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MODEL USERS' MANUAL FOR AIRFIELD CAPACITY AND DELAY MODELS. BOO--ETC(U)
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UNCLASSIFIED FAA-RD-76-128-BK-2 NL

1 OF 2
ADA036354



Report No. FAA-RD-76-128
BOOK 2

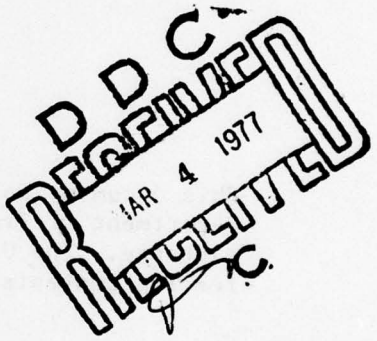
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MODEL USERS' MANUAL FOR AIRFIELD CAPACITY AND DELAY MODELS

Carl T. Ball





November 1976

Final Report

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Systems Research & Development Service
Washington, D.C. 20590

AD-A023 634

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FAA-RD-76-128-Book-2		

4. Title and Subtitle	5. Report Date
Model Users' Manual for Airfield Capacity and Delay Models. Book 2.	November 1976
	6. Performing Organization Code: 88277
7. Author(s): Carl T. Ball	8. Performing Organization Report No.
9. Performing Organization Name and Address: U.S. Department of Transportation, Federal Aviation Administration, Systems Research and Development Service, Washington, D.C. 20590	10. Work Unit No. (TRAIS): 082-421-214
	11. Contract or Grant No.: 082-421-214
12. Sponsoring Agency Name and Address: U.S. Department of Transportation, Federal Aviation Administration, Systems Research and Development Service, Washington, D.C. 20590	13. Type of Report and Period Covered: Final Report,
	14. Sponsoring Agency Code: ARD-410

15. Supplementary Notes: 173p.

16. Abstract

This report contains examples for the Delay Simulation Model described in Chapter 4 of "Model Users' Manual for Airfield Capacity and Delay Models" FAA-RD-76-128 Book 1, dated November 1976 (AD A033685).

DDC RECEIVED MAR 4 1977 C

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17. Key Words	18. Distribution Statement
Aircraft delay models Runway Capacity Airport Simulation Runway Delay	Document is available to the U.S. public through the National Technical Information Service, Springfield, Virginia 22161.

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	173	

340170 AB

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

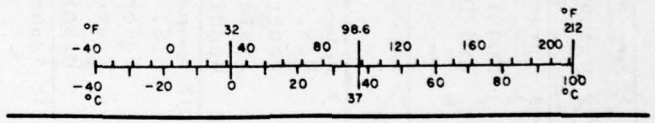
Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	qwarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



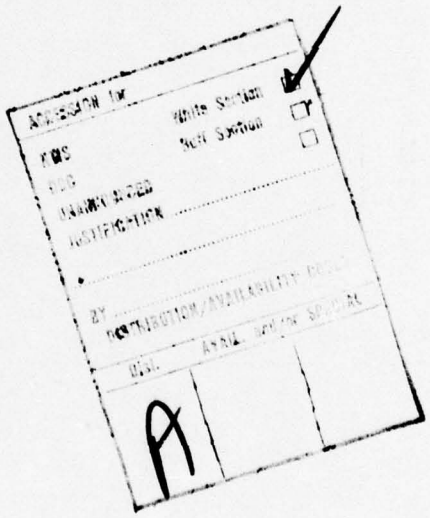
Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



PREFACE

The report contains examples for the Delay Simulation Model described in Chapter 4 of "Model Users' Manual for Airfield Capacity and Delay Models" FAA-RD-76-128 dated November 1976.



ATTACHMENT A

The following examples illustrate the use of the Delay Simulation Model Version 2.

EXAMPLE 1.

A. OBJECTIVE

The airlines at the airport depicted by the link-node diagram in Figure 4-7 are considering purchasing equipment which is projected to reduce gate occupancy time by 30%. Determine the magnitude of the present gate delay and the expected gate delay if the new equipment is added.

