IFR2	0	0.00	1	333	0.00
					Total Delay	363895.30

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(16) 2 Current Airfield - Four Departure case - No Wake Vortex

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	4606	0.52	1	333	13292.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	5938	0.35	1	333	11534.57
West	VFR2	0	0.00	1	333	0.00
East	IFR1	15434	0.11	1	333	9422.46
West	IFR1	0	0.00	1	333	0.00
East	IFR2	44106	0.02	1	333	4895.77
West	IFR2	0	0.00	1	333	0.00
					Total Delay	39145.70

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	11174	0.52	1	333	32248.16
West	VFR1	0	0.00	1	333	0.00
East	VFR2	17642	0.35	1	333	34269.59
West	VFR2	0	0.00	1	333	0.00
East	IFR1	75936	0.11	1	333	46358.93
West	IFR1	0	0.00	1	333	0.00
East	IFR2	168918	0.02	1	333	18749.90
West	IFR2	0	0.00	1	333	0.00
					Total Delay	131626.58

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	27625	0.52	1	333	79725.75
West	VFR1	0	0.00	1	333	0.00
East	VFR2	53231	0.35	1	333	103401.22
West	VFR2	0	0.00	1	333	0.00
East	IFR1	211172	0.11	1	333	128920.51
West	IFR1	0	0.00	1	333	0.00
East	IFR2	345887	0.02	1	333	38393.46
West	IFR2	0	0.00	1	333	0.00
					Total Delay	350440.93

From Exhibit 23, Atlanta Data Package #8, September 1995

ANNUAL DELAY CALCULATIONS

(21) Uniformly Distributed Scheduled Commercial operations

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	2229	0.52	1	333	6432.89
West	VFR1	0	0.00	1	333	0.00
East	VFR2	3011	0.35	1	333	5848.87
West	VFR2	0	0.00	1	333	0.00
East	IFR1	11244	0.11	1	333	6864.46
West	IFR1	0	0.00	1	333	0.00
East	IFR2	42244	0.02	1	333	4689.08
West	IFR2	0	0.00	1	333	0.00
					Total Delay	23835.31

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	6193	0.52	1	333	17873.00
West	VFR1	0	0.00	1	333	0.00
East	VFR2	9513	0.35	1	333	18479.00
West	VFR2	0	0.00	1	333	0.00
East	IFR1	69944	0.11	1	333	42700.81
West	IFR1	0	0.00	1	333	0.00
East	IFR2	167591	0.02	1	333	18602.60
West	IFR2	0	0.00	1	333	0.00
					Total Delay	97655.41

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	20101	0.52	1	333	58011.49
West	VFR1	0	0.00	1	333	0.00
East	VFR2	45887	0.35	1	333	89135.50
West	VFR2	0	0.00	1	333	0.00
East	IFR1	204580	0.11	1	333	124896.09
West	IFR1	0	0.00	1	333	0.00
East	IFR2	347175	0.02	1	333	38536.43
West	IFR2	0	0.00	1	333	0.00
					Total Delay	310579.50

From Exhibit 16, Atlanta Data Package #6, Appendix, June 1995

ANNUAL DELAY CALCULATIONS

(22) Current Airfield with Noise Abatement Procedures (all jet aircraft)

Baseline Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	8778	0.52	1	333	25333.31
West	VFR1	0	0.00	1	333	0.00
East	VFR2	10114	0.35	1	333	19646.45
West	VFR2	0	0.00	1	333	0.00
East	IFR1	17354	0.11	1	333	10594.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	46872	0.02	1	333	5202.79
West	IFR2	0	0.00	1	333	0.00
					Total Delay	60777.16

Future 1 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	19900	0.52	1	333	57431.40
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23820	0.35	1	333	46270.35
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78686	0.11	1	333	48037.80
West	IFR1	0	0.00	1	333	0.00
East	IFR2	174817	0.02	1	333	19404.69
West	IFR2	0	0.00	1	333	0.00
					Total Delay	171144.24

Future 2 Configuration	Procedures	Total Delay / Day (minutes)	Use	Factor	Equivalent Days	Annual Delay (hours)
East	VFR1	41690	0.52	1	333	120317.34
West	VFR1	0	0.00	1	333	0.00
East	VFR2	65328	0.35	1	333	126899.64
West	VFR2	0	0.00	1	333	0.00
East	IFR1	215458	0.11	1	333	131537.11
West	IFR1	0	0.00	1	333	0.00
East	IFR2	355733	0.02	1	333	39486.36
West	IFR2	0	0.00	1	333	0.00
					Total Delay	418240.45

From Exhibit 23, Atlanta Data Package #8, September 1995

SIMMOD

SIMMOD

SIMMOD Experiments S - 1

Annual Calculations - SIMMOD S - 24

SIMMOD EXPERIMENTS

AIRFIELD AND AIRSPACE DELAY SIMULATION MODEL

SIMMOD experiments are for the "Current Airfield" case for three demand levels (Baseline, Future 1, and Future 2) and East flow. Experiments for future improvements, including the new South runway with aircraft with 100,000 pounds of take-off weight, (aircraft classes 4, 5 & 6) are also simulated. These experiments were simulated for Visual (VFR1 & VFR2) and Instrument (IFR1 & IFR2) flight procedures.

SIMMOD uses a route-link structure to represent the gate/taxiway and runway route system. Input parameters, depending on aircraft type, are as follows:

- Approach Speed Range
- Runway Occupancy Times
- Safety Separations
- Landing Roll and Deceleration Characteristics
- Taxi Speeds
- Runway/Taxiway Utilization

Gate utilization depends on the aircraft type and scheduled (airline) or nonscheduled (charter, international, GA, military) operations.

Following is a list of all the SIMMOD experiments for Atlanta, and the simulation results summary which includes daily delay and (nominal) travel times (in minutes) at the airport. The headings of various columns are described as follows:

(1) Arrival Runway Delay - Delay associated with runway utilization.

(2) Arrival Ground Delay - Delay accumulated from the exit along the taxiway and to the gate.

(3) Arrival Gate Delay - Delay accumulated at the gate due to unavailability of gates.

(4) Arrival Ground (Nominal) Travel - Nominal travel time from the exit to the gate on the ground (Undelayed).

(5) Departure Ground Delay - Delay accumulated from the gate to the departure's takeoff. (Not including Queue Delay).

(6) Departure Gate Delay - Normally, this is the delay accumulated at the gate due to the gate's being unavailable. However, in this case, "departure gate delay" is the delay assigned to the gate caused by a departure that is unable to depart from the gate as a result of an arrival attempting to enter the gate area. Hence, this delay is considered as ground delay in the gate area.

(7) Departure Queue Delay - Delay accumulated at the last link before departure taxi queue at the end of the runway.

(8) Departure Gate Hold Delay - Delay accumulated at the gate when the departure queue is greater than a specific value, if any is assigned.

(9) Departure Ground (Nominal) Travel - Nominal travel time from gate to takeoff on the ground (Undelayed).

(10) Total Delay - Delay associated with arrivals and departures at the airport (does not include delay in the airspace).
Column (10) = Sum of Columns (1)+(2)+(3)+(5)+(6)+(7)+(8).

(11) Total (Nominal) Travel - Nominal travel for both arrivals and departures on the ground at the airport. Column (11) = Column (4) + Column (9).

(12) Total Airport Time - Total delay and nominal travel time accumulated through runway utilization, the taxi system, and the gate delay at the airport. It does not include arrival air travel and departure air delay or travel.
Column (12) = Column (10) + Column (11).

In Atlanta, SIMMOD experiments have been assigned a sequence of three numbers with a prefix "S" for Baseline, Future 1 and Future 2 traffic sample schedules. Experiments with VFR1 separations will have odd numbers; VFR2 will have odd numbers with the suffix "2"; IFR1 will have even numbers; and IFR2 will have even numbers with the suffix "2". The first digit will identify the configuration number assigned to runway use. The second digit will identify the demand level of the traffic schedule. For example, numbers S11, S13 and S15 are for Configuration 1 and VFR1 for the three demand levels of Baseline, Future 1 and Future 2; numbers S112, S132 and S152 are for Configuration 1 and VFR2 for the three demand levels; numbers S12, S14 and S16 are for Configuration 1 and IFR1 for the three demand levels; and numbers S122, S142 and S162 are for Configuration 1 and IFR2 for the three demand levels. Additionally, suffixes are added as needed.

Example of each experiment for Baseline, Future 1 and Future 2 is as follows:

	Experiment Number	Arrival Runway	Departure Runway
(0) VFR1	S11, S13, S15	8L, 9R	8R, 9L
VFR2	S112, S132, S152	8L, 9R	8R, 9L
IFR1	S12, S14, S16	8L, 9R	8R, 9L
IFR2	S122, S142, S162	8L, 9R	8R, 9L
(3) VFR1	S31, S33, S35 AND	8L, 9R, 9S	8R, 9L, 9S
VFR2	S312, S332, S352 AND	8L, 9R, 9S	8R, 9L, 9S
IFR1	S32, S34, S36	8L, 9R, 9S	8R, 9L, 9S
IFR2	S322, S342, S362	8L, 9R, 9S	8R, 9L, 9S

LIST OF ATL SIMMOD EXPERIMENTS

1.	(0) G*	Current Airfield With Gate Capacity Constraints		
2.	(0)	Current Airfield		
3.	(1a) 3.1 / 3.1B	New Runway 9S/27S	ARR only	Alt #1
3.1	(1a) 3.1BL	New Runway With No Gate Constraints With Taxiway L connection	ARR only	Alt #1
3.2	(1a) 3.1.3cB	New Runway With No Gate Constraints With Gate 30 for Commuters Only	ARR only	Alt #1
4.	(1a) 3.2 / 3.2B	New Runway With No Gate Constraints	ARR only	Alt #2
5.	(1a) 3.3 / 3.3B	New Runway With No Gate Constraints	ARR only	Alt #3
6.	(1b) 3.1 / 3.1B	New Runway 9S/27S	ARR & DEP	Alt #1
7.	(1b) 3.2 / 3.2B	New Runway With No Gate Constraints	ARR & DEP	Alt #2
8.	(1b) 3.3 / 3.3B	New Runway With No Gate Constraints	ARR & DEP	Alt #3
9.	(1b) 3.1.3c / 3.1.3cB	New Runway with Gate 30 for Commuters Only	ARR & DEP	Alt #1
10.	(1b) 3.1.3cg / 3.1.3cgB	New Runway With No Gate Constraints With Commuters and GA at Gate 30	ARR & DEP	Alt #1

* (0) G signifies Improvement Number (0), Subset G of this improvement.

