Advisory
Circular

: CHANGE 1 TO AIRPORT CAPACITY ELAY--Simulation Model ability	**Date:** 5/16/84 **Initiated by:** AAS-100	**AC No:** 150/5060-5 **Change:** 1

URPOSE. This Change revises chapter 5 to incorporate the National Technical mation Service (NTIS) acquisition codes for the recently documented Airfield Simulation Model (ADSIM). It also identifies minor pen and ink corrections.

EN AND INK CORRECTIONS.

. Correct chapter identification from 3 to 4 at the bottom of page 3, 85, and 87.

. Delete the (000) marking from the Hourly Capacity Column of the example sheets on pages 2, 3, and 4 of Appendix 1, and pages 5, 17, and 19 of Appendix from the Hourly Capacity Column of the sample forms on pages 3 (and 4), d 6), and 21 (and 22) of Appendix 5. Note: Page 21 (and 22) is attached to ight of page 23 (and 24).

PAGE CONTROL CHART

emove Pages	Dated	Insert Pages	Dated
ii	9/23/83	iii	9/23/83
v	9/23/83	iv	5/16/84
1	9/23/83	91 (and 92)	5/16/84

ard E. Mudd
ctor, Office of Airport Standards

CONTENTS

CONTENTS (CONT.)

CHAPTER 5. COMPUTER PROGRAMS FOR AIRPORT CAPACITY AND AIRCRAFT DELAY

5-1. <u>GENERAL</u>. This chapter identifies FAA computer programs (models) for deter-
mining airport capacity and aircraft delay. The models may be used to study the
sensitivity of proposed physical and/or operational changes to the airport. The
models should be used whenever planning or design requirements for capacity and/or
delay information exceed the computational capabilities of chapter 2, 3, or 4 pro-
cedures.

5-2. <u>RUNWAY CAPACITY MODEL</u>. The Upgraded FAA Airfield Capacity Model analytically
calculates the hourly capacities for 52 different runway-use configurations and a
range of operating conditions. The model uses built-in values for current ATC
system and operating practices such as in-trail separations, aircraft approach
speeds, time deviations, etc.

5-3. <u>ANNUAL DELAY MODEL</u>. The Annual Delay Model analytically calculates total
annual delay, average delay to an aircraft, and the distribution of aircraft delay
over the course of the year. The model operates with built-in values or user
supplied data.

5-4. <u>ANNUAL SERVICE VOLUME MODEL</u>. The Annual Service Volume Model analytically
calculates annual service volumes from user supplied data.

* 5-5. <u>AIRFIELD DELAY SIMULATION MODEL</u>. The Airfield Delay Simulation Model is a
discrete events simulation calculating travel times, delay, and flow rates. It may
be used to analyze the components of an airport, airport operations, and operations
in the adjacent airspace.

5-6. <u>MODEL AVAILABILITY</u>. Tapes of the above models are available from the National
Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia
22161.

    a. <u>Analytic Models</u>. The NTIS acquisition code for a copy of the computer
tape and user's manual for the runway capacity, annual delay, and annual service
volume models is ADA 105 687. The NTIS acquisition code for the user's manual is
ADA 105 688. The programs are written in FORTRAN IV and should be operable on any
FORTRAN compatible computer having 210 K bytes of core capacity. The tape is 9
track, 1600 BPI, EBCDIC with 80 characters/record and 30 records/block.

    b. <u>Simulation Model</u>. The NTIS acquisition code for a copy of the computer
tape and user's guide for the airfield delay simulation model is PB 84-171 560.
The NTIS acquisition code for the user's guide is PB 84-171 552. The programs are
written in FORTRAN IV and should be operable on any FORTRAN compatible computer
having 560 K bytes of core capacity. The data files were produced on a HONEYWELL
66/60 computer and a GCOS3-4JS3 operating system. The tape is 9 track, 1600 BPI,
ASCIL character code.

5-7. <u>COST</u>. NTIS prices are subject to change. Therefore, it is recommended that
persons interested in purchasing either tape or user's manual/guide contact NTIS
for current price information prior to ordering. The NTIS mailing address is found
in paragraph 5-6. The telephone and TELEX numbers for the NTIS ordering desk are
(703) 487-4650 and 89-9405 respectively.   *