B. INPUTS

INPUT CONSIDERATIONS:

1. Limit the analysis to VFR weather conditions.

2. Limit the analysis to one runway use configuration; i.e.,

arrivals on runway 28L & R
departures on runway 28L
no touch-and-go operations

3. Limit the analysis to the hours from 1:00 p.m. to 6:00 p.m. on the average day of the peak month.

4. Use air traffic control procedures effective July 4, 1976.

5. Do not allow departure aircraft to hold at a gate longer than is required to service the aircraft.

FIELD DATA:

Data collected at the airport reveals the following:

Parameter	Heavy Jets	Large Jets
Departure Runway Occupancy Time (mean/standard deviation in seconds)	39/5	39/5
Approach Velocity (mean/standard deviation in knots)	140/5	130/5
Approach Path (n.mi.)	8	8
Gate Occupancy Time (mean/standard deviation in minutes)	50/10	30/5

Taxi Speed (mph)	Link(s)
5	106-115
10	132-135, 125-127
10	116-117, 104-105
15	118-124, 103
20	102, 131
25	128-130, 101

Pushback Time (seconds)	Link(s)
66	1-10
6	21-30

Aircraft Type	Exit Distance (feet)	Arrival Runway Occupancy Time (seconds)	Exit% (Right Angle Exit)	Exit% (High-speed Exit)
1	6000	56	40	100
2	6000	56	70	100
1	8000	73	100	100
2	8000	73	100	100

A penalty box that can accommodate 10 aircraft is located on the west end of the terminal building.

The exclusive use gate sets exist:

Airline	Gates
AA	1-5
TWA	6-8
UA	9-10

All gates are large enough to accommodate heavy jet aircraft.

INPUT ASSUMPTIONS:

1. Insufficient data is available to determine the actual separation between aircraft. Assume that the average separations are those specified in the air traffic control handbook for heavy and large aircraft. Use standard deviations of:

0.5 nautical miles for arrival-arrival separations
0.25 nautical miles for departure-arrival separations
0.25 minutes for departure-departure separations

2. Assume preemptive arrival priority can be obtained by requiring a queue of eight departures before the arrival stream is interrupted. When this condition exists insert a 2.0 minute gap in the arrival stream.

3. Use 10 random number seeds to obtain stocastic convergence.

GEOMETRY DATA:

1. Runway length = 8000 feet

2. Exits 128 and 101 are located 6000 feet from threshold.

3.

Link(s)	Length(feet)
102-126	300
130,134,135	400
101	500
128,129	900
131	1900

NOTE:

- Links 128 and 129 were made 900 feet long because only two aircraft can hold between the runways.
- Link 131 was made 1900 feet long to allow the program to operate more efficient in moving aircraft since few aircraft use this section of taxiway.
- All other links are used at their actual length.

4. Paths are required:

From	To
Link 128	all holding areas & gates
Link 129	" " " "
Link 101	" " " "
Each holding area	to all gates
Each gate	Link 126 (departure end link)

5. There are no one-way paths on the airport.

6. The decision to cross runway 28L is made on links 132 and 133.

SCHEDULE DATA:

1. The schedule data for the hours from 1:00 p.m. to 6:00 p.m. is shown in Figure 4-8. This data includes:

Airline ID
Preferred Gate
Aircraft Class
Arrival Time at Threshold
Departure Time from Gate
Arrival Runway
Departure Runway

2. All aircraft are through flights.

NOTE: The departure time in Figure 4-8 is shown as 1 minute after arrival time at threshold so that the aircraft service time (as opposed to the scheduled departure time) will always govern when the departure leaves the gate.

C. SOLUTION

A listing of the input cards for this example is shown in Figure 4-9. The model runs for this example are shown in Figures 4-10a and 4-10b. From the output of the model runs, the following comparison of gate delay with and without the new equipment can be made:

HOUR	PRESENT SITUATION		WITH NEW EQUIPMENT	
	Gate-in	Gate-out	Gate-in	Gate-out
1-2	2.95	0.05	0.56	0.05
2-3	9.63	0.06	1.83	0.05
3-4	10.49	0.07	2.16	0.04
4-5	16.41	0.08	2.73	0.05
5-6	13.31	0.04	1.64	0.03
Average				

Total arrival gate delay can be calculated as follows:

With New Equipment

0.56 x 13 = 7.28
1.83 x 12 = 21.96
2.16 x 10 = 21.60
2.73 x 12 = 32.76
1.64 x 13 = 21.32
104.92

Present Situation

2.95 x 13 = 38.35 minutes
9.63 x 11 = 105.93
10.49 x 10 = 104.90
16.41 x 11 = 180.51
13.31 x 12 = 159.72
589.41

The new equipment will reduce gate-in delay by 484.49/589.41 = 83%.

The computer time to make these runs cost $63.

EXAMPLE 2.

A. OBJECTIVE

Determine the average arrival and departure runway delay between 2:00 p.m. and 4:00 p.m. for the airfield shown by the link-node diagram in Figure 4-11.