B = With Balanced Arrivals**

** Arrival balancing:

The balancing of arrivals on runways 8L and 9R was done using SIMMOD's dynamic arrival re-routing logic. SIMMOD will re-route aircraft to a different runway when the queue of a runway is exceeded by a certain number of aircraft and the queue of the re-routed runway is not exceeded by a certain number of aircraft. Different queue numbers were experimented with and the following numbers balanced the runway delays. When 40 aircraft are queued to either runway aircraft will divert to the other runway. When the queue for runway 8L reaches 10 aircraft, flights may no longer divert to this runway. This was done since runway 8L has the most aircraft queued to it and didn't need any flights diverted to it. When the queue for runway 9R reaches 40 aircraft, flights may no longer divert to it. The reason for this value was so that aircraft would divert to this runway.

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(0) G Current Airfield - With Gate Capacity Constraints															
Configuration 1, East Flow A=Rwys 8L, 9R D=Rwys 8R, 9L															
	S11G	BL	V1	2607	783	0	7082	41	112	7211	0	5875	10754	12957	23711
	S13G	F1	V1	6421	345	294	8557	51	216	9927	4487	7397	21741	15954	37695
	S15G	F2	V1	18390	765	2475	10035	105	945	13650	12795	8670	49125	18705	67830
	S112G	BL	V2	3970	676	0	7082	82	102	7548	0	5875	12378	12957	25335
	S132G	F1	V2	10258	320	166	8544	38	216	9863	4429	7397	25290	15941	41231
	S152G	F2	V2	44550	855	1065	10035	75	525	13350	9656	8670	70076	18705	88781
	S12G	BL	I1	12200	526	0	7157	61	112	7742	0	5885	20641	13042	33683
	S14G	F1	I1	67211	550	90	8608	51	178	10969	0	7397	79049	16005	95054
	S16G	F2	I1	195420	360	90	10065	45	300	11880	4144	8670	212239	18735	230974
	S122G	BL	I2	38349	225	11	7146	31	92	8639	0	5865	47347	13011	60358
	S142G	F1	I2	153902	435	51	8569	51	153	13651	0	7397	168243	15966	184209
	S162G	F2	I2	327150	255	30	10035	45	195	15390	5300	8655	348365	18690	367055

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(0) Current Airfield - With No Gate Capacity Constraints															
Configuration 1, East Flow A=Rwys 8L, 9R D=Rwys 8R, 9L															
	11	BL	V1	2607	751	0	7082	41	92	7456	0	5875	10947	12957	23904
	13	F1	V1	6421	281	0	8544	38	165	9850	4498	7397	21253	15941	37194
	15	F2	V1	18390	855	0	10035	255	240	13530	14773	8670	48043	18705	66748
	112	BL	V2	3970	1094	0	7082	82	92	7936	0	5875	13174	12957	26131
	114	F1	V2	10258	384	0	8531	51	165	10028	4561	7397	25447	15928	41375
	116	F2	V2	44550	990	0	10035	90	240	13695	10717	8670	70282	18705	88987
	12	BL	I1	12200	494	0	7146	82	92	7752	0	5875	20620	13021	33641
	14	F1	I1	67211	742	0	8595	51	178	11172	0	7397	79354	15992	95346
	16	F2	I1	195420	330	0	10080	45	225	11700	3950	8670	211670	18750	230420
	122	BL	I2	38349	204	0	7125	31	71	8864	0	5875	47519	13000	60519
	142	F1	I2	153902	396	0	8569	25	127	13676	0	7410	168126	15979	184105
	162	F2	I2	327150	345	0	10035	75	195	15885	6030	8670	349680	18705	368385

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.1 New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 1 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
	S31A1	BL	V1	1223	687	0	8584	41	92	7293	0	5896	9336	14480	23816
	S33A1	F1	V1	2660	358	0	10373	51	165	9774	4815	7435	17823	17808	35631
	S35A1	F2	V1	6285	630	0	12240	60	225	13650	15447	8700	36297	20940	57237
	S312A1	BL	V2	1770	805	0	8584	51	102	7711	0	5896	10439	14480	24919
	S332A1	F1	V2	4182	307	0	10373	38	153	9876	5150	7435	19706	17808	37514
	S352A1	F2	V2	13800	855	0	12225	45	225	14640	15269	8700	44834	20925	65759
	S32A1	BL	I1	4410	869	0	8648	41	92	8905	0	5906	14317	14554	28871
	S34A1	F1	I1	16998	3939	0	10449	343	165	16726	0	7435	38171	17884	56055
	S36A1	F2	I1	54045	1065	0	12300	90	225	16575	15887	8700	87887	21000	108887
	S322A1	BL	I2	6556	2146	0	8702	82	92	12444	0	5906	21320	14608	35928
	S342A1	F1	I2	26411	1215	0	10513	38	140	15811	11503	7448	55118	17961	73079
	S362A1	F2	I2	77280	1575	0	12375	105	210	22020	53238	8715	154428	21090	175518

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.1B New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 1 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
With Balanced Arrivals															
	S31A1B	BL	V1	944	687	0	8509	41	102	7293	0	5896	9067	14405	23472
	S33A1B	F1	V1	2059	384	0	10232	38	153	9876	4733	7435	17243	17667	34910
	S35A1B	F2	V1	5205	1035	0	12060	75	225	13680	14781	8700	35001	20760	55761
	S312A1B	BL	V2	1341	590	0	8509	41	102	7732	0	5896	9806	14405	24211
	S332A1B	F1	V2	3108	473	0	10232	38	153	10079	5302	7435	19153	17667	36820
	S352A1B	F2	V2	7935	870	0	12060	75	225	14175	17589	8700	40869	20760	61629
	S32A1B	BL	I1	3058	708	0	8563	51	92	8945	0	5906	12854	14469	27323
	S34A1B	F1	I1	8045	307	0	10309	38	153	11960	6864	7435	27367	17744	45111
	S36A1B	F2	I1	34875	1155	0	12120	90	225	17280	17988	8700	71613	20820	92433
	S322A1B	BL	I2	4002	1878	0	8616	61	92	12179	0	5906	18212	14522	32734
	S342A1B	F1	I2	12010	1535	0	10347	64	127	16777	15522	7435	46035	17782	63817
	S362A1B	F2	I2	51960	1185	0	12195	45	195	22935	69917	8700	146237	20895	167132

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.1BL New Runway, Arrivals only															
Alternative #1, with Taxiway "L" Connection															
A=Rwys 8L, 9R, 9S D=8R, 9L - with Balanced Arrivals															
	S31A1BL	BL	V1	944	783	0	8573	132	102	7436	0	5896	9397	14469	23866
	S33A1BL	F1	V1	2059	652	0	10309	216	165	9774	4861	7435	17727	17744	35471
	S35A1BL	F2	V1	5205	1395	0	12150	315	225	13380	15558	8700	36078	20850	56928
	S312A1BL	BL	V2	1341	579	0	8563	133	102	7426	0	5896	9581	14459	24040
	S332A1BL	F1	V2	3108	550	0	10309	229	153	9799	5429	7435	19268	17744	37012
	S352A1BL	F2	V2	7935	1275	0	12150	330	225	14520	17779	8700	42064	20850	62914
	S32A1BL	BL	I1	3058	1062	0	8616	214	92	8996	0	5906	13422	14522	27944
	S34A1BL	F1	I1	8045	614	0	10373	254	153	11706	6869	7435	27641	17808	45449
	S36A1BL	F2	I1	34875	1665	0	12195	405	240	16680	18884	8700	72749	20895	93644
	S322A1BL	BL	I2	4002	2683	0	8681	388	92	12311	0	5906	19476	14587	34063
	S342A1BL	F1	I2	12010	2238	0	10424	534	127	16968	16104	7448	47981	17872	65853
	S362A1BL	F2	I2	51990	32400	0	12270	945	195	22080	66819	8700	174429	20970	195399

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.1.3 CB New Runway, Arrivals only															
Alternative #1, with Commuters only on Gate 30															
A=Rwys 8L, 9R, 9S D=8R, 9L - with Balanced Arrivals															
	S31A13C	BL	V1	955	429	0	6910	20	92	6956	0	5641	8452	12551	21003
	S33A13C	F1	V1	2059	333	0	8505	25	114	9799	4353	7041	16683	15546	32229
	S35A13C	F2	V1	5205	765	0	9825	60	150	14085	13463	8190	33728	18015	51743
	S312A13C	BL	V2	1384	386	0	6899	31	82	7375	0	5640	9258	12539	21797
	S332A13C	F1	V2	3108	345	0	8505	25	114	10181	4942	7041	18715	15546	34261
	S352A13C	F2	V2	7935	645	0	9825	60	150	15075	16862	8190	40727	18015	58742
	S32A13C	BL	I1	3015	665	0	6964	31	82	8925	0	5640	12718	12604	25322
	S34A13C	F1	I1	8045	320	0	8557	38	114	11986	6457	7041	26960	15598	42558
	S36A13C	F2	I1	34875	960	0	9870	90	165	17775	17486	8190	71351	18060	89411
	S322A13C	BL	I2	4024	1266	0	7007	31	71	11883	0	5641	17275	12648	29923
	S342A13C	F1	I2	12010	691	0	8569	38	102	17222	14415	7041	44478	15610	60088
	S362A13C	F2	I2	51690	735	0	9900	90	105	23445	60758	8190	136823	18090	154913

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.2 New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 2 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
	S31A2	BL	V1	1223	848	0	8477	41	102	7201	0	5926	9415	14403	23818
	S33A2	F1	V1	2660	409	0	10258	51	153	9888	4479	7461	17640	17719	35359
	S35A2	F2	V1	6585	855	0	12090	75	225	13770	15764	8745	37274	20835	58109
	S312A2	BL	V2	1770	665	0	8477	41	102	7609	0	5926	10187	14403	24590
	S332A2	F1	V2	4182	409	0	10245	51	153	10041	5384	7461	20220	17706	37926
	S352A2	F2	V2	13800	1050	0	12090	75	225	14175	15218	8745	44543	20835	65378
	S32A2	BL	I1	4410	912	0	8541	41	92	8833	0	5926	14288	14467	28755
	S34A2	F1	I1	16998	3159	0	10321	178	178	16764	0	7473	37277	17794	55071
	S36A2	F2	I1	54045	870	0	12165	75	240	16500	15649	8745	87379	20910	108289
	S322A2	BL	I2	6556	1985	0	8595	41	92	12434	0	5926	21108	14521	35629
	S342A2	F1	I2	26411	13148	0	10385	280	191	24530	0	7473	64560	17858	82418
	S362A2	F2	I2	77280	1635	0	12210	120	180	22155	57523	8745	158893	20955	179848

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.2B New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 2 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
With Balanced Arrivals															
	S31A2B	BL	V1	944	730	0	8402	41	102	7395	0	5916	9212	14318	23530
	S33A2B	F1	V1	2059	486	0	10117	51	153	10105	4849	7461	17703	17578	35281
	S35A2B	F2	V1	5205	750	0	11925	60	240	13680	15628	8745	35563	20670	56233
	S312A2B	BL	V2	1341	504	0	8391	51	102	7579	0	5926	9577	14317	23894
	S332A2B	F1	V2	3108	396	0	10130	51	153	10079	5348	7461	19135	17591	36726
	S352A2B	F2	V2	7935	750	0	11910	60	225	14535	16525	8745	40030	20655	60685
	S32A2B	BL	I1	3058	665	0	8445	41	92	9098	0	5926	12954	14371	27325
	S34A2B	F1	I1	8045	384	0	10194	38	153	11935	6798	7473	27353	17667	45020
	S36A2B	F2	I1	34875	885	0	11970	45	210	17385	18986	8745	72386	20715	93101
	S322A2B	BL	I2	4002	1706	0	8498	41	102	12383	0	5926	18234	14424	32658
	S342A2B	F1	I2	12010	806	0	10219	38	127	16790	15825	7473	45596	17692	63288
	S362A2B	F2	I2	51690	1590	0	12015	75	195	23370	71610	8745	148530	20760	169290

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.3 New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 3 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
	S31A3	BL	V1	1223	740	0	8509	51	102	7130	0	5936	9246	14445	23691
	S33A3	F1	V1	2660	281	0	10283	51	153	9672	4671	7473	17488	17756	35244
	S35A3	F2	V1	6585	615	0	12105	60	225	13545	14902	8760	35932	20865	56797
	S312A3	BL	V2	1770	719	0	8498	41	102	7742	0	5936	10374	14434	24808
	S332A3	F1	V2	4182	422	0	10270	89	153	10028	5123	7473	19997	17743	37740
	S352A3	F2	V2	13800	885	0	12090	75	225	14370	16275	8760	45630	20850	66480
	S32A3	BL	I1	4410	794	0	8573	41	92	9109	0	5936	14446	14509	28955
	S34A3	F1	I1	16998	2443	0	10347	178	165	16866	12394	7486	49044	17833	66877
	S36A3	F2	I1	54045	795	0	12180	75	225	16335	16136	8760	87611	20940	108551
	S322A3	BL	I2	6556	1856	0	8627	41	2	12373	0	5947	20828	14574	35402
	S342A3	F1	I2	26411	908	0	10398	38	127	16180	12394	7486	56058	17884	73942
	S362A3	F2	I2	77280	1140	0	12210	60	180	22290	53849	8760	154799	20970	175769

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1a) 3.3B New Rnway ARR only - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S															
Alternative 3 With No Gate Capacity Constraints A=8L, 9R, 9S D=8R, 9L															
With Balanced Arrivals															
	S31A3B	BL	V1	944	644	0	8412	41	102	7426	0	5936	9157	14348	23505
	S33A3B	F1	V1	2059	333	0	10117	51	153	9901	4975	7473	17472	17590	35062
	S35A3B	F2	V1	5205	630	0	11880	60	240	13575	15434	8760	35144	20640	55784
	S312A3B	BL	V2	1341	397	0	8391	41	102	7609	0	5936	9490	14327	23817
	S332A3B	F1	V2	3108	294	0	10117	51	153	10168	5110	7473	18884	17590	36474
	S352A3B	F2	V2	8025	615	0	11880	45	240	14535	13392	8760	36852	20640	57492
	S32A3B	BL	I1	3058	676	0	8444	41	92	9017	0	5936	12884	14380	27264
	S34A3B	F1	I1	8045	345	0	10181	38	153	12087	6693	7486	27361	17667	45028
	S36A3B	F2	I1	34875	810	0	11940	60	225	17160	18984	8760	72114	20700	92814
	S322A3B	BL	I2	4002	1652	0	8498	31	92	12403	0	5936	18180	14434	32614
	S342A3B	F1	I2	12010	691	0	10206	38	114	16942	15584	7486	45379	17692	63071
	S362A3B	F2	I2	51690	1200	0	11970	75	180	23010	73688	8760	149843	20730	170573

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 30, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.1 New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints															
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=Rwys 8R, 9L, 9S															
	31AD1	BL	V1	1223	697	0	8573	41	102	5182	0	6365	7245	14938	22183
	33AD1	F1	V1	2673	1816	0	10360	64	191	10473	0	8084	15217	18444	33661
	35AD1	F2	V1	6630	630	0	12210	75	270	10800	10022	9435	28427	21645	50072
	312AD1	BL	V2	1781	826	0	8573	51	102	5590	0	6365	8350	14938	23288
	332AD1	F1	V2	4208	2647	0	10347	64	191	11248	0	8071	18358	18418	36776
	352AD1	F2	V2	13365	915	0	12210	90	270	11640	10995	9450	37275	21660	58935
	32AD1	BL	I1	4410	1052	0	8638	61	92	6375	0	6365	11990	15003	26993
	34AD1	F1	I1	16960	307	0	10424	51	153	8656	3393	8071	29520	18495	48015
	36AD1	F2	I1	54285	870	0	12285	105	270	12015	9994	9450	77539	21735	99274
	322AD1	BL	I2	6545	2511	0	8691	82	92	9506	0	6365	18736	15056	33792
	342AD1	F1	I2	26424	1292	0	10488	51	140	12774	8152	8071	48833	18559	67392
	362AD1	F2	I2	77130	2040	0	12345	150	240	17205	28351	9450	125116	21795	146911

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.1B New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints															
Configuration 3, East Flow A=Rwys 8L, 9R, 9S D=Rwys 8R, 9L, 9S - With Balanced Arrivals															
	31AD1B	BL	V1	944	622	0	8487	41	102	5253	0	6365	6962	14852	21814
	33AD1B	F1	V1	2072	1663	0	10206	64	191	10473	0	8071	14463	18277	32740
	35AD1B	F2	V1	5190	840	0	12030	75	270	11325	10561	9465	28261	21495	49756
	312AD1B	BL	V2	1331	644	0	8477	41	92	5549	0	6365	7657	14842	22499
	332AD1B	F1	V2	3134	1522	0	10206	51	191	11312	0	8071	16210	18277	34487
	352AD1B	F2	V2	8130	825	0	12030	90	270	11670	12021	9450	33006	21480	54486
	32AD1B	BL	I1	3047	998	0	8541	51	102	6620	0	6365	10818	14906	25724
	34AD1B	F1	I1	8134	396	0	10283	51	153	9189	4262	8071	22185	18354	40539
	36AD1B	F2	I1	33855	870	0	12090	60	255	12975	11695	9450	59710	21540	81250
	322AD1B	BL	I2	3981	1964	0	8595	61	92	9241	0	6365	15339	14960	30299
	342AD1B	F1	I2	11690	1407	0	10334	76	140	12659	10128	8071	36100	18405	54505
	362AD1B	F2	I2	51375	1890	0	12150	105	240	17460	33590	9450	104660	21600	126260

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.2 New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #2, With No Gate Capacity Constraints															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S															
	31AD2	BL	V1	1223	773	0	8445	51	102	5314	0	6304	7463	14749	22212
	33AD2	F1	V1	2673	1906	0	10232	89	203	10371	0	8007	15242	18239	33481
	35AD2	F2	V1	6630	855	0	12060	90	270	10995	10134	9375	28974	21435	50409
	312AD2	BL	V2	1781	526	0	8455	51	102	5610	0	6314	8070	14769	22839
	332AD2	F1	V2	4208	2302	0	10219	76	191	10994	0	7995	17771	18214	35985
	352AD2	F2	V2	13365	840	0	12045	105	270	11580	10337	9375	36497	21420	57917
	32AD2	BL	I1	4410	848	0	8520	51	92	6385	0	6314	11786	14834	26620
	34AD2	F1	I1	16960	2481	0	10296	64	178	12100	0	7995	31783	18291	50074
	36AD2	F2	I1	54285	960	0	12120	90	255	12150	9511	9375	77251	21495	98746
	322AD2	BL	I2	6545	2253	0	8573	51	92	9506	0	6314	18447	14887	33334
	342AD2	F1	I2	26424	857	0	10347	76	140	12519	8585	7995	48601	18342	66943
	362AD2	F2	I2	77130	1665	0	12180	120	225	17070	28980	9375	125190	21555	146745