B. INPUTS

INPUT CONSIDERATIONS:

1. Consider VFR weather conditions.

2. Consider the following runway use configurations:

arrivals on runways 32L & 27R
departures on runways 27L & 32R

3. Use the air traffic control rules effective November 2, 1975.

FIELD DATA:

Data collected during a 2-week period at this airport was used to determine the following parameters:

- o Departure runway occupancy time
- o Touch-and-go runway occupancy time
- o Gate service time
- o Aircraft approach velocity
- o Length of common approach path
- o Exit utilization percent
- o Arrival time-distance histogram
- o Arrival-arrival separations
- o Departure-arrival separations
- o Departure-departure separations
- o Arrival-departure separations

Input values for these parameters are shown in Figure 4-12.

4. Airline gate assignments are shown on Figure 4-12. During data collection, it was determined that airline UA did not normally permit large jets to use gates reserved for heavy jets. Therefore, the gates for heavy jets were assigned to airline UA2 and gates for large jets were assigned to airline UA1.

5. A penalty box that can accommodate five aircraft is located off runway 32L.

INPUT ASSUMPTIONS:

1. Assume preemptive arrival priority can be obtained by requiring a queue of eight departures before the arrival stream is

interrupted. When this condition exits, insert a 2-minute gap in the arrival stream.

2. Use 10 random number seeds to obtain stocastic convergence.

GEOMETRIC DATA:

1. Link data is shown in Figure 4-12. The figure contains:

- o Link length
- o Gate pushback time
- o Gate size
- o Pushback one-way path associated with some gates
- o Aircraft velocity code for each link

1 - 5 miles per hour
2 - 10 " " "
3 - 15 " " "
4 - 23 " " "
5 - 25 " " "
6 - 35 " " "
7 - Special code for pushback time

2. Because of the traffic flow pattern for the runways, no crossing links are required.

3. Exit Locations

Exit Link	Distance(feet)
406	4460
401	5480
391	6800
538	4330
519	5480
530	6080

4. Paths are required to move aircraft between:

6 exits and 92 gates
6 exits and 5 holding areas
5 holding areas and 92 gates
92 gates and 2 departure runways

The paths are contained in Figure 4-12.

5. Nineteen one-way paths are required by the flow of aircraft on airfield. Seventeen of these one-way paths represent taxiways serving pier-finger gate arrangements. The remaining two one-way paths (i.e., links 288 and 289) serve as the transition taxiway between the outer and inner taxiway. It has to be entered in both directions; i.e., 288 289 and 289 288.

SCHEDULE DATA:

The schedule data for the hours from 10:00 p.m. to 6:00 p.m. is shown in Figure 4-12. This data includes:

Airline ID
Preferred Gate
Flight Type
Aircraft Class
Arrival Time at Threshold
Departure Time from Gate
Arrival Runway
Departure Runway