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.2B New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #2, With No Gate Capacity Constraints															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S - With Balanced Arrivals															
	31AD2B	BL	V1	944	612	0	8369	51	102	5426	0	6304	7135	14673	21808
	33AD2B	F1	V1	2072	1778	0	10091	76	191	10524	0	7995	14641	18086	32727
	35AD2B	F2	V1	5190	720	0	11865	90	270	10980	10499	9375	27749	21240	48989
	312AD2B	BL	V2	1331	687	0	8359	51	102	5722	0	6314	7893	14673	22566
	332AD2B	F1	V2	3134	2059	0	10079	76	191	11312	0	7995	16772	18074	34846
	352AD2B	F2	V2	8130	915	0	11865	105	270	11640	11429	9375	32489	21240	53729
	32AD2B	BL	I1	3047	773	0	8412	51	102	6599	0	6314	10572	14726	25298
	34AD2B	F1	I1	8134	473	0	10142	64	165	9227	4239	7995	22302	18137	40439
	36AD2B	F2	I1	33855	1035	0	11910	105	255	13035	11846	9375	60131	21285	81416
	322AD2B	BL	I2	3981	1663	0	8477	51	92	9058	0	6304	14845	14781	29626
	342AD2B	F1	I2	11690	1010	0	10194	76	165	12507	9734	7995	35182	18189	53371
	362AD2B	F2	I2	51375	1710	0	11970	90	225	17610	34660	9375	105670	21345	127015

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.3 New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #3, With No Gate Capacity Constraints															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S															
	313AD3	BL	V1	1223	590	0	8487	41	102	5212	0	6477	7168	14964	22132
	333AD3	F1	V1	2673	1573	0	10245	76	203	10562	0	8223	15087	18468	33555
	353AD3	F2	V1	6630	915	0	12060	75	270	10950	10108	9630	28948	21690	50638
	323AD3	BL	V2	1781	848	0	8477	41	102	5569	0	6477	8341	14954	23295
	343AD3	F1	V2	4208	1931	0	10245	64	191	11070	0	8223	17464	18468	35932
	363AD3	F2	V2	13365	1155	0	12045	75	270	11760	11100	9630	37725	21675	59400
	3123AD3	BL	I1	4410	1062	0	8552	41	102	6497	0	6477	12112	15029	27141
	3323AD3	F1	I1	16960	422	0	10322	76	153	8821	3231	8223	29663	18545	48208
	3523AD3	F2	I1	54285	900	0	12120	135	255	12270	10386	9630	78231	21750	99981
	3223AD3	BL	I2	6545	1663	0	8595	41	92	9241	0	6477	17582	15072	32654
	3423AD3	F1	I2	26424	998	0	10360	64	140	12405	7994	8223	48025	18583	66608
	3623AD3	F2	I2	77130	1845	0	12180	135	240	16980	29998	9630	126328	21810	148138

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.3B New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #3, With No Gate Capacity Constraints															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S - With Balanced Arrivals															
	313AD3B	BL	V1	944	612	0	8391	41	102	5151	0	6477	6850	14868	21718
	333AD3B	F1	V1	2072	1484	0	10079	64	203	10664	0	8223	14487	18302	32789
	353AD3B	F2	V1	5190	900	0	11835	105	270	11010	10383	9630	27858	21465	49323
	323AD3B	BL	V2	1331	483	0	8369	41	112	5590	0	6477	7557	14846	22403
	343AD3B	F1	V2	3134	1714	0	10079	51	191	11083	0	8211	16173	18290	34463
	363AD3B	F2	V2	9130	795	0	11820	60	255	11565	11993	9630	33798	21450	55248
	3123AD3B	BL	I1	3047	794	0	8434	41	92	6538	0	6477	10512	14911	25423
	3323AD3B	F1	I1	8134	422	0	10142	51	153	9164	4137	8211	22061	18353	40414
	3523AD3B	F2	I1	33855	900	0	11895	75	255	13080	12228	9615	60393	21510	81903
	3223AD3B	BL	I2	3981	1395	0	8477	41	92	8945	0	6477	14454	14954	29408
	3423AD3B	F1	I2	11690	755	0	10181	51	153	12380	9615	8223	34644	18404	53048
	3623AD3B	F2	I2	51375	1620	0	11925	135	240	17670	33021	9630	104061	21555	125616

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.1.3c New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints - With Gate 30 for commuters only															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S															
	31AD13C	BL	V1	1223	526	0	6985	41	82	5386	0	5549	7258	12534	19792
	33AD13C	F1	V1	2660	1752	0	8429	38	140	10537	0	6889	15127	15318	30445
	35AD13C	F2	V1	6585	360	0	9750	45	165	11445	9576	7950	28176	17700	45876
	312AD13C	BL	V2	1781	730	0	6975	41	92	5794	0	5539	8438	12514	20952
	332AD13C	F1	V2	4182	1944	0	8429	51	140	11198	0	6889	17515	15318	32833
	352AD13C	F2	V2	13800	600	0	10020	45	165	11970	10019	7950	36599	17970	54569
	32AD13C	BL	I1	4474	858	0	7050	61	82	6508	0	5549	11983	12599	24582
	34AD13C	F1	I1	16998	1420	0	8505	38	127	11769	0	6889	30352	15394	45746
	36AD13C	F2	I1	54045	675	0	9825	60	150	12645	9382	7950	76957	17775	94732
	322AD13C	BL	I2	6588	1459	0	7103	20	92	9323	0	5549	17482	12652	30134
	342AD13C	F1	I2	26411	652	0	8557	38	102	12939	0	6889	40142	15446	55588
	362AD13C	F2	I2	77280	1815	0	9885	150	150	17655	27801	7950	124851	17835	142686

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.1.3cB New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints - With Gate 30 for commuters only															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S - With Balanced Arrivals															
	31AD13CB	BL	V1	955	322	0	6889	31	92	5284	0	5539	6684	12428	19112
	33AD13CB	F1	V1	2059	870	0	8288	51	153	10524	0	6889	13657	15177	28834
	35AD13CB	F2	V1	5205	720	0	9795	75	180	11640	9725	7950	27545	17745	45290
	312AD13CB	BL	V2	1384	483	0	6889	31	92	5692	0	5539	7682	12428	20110
	332AD13CB	F1	V2	3108	1292	0	8275	64	165	11159	0	6889	15788	15164	30952
	352AD13CB	F2	V2	7935	555	0	9795	45	165	12045	10302	7950	31047	17745	48792
	32AD13CB	BL	I1	3015	526	0	6942	31	82	6783	0	5549	10437	12491	22928
	34AD13CB	F1	I1	8045	294	0	8544	38	114	9418	3950	6889	21859	15433	37292
	36AD13CB	F2	I1	34875	795	0	9840	45	150	13470	11312	7950	60647	17790	78437
	322AD13CB	BL	I2	4024	1491	0	6996	20	92	8966	0	5539	14593	12535	27128
	342AD13CB	F1	I2	12010	921	0	8557	51	102	13104	10142	6889	36330	15446	51776
	362AD13CB	F2	I2	51690	1170	0	9855	60	135	18450	31668	7935	103173	17790	120963

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
(1b) 3.1.3cg New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints - With Gate 30 for commuters and GA only															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S															
	31AD13G	BL	V1	1223	494	0	6545	41	92	5324	0	5314	7174	11859	19033
	33AD13G	F1	V1	2660	1611	0	7955	38	165	10409	0	6622	14883	14577	29460
	35AD13G	F2	V1	6585	600	0	9240	45	165	11115	10432	7830	28942	17070	46012
	312AD13G	BL	V2	1781	644	0	6535	20	92	5947	0	5314	8484	11849	20333
	332AD13G	F1	V2	4182	2302	0	7943	51	153	11286	0	6622	17974	14565	32539
	352AD13G	F2	V2	13800	645	0	9240	45	165	11895	10605	7830	37155	17070	54225
	32AD13G	BL	I1	4474	655	0	6610	31	92	6446	0	5314	11698	11924	23622
	34AD13G	F1	I1	16998	230	0	8019	25	114	8808	0	6622	26175	14641	40816
	36AD13G	F2	I1	54045	585	0	9330	45	150	12195	9799	7830	76819	17160	93979
	322AD13G	BL	I2	6588	1685	0	6663	41	92	9343	0	5314	17749	11977	29726
	342AD13G	F1	I2	26667	959	0	8070	25	102	13066	6986	6622	47805	14692	62497
	362AD13G	F2	I2	77460	1710	0	9390	105	135	17115	23899	7830	120424	17220	137644

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ATLANTA SIMMOD SIMULATION RESULTS SUMMARY

Imp. #	Exp. #	Dmd Level	Flt Rls	Arr Rwy Dly (1)	Arr Gnd Dly (2)	Arrival Gate Delay (3)	Arr Gnd Nominal Travel (4)	Dep Gnd Delay (5)	Dep Gate Delay (6)	Dep Que Delay (7)	Gate Hold Delay (8)	Dep Ground Nominal Travel (9)	Total Delay (10)	Total Nominal Travel (11)	Total Airport Time (12)
1b) 3.1.3cgB New South Runway - ARR - Jets & props, DEP - Props only, No aircraft from NW fix on 9S															
Alternative #1, With No Gate Capacity Constraints - With Gate 30 for commuters and GA only															
Configuration 3, A=Rwys 8L, 9R, 9S D=8R, 9L, 9S - With Balanced Arrivals															
	31AD13GB	BL	V1	955	461	0	6459	20	92	5447	0	5314	6975	11773	18748
	33AD13GB	F1	V1	2059	1113	0	7802	51	153	10727	0	6622	14103	14424	28527
	35AD13GB	F2	V1	5205	465	0	9045	30	165	11085	10625	7830	27575	16875	44450
	312AD13GB	BL	V2	1384	483	0	6449	20	92	5783	0	5314	7762	11763	19525
	332AD13GB	F1	V2	3108	1330	0	7802	38	153	11172	0	6622	15801	14424	30225
	352AD13GB	F2	V2	7935	825	0	9045	75	165	11715	11533	7830	32248	16875	49123
	32AD13GB	BL	I1	3015	708	0	6524	31	82	6752	0	5314	10588	11838	22426
	34AD13GB	F1	I1	8045	2737	0	7866	51	165	13320	0	6622	24318	14488	38806
	36AD13GB	F2	I1	34875	735	0	9120	60	150	13020	11469	7830	60309	16950	77259
	322AD13GB	BL	I2	4024	1384	0	6556	20	82	9139	0	5314	14649	11870	26519
	342AD13GB	F1	I2	12010	780	0	7917	64	114	12888	10040	6622	35896	14539	50435
	362AD13GB	F2	I2	52065	1365	0	9165	90	135	17565	30583	7830	101803	16995	118798

Note: Daily Delay and Nominal Travel Times are in Minutes

From Exhibit 14, Atlanta Data Package #7, July 1995

ANNUAL CALCULATION - SIMMOD

At Atlanta, SIMMOD results (total airport time) are annualized per runway configuration use, based on configurations and flight procedures.

A weighted cost in dollars per minute or hour of total airport time is used to compute annual values.

A weighted cost is based on the Atlanta daily traffic sample, type of aircraft distribution and operating cost data for scheduled and non-scheduled operations.

Computed Breakdown:

Demand Level	Daily Traffic	Equivalent Days	Annual*
Baseline	2093	333	700
Future 1	2550	333	850
Future 2	3000	333	1000

Note: * Annual aircraft operations in thousands.

A weighted cost of $33.00 per minute or $1980.00 per hour of total airport time is used to compile cost/savings at Atlanta.

A value of 333 equivalent days and an IFR factor of 1.0 for annualization is used for all three demand levels.

Annualized Savings

Annualized Savings are computed from the differences between the annualized cost of "Current Airfield" and various improvements.

Following is the annualized savings, based on SIMMOD simulations at the three demand levels, and the annualized costs for each item.

Annualized costs are based on the daily total airport time from the SIMMOD simulation, the percent use of each configuration, the number of equivalent days and the total airport time per minute at the three demand levels: Baseline, Future 1 and Future 2.

Summary of Net Savings

	Baseline		Future 1		Future 2	
	000 Hrs	$ (million)	000 Hrs	$ (million)	000 Hrs	$ (million)
1.a. New Runway 9S/27S - ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints						
Alternative 1. Perimeter Taxiway vs. Taxiway L Connection						
Net Savings	1.34	2.65	2.42	4.79	6.51	12.59
Alternative 1. Perimeter Taxiway with Gate 30 for Commuters only						
Net Savings	13.34	26.41	14.66	29.06	20.40	40.39

Summary of Net Savings due to Balanced vs. Unbalanced ARRIVALS for the ARMT Improvement

	Baseline		Future 1		Future 2	
	000 Hrs	$ (million)	000 Hrs	$ (million)	000 Hrs	$ (million)
1.a. New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints						
3.1 Alternative #1	3.67	7.27	11.14	22.06	23.27	46.07
3.2 Alternative #2	3.38	6.69	10.82	21.42	24.97	49.44
3.3 Alternative #3	3.81	7.54	17.53	34.71	30.56	60.51
1.b. New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints						
3.1 Alternative #1	3.76	7.44	13.10	25.94	22.85	45.24
3.2 Alternative #2	2.92	5.78	11.80	23.36	25.01	49.52
3.3 Alternative #3	4.34	8.59	11.25	22.28	27.34	54.13
1.b. New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints						
3.1.3.C Gate 30 for Commuters only	4.94	9.78	13.89	27.50	25.27	50.03
3.1.3.CG Gate 30 for Commuters and GA	3.48	6.89	9.99	19.78	26.72	52.91

Annualized values @ $1980 per hour or $33 per minute of airport time.

ATLANTA SIMMOD ANNUALIZED SAVINGS

		Baseline		Future 1		Future 2	
		000 Hours	$(Millions)	000 Hours	$(Millions)	000 Hours	$(Millions)
1.a	New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway						
3.1	Alternative #1	8.25	16.34	48.32	95.67	168.16	332.96
3.2	Alternative #2	8.99	17.80	47.87	94.78	166.28	329.23
3.3	Alternative #3	8.83	17.48	42.30	83.75	168.22	333.08
1.a	New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway With Balancing ARRIVALS*						
3.1.B	Alternative #1	11.92	23.60	59.46	117.73	191.43	379.03
3.2.B	Alternative #2	12.37	24.49	58.69	116.20	191.25	378.68
3.3.B	Alternative #3	12.64	25.03	59.83	118.46	198.78	393.58
1.a	New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Taxiway "L" Connection With Balancing ARRIVALS*						
3.1.B.L	Alternative #1	10.58	20.95	57.04	112.94	184.92	366.14
1.a	New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops With Balancing ARRIVALS*						
3.1.B.C	Gate 30 for Commuters only	25.26	50.01	74.14	146.79	211.83	419.42

* "With Balancing ARRIVALS" implies an attempt to balance arrivals between Rwys 8L and 9R, with Rwy 9S in operation

Annualized values @ $1980 per hour or $33 per minute of airport time

From Exhibit 31, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD ANNUALIZED SAVINGS
(continued)

	Baseline 000 Hours	Baseline $(Millions)	Future 1 000 Hours	Future 1 $(Millions)	Future 2 000 Hours	Future 2 $(Millions)
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway						
3.1 Alternative #1	17.51	34.67	72.94	144.42	211.15	418.08
3.2 Alternative #2	18.58	36.79	73.79	146.10	212.49	420.73
3.3 Alternative #3	17.68	35.01	74.86	148.22	208.04	411.92
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops						
3.1.3.C Gate 30 for Commuters only	30.83	61.04	92.58	183.31	234.98	465.26
3.1.3.CG Gate 30 for Commuters and GA only	34.85	69.00	98.24	194.52	236.27	467.81
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway With Balancing ARRIVALS						
3.1 .B Alternative #1	21.27	42.11	86.04	170.36	234.00	463.32
3.2.B Alternative #2	21.50	42.57	85.59	169.47	237.50	470.25
3.3.B Alternative #3	22.02	43.60	86.11	170.50	235.38	466.05
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops With Balancing ARRIVALS						
3.1.3.C&B Gate 30 for Commuters only	35.77	70.82	106.47	210.81	260.25	515.30
3.1.3.CG&B Gate 30 for Commuters and GA only	38.33	75.89	108.23	214.30	262.99	520.72

* "With Balancing ARRIVALS" implies an attempt to balance arrivals between Rwys 8L and 9R, with Rwy 9S in operation

Annualized values @ $1980 per hour or $33 per minute of airport time

From Exhibit 31, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD ANNUALIZED COSTS

	Baseline 000 Hours	Baseline $(Millions)	Future 1 000 Hours	Future 1 $(Millions)	Future 2 000 Hours	Future 2 $(Millions)
(0)G Current Airfield With Gate Capacity Constraints	144.91	286.92	267.36	529.37	549.97	1088.94
(0) Current Airfield With No Gate Capacity Constraints	147.00	291.06	266.36	527.39	547.05	1083.16
1.a New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway						
3.1 Alternative #1	138.75	274.73	218.04	431.72	378.89	750.20
3.2 Alternative #2	138.01	273.26	218.49	432.61	380.77	753.92
3.3 Alternative #3	138.17	273.58	224.06	443.64	378.83	750.06
1.a New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway With Balancing ARRIVALS*						
3.1.B Alternative #1	135.08	267.46	206.90	409.66	355.62	704.13
3.2.B Alternative #2	134.63	266.57	207.67	411.19	355.80	704.48
3.3.B Alternative #3	134.36	266.03	206.53	408.93	348.27	689.57
1.a New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Taxiway "L" Connection With Balancing ARRIVALS*						
3.1.B.L Alternative #1	136.42	270.11	209.32	414.45	362.13	717.02
1.a New Runway ARR only - Jets and props (less than 100,000 lbs) No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops With Balancing ARRIVALS*						
3.1.B.C Gate 30 for Commuters only	121.74	241.05	192.22	380.60	335.22	663.74

* "With Balancing ARRIVALS" implies an attempt to balance arrivals between Rwys 8L and 9R, with Rwy 9S in operation .

Annualized values @ $1980 per hour or $33 per minute of airport time
Note: Current Airfield = Current airfield with no physical improvements.