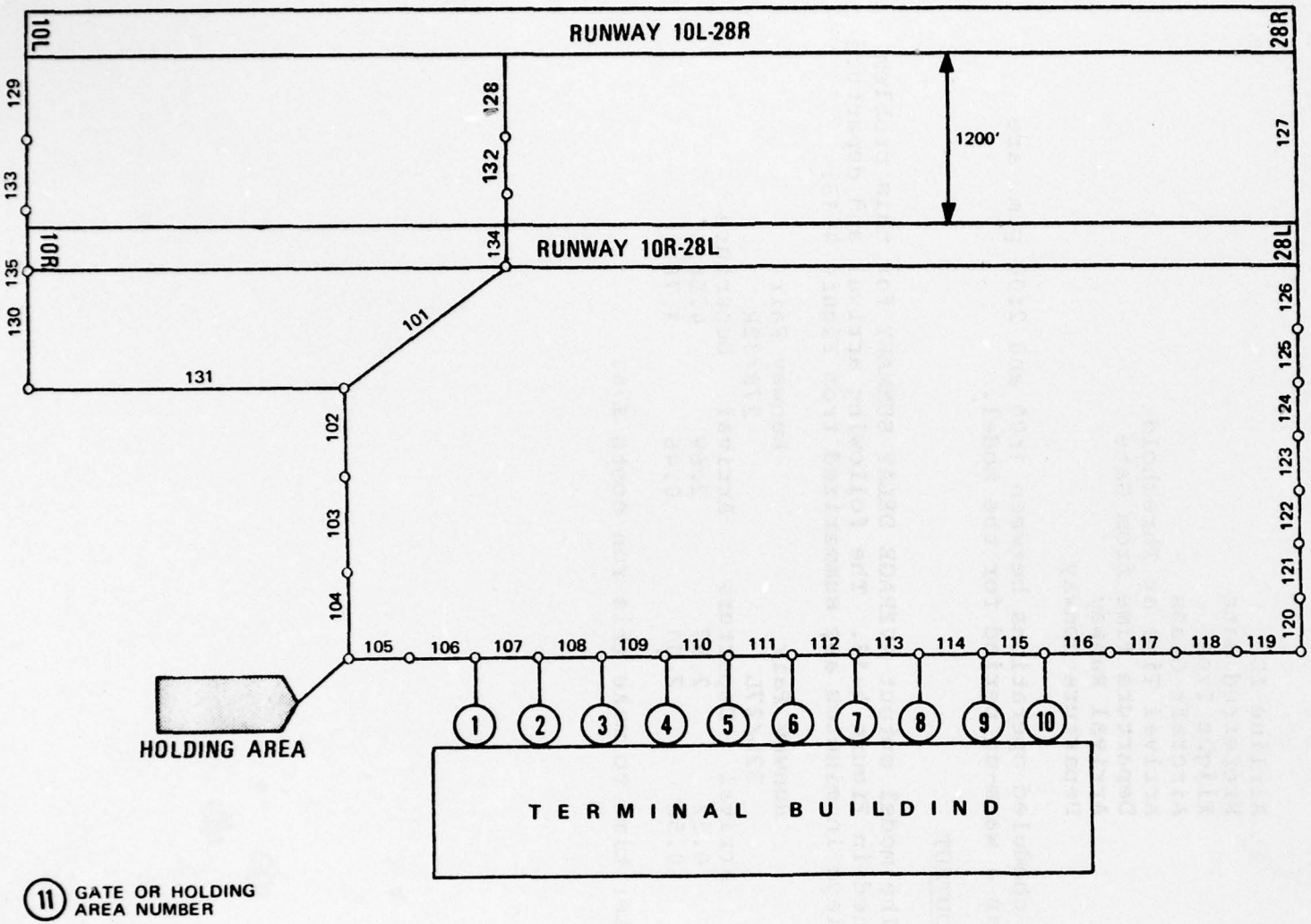
Scheduled operations between 1:00 and 2:00 p.m. are included as a warm-up period for the model.

C. OUTPUT

The model output AVERAGE DELAY SUMMARY for this problem is contained in Figure 4-13. The following arrival and departure runway delays in minutes are summarized from Figure 4-13:

	Runway Pair 32L/27L		Runway Pair 27R/32R	
Hour	Arrival	Departure	Arrival	Departure
2-3	0.52	2.67	2.69	4.56
3-4	0.58	2.01	0.46	1.78

The computer time to make this run costs $76.



LINK-NODE DIAGRAM FOR EXAMPLE 1
Figure 4-7

Airline ID	Preferred Gate	Aircraft Class	Arrival Time	Departure Time	Arrival Runway	Departure Runway
AA	3	2	1:00	1:01	2	2
AA	2	1	1:02	1:03	1	2
TWA	8	2	1:03	1:04	1	2
UA	9	2	1:03	1:04	2	2
AA	3	2	1:14	1:15	2	2
UA	10	2	1:15	1:16	1	2
AA	3	2	1:16	1:17	2	2
AA	2	1	1:30	1:31	1	2
TWA	8	2	1:31	1:32	1	2
UA	9	2	1:31	1:32	2	2
TWA	6	1	1:32	1:33	2	2
AA	4	2	1:45	1:46	1	2
AA	5	2	1:45	1:46	2	2
UA	10	2	2:00	2:01	1	2
AA	2	1	2:03	2:04	1	2
TWA	7	2	2:03	2:04	2	2
AA	5	2	2:14	2:15	2	2
TWA	6	1	2:16	2:17	2	2
AA	3	2	2:17	2:18	2	2
AA	4	2	2:30	2:31	1	2
AA	2	1	2:31	2:32	1	2
TWA	7	2	2:31	2:32	2	2
UA	10	2	2:33	2:34	1	2
AA	5	2	2:46	2:47	2	2
AA	2	1	2:47	2:48	1	2
AA	1	2	2:52	2:53	2	2
AA	1	2	3:00	3:01	1	2
AA	5	2	3:03	3:04	2	2
TWA	7	2	3:14	3:15	2	2
AA	2	1	3:15	3:16	1	2
AA	1	2	3:16	3:17	1	2
TWA	8	2	3:16	3:17	1	2
UA	9	2	3:16	3:17	2	2
UA	10	2	3:45	3:46	1	2
TWA	6	1	3:45	3:46	2	2
AA	1	2	3:52	3:53	2	2
AA	3	2	3:55	3:56	1	2
AA	3	2	4:00	4:01	2	2
AA	2	1	4:02	4:03	1	2
TWA	8	2	4:03	4:04	1	2
UA	9	2	4:03	4:04	2	2
AA	3	2	4:14	4:15	2	2
UA	10	2	4:15	4:16	1	2
AA	3	2	4:16	4:17	2	2
AA	2	1	4:30	4:31	1	2
TWA	8	2	4:31	4:32	1	2
TWA	6	1	4:32	4:33	2	2
AA	4	2	4:45	4:46	1	2
AA	5	2	4:45	4:46	2	2
UA	10	2	5:00	5:01	1	2
AA	2	1	5:03	5:04	1	2
TWA	7	2	5:03	5:04	2	2
AA	5	2	5:14	5:15	2	2