From Exhibit 32, Atlanta Data Package #8, September 1995

ATLANTA SIMMOD ANNUALIZED COSTS
(continued)

	Baseline 000 Hours	Baseline $(Millions)	Future 1 000 Hours	Future 1 $(Millions)	Future 2 000 Hours	Future 2 $(Millions)
(0)G Current Airfield With Gate Capacity Constraints	144.91	288.92	267.36	529.37	549.97	1088.94
(0) Current Airfield With No Gate Capacity Constraints	147.00	291.06	266.36	527.39	547.05	1083.16
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway						
3.1 Alternative #1	129.49	256.39	205.38	406.65	320.36	634.31
3.2 Alternative #2	128.42	254.27	204.53	404.97	334.56	662.43
3.3 Alternative #3	129.32	256.05	203.46	402.85	339.01	671.24
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops						
3.1.3.C Gate 30 for Commuters only	116.17	230.02	185.74	367.77	312.07	617.90
3.1.3.CG Gate 30 for Commuters and GA only	112.15	222.06	180.08	356.56	310.78	615.34
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimeter Taxiway With Balancing ARRIVALS*						
3.1.B Alternative #1	125.73	248.95	192.28	380.71	313.05	619.84
3.2.B Alternative #2	125.51	248.51	192.75	381.65	309.55	612.91
3.3.B Alternative #3	124.98	247.46	192.13	380.42	313.61	620.95
1.b New Runway ARR - Jets and props & DEP - Props only No Aircraft from NW fix on 9S with No Gate Capacity Constraints With Perimetrer Taxiway and Gate 30 with Limited Ops With Balancing ARRIVALS*						
3.1.3.C&B Gate 30 for Commuters only	111.23	220.24	171.85	340.26	286.80	567.86
3.1.3.CG&B Gate 30 for Commuters and GA only	108.67	215.17	170.33	337.25	284.06	562.44

* "With Balancing ARRIVALS" implies an attempt to balance arrivals between Rwys 8L and 9R, with Rwy 9S in operation .

Annualized values @ $1980 per hour or $33 per minute of airport time
Note: Current Airfield = Current airfield with no physical improvements.

From Exhibit 32, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(0) Current Airfield - With Gate Capacity Constraints

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23711	0.52	1	333	68429.95
West	VFR1	0	0.00	1	333	0.00
East	VFR2	25335	0.35	1	333	49213.24
West	VFR2	0	0.00	1	333	0.00
East	IFR1	33683	0.11	1	333	20563.47
West	IFR1	0	0.00	1	333	0.00
East	IFR2	60358	0.02	1	333	6699.74
West	IFR2	0	0.00	1	333	0.00
					Total	144906.39

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	37695	0.52	1	333	108787.77
West	VFR1	0	0.00	1	333	0.00
East	VFR2	41231	0.35	1	333	80091.22
West	VFR2	0	0.00	1	333	0.00
East	IFR1	95054	0.11	1	333	58030.47
West	IFR1	0	0.00	1	333	0.00
East	IFR2	184209	0.02	1	333	20447.20
West	IFR2	0	0.00	1	333	0.00
					Total	267356.65

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	67830	0.52	1	333	195757.38
West	VFR1	0	0.00	1	333	0.00
East	VFR2	88781	0.35	1	333	172457.09
West	VFR2	0	0.00	1	333	0.00
East	IFR1	230974	0.11	1	333	141009.63
West	IFR1	0	0.00	1	333	0.00
East	IFR2	367055	0.02	1	333	40743.11
West	IFR2	0	0.00	1	333	0.00
					Total	549967.20

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(0) Current Airfield - With No Gate Capacity Constraints with A Gate Hold at F2 in VFR1 & VFR2

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23904	0.52	1	333	68986.94
West	VFR1	0	0.00	1	333	0.00
East	VFR2	26131	0.35	1	333	50759.47
West	VFR2	0	0.00	1	333	0.00
East	IFR1	33641	0.11	1	333	20537.83
West	IFR1	0	0.00	1	333	0.00
East	IFR2	60519	0.02	1	333	6717.61
West	IFR2	0	0.00	1	333	0.00
					Total	147001.85

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	37194	0.52	1	333	107341.88
West	VFR1	0	0.00	1	333	0.00
East	VFR2	41375	0.35	1	333	80370.94
West	VFR2	0	0.00	1	333	0.00
East	IFR1	95346	0.11	1	333	58208.73
West	IFR1	0	0.00	1	333	0.00
East	IFR2	184105	0.02	1	333	20435.66
West	IFR2	0	0.00	1	333	0.00
					Total	266357.21

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	66748	0.52	1	333	192634.73
West	VFR1	0	0.00	1	333	0.00
East	VFR2	88987	0.35	1	333	172857.25
West	VFR2	0	0.00	1	333	0.00
East	IFR1	230420	0.11	1	333	140671.41
West	IFR1	0	0.00	1	333	0.00
East	IFR2	368385	0.02	1	333	40890.74
West	IFR2	0	0.00	1	333	0.00
					Total	547054.12

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.1) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23816	0.52	1	333	68732.98
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24919	0.35	1	333	48405.16
West	VFR2	0	0.00	1	333	0.00
East	IFR1	28871	0.11	1	333	17625.75
West	IFR1	0	0.00	1	333	0.00
East	IFR2	35928	0.02	1	333	3988.01
West	IFR2	0	0.00	1	333	0.00
					Total	138751.89

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35631	0.52	1	333	102831.07
West	VFR1	0	0.00	1	333	0.00
East	VFR2	37514	0.35	1	333	72870.95
West	VFR2	0	0.00	1	333	0.00
East	IFR1	56055	0.11	1	333	34221.58
West	IFR1	0	0.00	1	333	0.00
East	IFR2	73079	0.02	1	333	8111.77
West	IFR2	0	0.00	1	333	0.00
					Total	218035.36

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	57237	0.52	1	333	165185.98
West	VFR1	0	0.00	1	333	0.00
East	VFR2	65759	0.35	1	333	127736.86
West	VFR2	0	0.00	1	333	0.00
East	IFR1	108887	0.11	1	333	66475.51
West	IFR1	0	0.00	1	333	0.00
East	IFR2	175518	0.02	1	333	19482.50
West	IFR2	0	0.00	1	333	0.00
					Total	378880.85

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.2) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 2 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23818	0.52	1	333	68738.75
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24590	0.35	1	333	47766.08
West	VFR2	0	0.00	1	333	0.00
East	IFR1	28755	0.11	1	333	17554.93
West	IFR1	0	0.00	1	333	0.00
East	IFR2	35629	0.02	1	333	3954.82
West	IFR2	0	0.00	1	333	0.00
					Total	138014.57

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35359	0.52	1	333	102046.07
West	VFR1	0	0.00	1	333	0.00
East	VFR2	37926	0.35	1	333	73671.26
West	VFR2	0	0.00	1	333	0.00
East	IFR1	55071	0.11	1	333	33620.85
West	IFR1	0	0.00	1	333	0.00
East	IFR2	82418	0.02	1	333	9148.40
West	IFR2	0	0.00	1	333	0.00
					Total	218486.57

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	58109	0.52	1	333	167702.57
West	VFR1	0	0.00	1	333	0.00
East	VFR2	65378	0.35	1	333	126996.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	108289	0.11	1	333	66110.43
West	IFR1	0	0.00	1	333	0.00
East	IFR2	179848	0.02	1	333	19963.13
West	IFR2	0	0.00	1	333	0.00
					Total	380772.90

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.3) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 3 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23691	0.52	1	333	68372.23
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24808	0.35	1	333	48189.54
West	VFR2	0	0.00	1	333	0.00
East	IFR1	28955	0.11	1	333	17677.03
West	IFR1	0	0.00	1	333	0.00
East	IFR2	35402	0.02	1	333	3929.62
West	IFR2	0	0.00	1	333	0.00
					Total	138168.42

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35244	0.52	1	333	101714.18
West	VFR1	0	0.00	1	333	0.00
East	VFR2	37740	0.35	1	333	73309.95
West	VFR2	0	0.00	1	333	0.00
East	IFR1	66877	0.11	1	333	40828.41
West	IFR1	0	0.00	1	333	0.00
East	IFR2	73942	0.02	1	333	8207.56
West	IFR2	0	0.00	1	333	0.00
					Total	224060.10

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	56797	0.52	1	333	163916.14
West	VFR1	0	0.00	1	333	0.00
East	VFR2	66480	0.35	1	333	129137.40
West	VFR2	0	0.00	1	333	0.00
East	IFR1	108551	0.11	1	333	66270.39
West	IFR1	0	0.00	1	333	0.00
East	IFR2	175769	0.02	1	333	19510.36
West	IFR2	0	0.00	1	333	0.00
					Total	378834.29

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.1B) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23472	0.52	1	333	67740.19
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24211	0.35	1	333	47029.87
West	VFR2	0	0.00	1	333	0.00
East	IFR1	27323	0.11	1	333	16680.69
West	IFR1	0	0.00	1	333	0.00
East	IFR2	32734	0.02	1	333	3633.47
West	IFR2	0	0.00	1	333	0.00
					Total	135084.23

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	34910	0.52	1	333	100750.26
West	VFR1	0	0.00	1	333	0.00
East	VFR2	36820	0.35	1	333	71522.85
West	VFR2	0	0.00	1	333	0.00
East	IFR1	45111	0.11	1	333	27540.27
West	IFR1	0	0.00	1	333	0.00
East	IFR2	63817	0.02	1	333	7083.69
West	IFR2	0	0.00	1	333	0.00
					Total	206897.06

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	55761	0.52	1	333	160926.25
West	VFR1	0	0.00	1	333	0.00
East	VFR2	61629	0.35	1	333	119714.33
West	VFR2	0	0.00	1	333	0.00
East	IFR1	92433	0.11	1	333	56430.35
West	IFR1	0	0.00	1	333	0.00
East	IFR2	167132	0.02	1	333	18551.65
West	IFR2	0	0.00	1	333	0.00
					Total	355622.58

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.1BL) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 1 with Taxiway L connection, no gate capacity constraint A=8L, 9R, 9S D=8R, 9L
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23866	0.52	1	333	68877.28
West	VFR1	0	0.00	1	333	0.00
East	VFR2	24040	0.35	1	333	46697.70
West	VFR2	0	0.00	1	333	0.00
East	IFR1	27944	0.11	1	333	17059.81
West	IFR1	0	0.00	1	333	0.00
East	IFR2	34063	0.02	1	333	3780.99
West	IFR2	0	0.00	1	333	0.00
					Total	136415.78

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35471	0.52	1	333	102369.31
West	VFR1	0	0.00	1	333	0.00
East	VFR2	37012	0.35	1	333	71895.81
West	VFR2	0	0.00	1	333	0.00
East	IFR1	45449	0.11	1	333	27746.61
West	IFR1	0	0.00	1	333	0.00
East	IFR2	65853	0.02	1	333	7309.68
West	IFR2	0	0.00	1	333	0.00
					Total	209321.41

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	56928	0.52	1	333	164294.21
West	VFR1	0	0.00	1	333	0.00
East	VFR2	62914	0.35	1	333	122210.45
West	VFR2	0	0.00	1	333	0.00
East	IFR1	93644	0.11	1	333	57169.66
West	IFR1	0	0.00	1	333	0.00
East	IFR2	166239	0.02	1	333	18452.53
West	IFR2	0	0.00	1	333	0.00
					Total	362126.84

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.1CB) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 1 with perimeter taxiway and commuters at Gate 30 A=8L, 9R, 9S D=8R, 9L
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	21003	0.52	1	333	60614.66
West	VFR1	0	0.00	1	333	0.00
East	VFR2	21797	0.35	1	333	42340.67
West	VFR2	0	0.00	1	333	0.00
East	IFR1	25322	0.11	1	333	15459.08
West	IFR1	0	0.00	1	333	0.00
East	IFR2	29923	0.02	1	333	3321.45
West	IFR2	0	0.00	1	333	0.00
					Total	121735.86

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	32229	0.52	1	333	93012.89
West	VFR1	0	0.00	1	333	0.00
East	VFR2	34261	0.35	1	333	66551.99
West	VFR2	0	0.00	1	333	0.00
East	IFR1	42558	0.11	1	333	25981.66
West	IFR1	0	0.00	1	333	0.00
East	IFR2	60088	0.02	1	333	6669.77
West	IFR2	0	0.00	1	333	0.00
					Total	192216.31

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	51743	0.52	1	333	149330.30
West	VFR1	0	0.00	1	333	0.00
East	VFR2	58742	0.35	1	333	114106.34
West	VFR2	0	0.00	1	333	0.00
East	IFR1	89411	0.11	1	333	54585.42
West	IFR1	0	0.00	1	333	0.00
East	IFR2	154913	0.02	1	333	17195.34
West	IFR2	0	0.00	1	333	0.00
					Total	335217.39

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.2B) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 2 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L
With Balanced Arrivals

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23530	0.52	1	333	67907.58
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23894	0.35	1	333	46414.10
West	VFR2	0	0.00	1	333	0.00
East	IFR1	27325	0.11	1	333	16681.91
West	IFR1	0	0.00	1	333	0.00
East	IFR2	32658	0.02	1	333	3625.04
West	IFR2	0	0.00	1	333	0.00
					Total	134628.63

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35281	0.52	1	333	101820.97
West	VFR1	0	0.00	1	333	0.00
East	VFR2	36726	0.35	1	333	71340.26
West	VFR2	0	0.00	1	333	0.00
East	IFR1	45020	0.11	1	333	27484.71
West	IFR1	0	0.00	1	333	0.00
East	IFR2	63288	0.02	1	333	7024.97
West	IFR2	0	0.00	1	333	0.00
					Total	207670.90

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	56233	0.52	1	333	162288.44
West	VFR1	0	0.00	1	333	0.00
East	VFR2	60685	0.35	1	333	117880.61
West	VFR2	0	0.00	1	333	0.00
East	IFR1	93101	0.11	1	333	56838.16
West	IFR1	0	0.00	1	333	0.00
East	IFR2	169290	0.02	1	333	18791.19
West	IFR2	0	0.00	1	333	0.00
					Total	355798.40

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1a 3.3B) New Runway ARR - Jets and props (less than 100,000 lbs), no aircraft from NW fix on 9S
Alt 3 with no gate capacity constraint A=8L, 9R, 9S D=8R, 9L
With Balanced Arrivals

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	23505	0.52	1	333	67835.43
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23817	0.35	1	333	46264.52
West	VFR2	0	0.00	1	333	0.00
East	IFR1	27264	0.11	1	333	16644.67
West	IFR1	0	0.00	1	333	0.00
East	IFR2	32614	0.02	1	333	3620.15
West	IFR2	0	0.00	1	333	0.00
					Total	134364.78

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	35062	0.52	1	333	101188.93
West	VFR1	0	0.00	1	333	0.00
East	VFR2	36474	0.35	1	333	70850.75
West	VFR2	0	0.00	1	333	0.00
East	IFR1	45028	0.11	1	333	27489.59
West	IFR1	0	0.00	1	333	0.00
East	IFR2	63071	0.02	1	333	7000.88
West	IFR2	0	0.00	1	333	0.00
					Total	206530.15

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	55784	0.52	1	333	160992.62
West	VFR1	0	0.00	1	333	0.00
East	VFR2	57492	0.35	1	333	111678.21
West	VFR2	0	0.00	1	333	0.00
East	IFR1	92814	0.11	1	333	56662.95
West	IFR1	0	0.00	1	333	0.00
East	IFR2	170573	0.02	1	333	18933.60
West	IFR2	0	0.00	1	333	0.00
					Total	348267.38

From Exhibit 33, Atlanta Data Package #8, September 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	22183	0.52	1	333	64020.14
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23288	0.35	1	333	45236.94
West	VFR2	0	0.00	1	333	0.00
East	IFR1	26993	0.11	1	333	16479.23
West	IFR1	0	0.00	1	333	0.00
East	IFR2	33792	0.02	1	333	3750.91
West	IFR2	0	0.00	1	333	0.00
					Total	129487.22

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	33661	0.52	1	333	97145.65
West	VFR1	0	0.00	1	333	0.00
East	VFR2	36776	0.35	1	333	71437.38
West	VFR2	0	0.00	1	333	0.00
East	IFR1	48015	0.11	1	333	29313.16
West	IFR1	0	0.00	1	333	0.00
East	IFR2	67392	0.02	1	333	7480.51
West	IFR2	0	0.00	1	333	0.00
					Total	205376.70

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	50072	0.52	1	333	144507.79
West	VFR1	0	0.00	1	333	0.00
East	VFR2	50935	0.35	1	333	98941.24
West	VFR2	0	0.00	1	333	0.00
East	IFR1	99274	0.11	1	333	60606.78
West	IFR1	0	0.00	1	333	0.00
East	IFR2	146911	0.02	1	333	16307.12
West	IFR2	0	0.00	1	333	0.00
					Total	320362.93

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.2) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 2 with no gate capacity constraint

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	22212	0.52	1	333	64103.83
West	VFR1	0	0.00	1	333	0.00
East	VFR2	22839	0.35	1	333	44364.76
West	VFR2	0	0.00	1	333	0.00
East	IFR1	26620	0.11	1	333	16251.51
West	IFR1	0	0.00	1	333	0.00
East	IFR2	33334	0.02	1	333	3700.07
West	IFR2	0	0.00	1	333	0.00
					Total	128420.17

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	33481	0.52	1	333	96626.17
West	VFR1	0	0.00	1	333	0.00
East	VFR2	35985	0.35	1	333	69900.86
West	VFR2	0	0.00	1	333	0.00
East	IFR1	50074	0.11	1	333	30570.18
West	IFR1	0	0.00	1	333	0.00
East	IFR2	66943	0.02	1	333	7430.67
West	IFR2	0	0.00	1	333	0.00
					Total	204527.88

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	50409	0.52	1	333	145480.37
West	VFR1	0	0.00	1	333	0.00
East	VFR2	57917	0.35	1	333	112503.77
West	VFR2	0	0.00	1	333	0.00
East	IFR1	98746	0.11	1	333	60284.43
West	IFR1	0	0.00	1	333	0.00
East	IFR2	146745	0.02	1	333	16288.70
West	IFR2	0	0.00	1	333	0.00
					Total	334557.27

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.3) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 3 with no gate capacity constraint

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	22132	0.52	1	333	63872.95
West	VFR1	0	0.00	1	333	0.00
East	VFR2	23295	0.35	1	333	45250.54
West	VFR2	0	0.00	1	333	0.00
East	IFR1	27141	0.11	1	333	16569.58
West	IFR1	0	0.00	1	333	0.00
East	IFR2	32654	0.02	1	333	3624.59
West	IFR2	0	0.00	1	333	0.00
					Total	129317.66

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	33555	0.52	1	333	96839.73
West	VFR1	0	0.00	1	333	0.00
East	VFR2	35932	0.35	1	333	69797.91
West	VFR2	0	0.00	1	333	0.00
East	IFR1	48208	0.11	1	333	29430.98
West	IFR1	0	0.00	1	333	0.00
East	IFR2	66608	0.02	1	333	7393.49
West	IFR2	0	0.00	1	333	0.00
					Total	203462.11

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	50638	0.52	1	333	146141.27
West	VFR1	0	0.00	1	333	0.00
East	VFR2	59400	0.35	1	333	115384.50
West	VFR2	0	0.00	1	333	0.00
East	IFR1	99981	0.11	1	333	61038.40
West	IFR1	0	0.00	1	333	0.00
East	IFR2	148138	0.02	1	333	16443.32
West	IFR2	0	0.00	1	333	0.00
					Total	339007.49

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1.3c) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint & with Gate 30 for commuters only

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	19792	0.52	1	333	57119.71
West	VFR1	0	0.00	1	333	0.00
East	VFR2	20952	0.35	1	333	40699.26
West	VFR2	0	0.00	1	333	0.00
East	IFR1	24582	0.11	1	333	15007.31
West	IFR1	0	0.00	1	333	0.00
East	IFR2	30134	0.02	1	333	3344.87
West	IFR2	0	0.00	1	333	0.00
					Total	116171.16

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	30445	0.52	1	333	87864.27
West	VFR1	0	0.00	1	333	0.00
East	VFR2	32833	0.35	1	333	63778.10
West	VFR2	0	0.00	1	333	0.00
East	IFR1	45746	0.11	1	333	27927.93
West	IFR1	0	0.00	1	333	0.00
East	IFR2	55588	0.02	1	333	6170.27
West	IFR2	0	0.00	1	333	0.00
					Total	185740.57

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	45876	0.52	1	333	132398.14
West	VFR1	0	0.00	1	333	0.00
East	VFR2	54569	0.35	1	333	106000.28
West	VFR2	0	0.00	1	333	0.00
East	IFR1	94732	0.11	1	333	57833.89
West	IFR1	0	0.00	1	333	0.00
East	IFR2	142686	0.02	1	333	15838.15
West	IFR2	0	0.00	1	333	0.00
					Total	312070.45

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1.3cg) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint & with Gate 30 for commuters and GA only

Baseline Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	19033	0.52	1	333	54929.24
West	VFR1	0	0.00	1	333	0.00
East	VFR2	20333	0.35	1	333	39496.85
West	VFR2	0	0.00	1	333	0.00
East	IFR1	23622	0.11	1	333	14421.23
West	IFR1	0	0.00	1	333	0.00
East	IFR2	29726	0.02	1	333	3299.59
West	IFR2	0	0.00	1	333	0.00
					Total	112146.91

Future 1 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	29460	0.52	1	333	85021.56
West	VFR1	0	0.00	1	333	0.00
East	VFR2	32539	0.35	1	333	63207.01
West	VFR2	0	0.00	1	333	0.00
East	IFR1	40816	0.11	1	333	24918.17
West	IFR1	0	0.00	1	333	0.00
East	IFR2	62497	0.02	1	333	6937.17
West	IFR2	0	0.00	1	333	0.00
					Total	180083.90

Future 2 Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	46012	0.52	1	333	132790.63
West	VFR1	0	0.00	1	333	0.00
East	VFR2	54225	0.35	1	333	105332.06
West	VFR2	0	0.00	1	333	0.00
East	IFR1	93979	0.11	1	333	57374.18
West	IFR1	0	0.00	1	333	0.00
East	IFR2	137644	0.02	1	333	15278.48
West	IFR2	0	0.00	1	333	0.00
					Total	310775.36

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1B) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	21814	0.52	1	333	62955.20
West	VFR1	0	0.00	1	333	0.00
East	VFR2	22499	0.35	1	333	43704.31
West	VFR2	0	0.00	1	333	0.00
East	IFR1	25724	0.11	1	333	15704.50
West	IFR1	0	0.00	1	333	0.00
East	IFR2	30299	0.02	1	333	3363.19
West	IFR2	0	0.00	1	333	0.00
					Total	125727.20

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	32740	0.52	1	333	94487.64
West	VFR1	0	0.00	1	333	0.00
East	VFR2	34487	0.35	1	333	66991.00
West	VFR2	0	0.00	1	333	0.00
East	IFR1	40539	0.11	1	333	24749.06
West	IFR1	0	0.00	1	333	0.00
East	IFR2	54505	0.02	1	333	6050.06
West	IFR2	0	0.00	1	333	0.00
					Total	192277.75

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	49756	0.52	1	333	143595.82
West	VFR1	0	0.00	1	333	0.00
East	VFR2	54486	0.35	1	333	105839.06
West	VFR2	0	0.00	1	333	0.00
East	IFR1	81250	0.11	1	333	49603.13
West	IFR1	0	0.00	1	333	0.00
East	IFR2	126260	0.02	1	333	14014.86
West	IFR2	0	0.00	1	333	0.00
					Total	313052.86

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.2B) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 2 with no gate capacity constraint
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	21808	0.52	1	333	62937.89
West	VFR1	0	0.00	1	333	0.00
East	VFR2	22566	0.35	1	333	43834.46
West	VFR2	0	0.00	1	333	0.00
East	IFR1	25298	0.11	1	333	15444.43
West	IFR1	0	0.00	1	333	0.00
East	IFR2	29626	0.02	1	333	3288.49
West	IFR2	0	0.00	1	333	0.00
					Total	125505.26

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	32727	0.52	1	333	94450.12
West	VFR1	0	0.00	1	333	0.00
East	VFR2	34846	0.35	1	333	67688.36
West	VFR2	0	0.00	1	333	0.00
East	IFR1	40439	0.11	1	333	24688.01
West	IFR1	0	0.00	1	333	0.00
East	IFR2	53371	0.02	1	333	5924.18
West	IFR2	0	0.00	1	333	0.00
					Total	192750.67

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	48989	0.52	1	333	141382.25
West	VFR1	0	0.00	1	333	0.00
East	VFR2	53729	0.35	1	333	104368.58
West	VFR2	0	0.00	1	333	0.00
East	IFR1	81416	0.11	1	333	49704.47
West	IFR1	0	0.00	1	333	0.00
East	IFR2	127015	0.02	1	333	14098.67
West	IFR2	0	0.00	1	333	0.00
					Total	309553.97

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.3B) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 3 with no gate capacity constraint
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	21718	0.52	1	333	62678.15
West	VFR1	0	0.00	1	333	0.00
East	VFR2	22403	0.35	1	333	43517.83
West	VFR2	0	0.00	1	333	0.00
East	IFR1	25423	0.11	1	333	15520.74
West	IFR1	0	0.00	1	333	0.00
East	IFR2	29408	0.02	1	333	3264.29
West	IFR2	0	0.00	1	333	0.00
					Total	124981.01

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	32789	0.52	1	333	94629.05
West	VFR1	0	0.00	1	333	0.00
East	VFR2	34463	0.35	1	333	66944.38
West	VFR2	0	0.00	1	333	0.00
East	IFR1	40414	0.11	1	333	24672.75
West	IFR1	0	0.00	1	333	0.00
East	IFR2	53048	0.02	1	333	5888.33
West	IFR2	0	0.00	1	333	0.00
					Total	192134.51

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	49323	0.52	1	333	142346.18
West	VFR1	0	0.00	1	333	0.00
East	VFR2	55248	0.35	1	333	107319.24
West	VFR2	0	0.00	1	333	0.00
East	IFR1	81903	0.11	1	333	50001.78
West	IFR1	0	0.00	1	333	0.00
East	IFR2	125616	0.02	1	333	13943.38
West	IFR2	0	0.00	1	333	0.00
					Total	313610.58

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1.3cB) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint & with Gate 30 for commuters only
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	19112	0.52	1	333	55157.23
West	VFR1	0	0.00	1	333	0.00
East	VFR2	20110	0.35	1	333	39063.68
West	VFR2	0	0.00	1	333	0.00
East	IFR1	22928	0.11	1	333	13997.54
West	IFR1	0	0.00	1	333	0.00
East	IFR2	27128	0.02	1	333	3011.21
West	IFR2	0	0.00	1	333	0.00
					Total	111229.66

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	28834	0.52	1	333	83214.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	30952	0.35	1	333	60124.26
West	VFR2	0	0.00	1	333	0.00
East	IFR1	37292	0.11	1	333	22766.77
West	IFR1	0	0.00	1	333	0.00
East	IFR2	51776	0.02	1	333	5747.14
West	IFR2	0	0.00	1	333	0.00
					Total	171853.09

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	45290	0.52	1	333	130706.94
West	VFR1	0	0.00	1	333	0.00
East	VFR2	48792	0.35	1	333	94778.46
West	VFR2	0	0.00	1	333	0.00
East	IFR1	78437	0.11	1	333	47885.79
West	IFR1	0	0.00	1	333	0.00
East	IFR2	120963	0.02	1	333	13426.89
West	IFR2	0	0.00	1	333	0.00
					Total	286798.08

From Exhibit 20, Atlanta Data Package #7, July 1995

ANNUAL AIRPORT TIME CALCULATIONS - SIMMOD

(1b 3.1.3cgB) New Runway ARR - Jets and props, DEP - Props only, no aircraft from NW fix on 9S
Alt 1 with no gate capacity constraint & with Gate 30 for commuters and GA only
With Balanced Arrivals

Baseline

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	18748	0.52	1	333	54106.73
West	VFR1	0	0.00	1	333	0.00
East	VFR2	19525	0.35	1	333	37927.31
West	VFR2	0	0.00	1	333	0.00
East	IFR1	22426	0.11	1	333	13691.07
West	IFR1	0	0.00	1	333	0.00
East	IFR2	26519	0.02	1	333	2943.61
West	IFR2	0	0.00	1	333	0.00
					Total	108668.72

Future 1

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	28527	0.52	1	333	82328.92
West	VFR1	0	0.00	1	333	0.00
East	VFR2	30225	0.35	1	333	58712.06
West	VFR2	0	0.00	1	333	0.00
East	IFR1	38806	0.11	1	333	23691.06
West	IFR1	0	0.00	1	333	0.00
East	IFR2	50435	0.02	1	333	5598.29
West	IFR2	0	0.00	1	333	0.00
					Total	170330.33

Future 2

Configuration	Procedures	Total Airport Time/Day (minutes)	Use	Factor	Equivalent Days	Annual Airport Time (hours)
East	VFR1	44450	0.52	1	333	128282.70
West	VFR1	0	0.00	1	333	0.00
East	VFR2	49123	0.35	1	333	95421.43
West	VFR2	0	0.00	1	333	0.00
East	IFR1	77259	0.11	1	333	47166.62
West	IFR1	0	0.00	1	333	0.00
East	IFR2	118798	0.02	1	333	13186.58
West	IFR2	0	0.00	1	333	0.00
					Total	284057.33

From Exhibit 20, Atlanta Data Package #7, July 1995