SCHEDULE DATA FOR EXAMPLE 1
FIGURE 4-8

Airline ID	Preferred Gate	Aircraft Class	Arrival Time	Departure Time	Arrival Runway	Departure Runway
TWA	6	1	5:16	5:17	2	2
AA	3	2	5:17	5:18	2	2
AA	4	2	5:30	5:31	1	2
AA	2	1	5:31	5:32	1	2
TWA	7	2	5:31	5:32	2	2
UA	9	2	5:32	5:33	2	2
UA	10	2	5:33	5:34	1	2
AA	5	2	5:46	5:47	2	2
AA	2	1	5:47	5:48	1	2
AA	1	2	5:52	5:53	2	2
AA	1	2	6:00	6:01	1	2
UA	9	2	6:00	6:01	2	2
AA	5	2	6:03	6:04	2	2
TWA	7	2	6:14	6:15	2	2
AA	2	1	6:15	6:16	1	2
AA	1	2	6:16	6:17	1	2
TWA	8	2	6:16	6:17	1	2
UA	9	2	6:16	6:17	2	2
UA	10	2	6:45	6:46	1	2
TWA	6	1	6:45	6:46	2	2
AA	1	2	6:52	6:53	2	2
AA	-3	2	6:55	6:56	1	2

FIGURE 4-8 (Cont.)

```
//FAAPRGT1 JOB (L,1353706,T0891),'C. BALL-FAA',
// LIM=(2,5,10,20),REGION=490K
//*DSS FAAHYDSS
// EXEC FORTGO
//STEPLIB DD DISP=(OLD,KEEP),UNIT=3330-1,
// DSN=SYS3.FAA.DELAY.VER1,VOL=SER=CSLB40
//GO.FT06F001 DD SYSOUT=A
//GO.FT09F001 DD UNIT=SYSDA,SPACE=(TRK,(5,5))
//GO.FT08F001 DD *
```

AL	GATE	FT	AC CLASS	ARR	DEPT	ARR RW	DEPT RW
AA	3	3	2	1:00	1:01	2	2
AA	2	3	1	1:02	1:03	1	2
TWA	8	3	2	1:03	1:04	1	2
UA	9	3	2	1:03	1:04	2	2
AA	3	3	2	1:14	1:15	2	2
UA	10	3	2	1:15	1:16	1	2
AA	3	3	2	1:16	1:17	2	2
AA	2	3	1	1:30	1:31	1	2
TWA	8	3	2	1:31	1:32	1	2
UA	9	3	2	1:31	1:32	2	2
TWA	6	3	1	1:32	1:33	2	2
AA	4	3	2	1:45	1:46	1	2
AA	5	3	2	1:45	1:46	2	2
UA	10	3	2	2:00	2:01	1	2
AA	2	3	1	2:03	2:04	1	2
TWA	7	3	2	2:03	2:04	2	2
AA	5	3	2	2:14	2:15	2	2
TWA	6	3	1	2:16	2:17	2	2
AA	3	3	2	2:17	2:18	2	2
AA	4	3	2	2:30	2:31	1	2
AA	2	3	1	2:31	2:32	1	2
TWA	7	3	2	2:31	2:32	2	2
UA	10	3	2	2:33	2:34	1	2
AA	5	3	2	2:46	2:47	2	2
AA	2	3	1	2:47	2:48	1	2
AA	1	3	2	2:52	2:53	2	2
AA	1	3	2	3:00	3:01	1	2
AA	5	3	2	3:03	3:04	2	2
TWA	7	3	2	3:14	3:15	2	2
AA	2	3	1	3:15	3:16	1	2
AA	1	3	2	3:16	3:17	1	2
TWA	8	3	2	3:16	3:17	1	2
UA	9	3	2	3:16	3:17	2	2
UA	10	3	2	3:45	3:46	1	2
TWA	6	3	1	3:45	3:46	2	2
AA	1	3	2	3:52	3:53	2	2
AA	3	3	2	3:55	3:56	1	2
AA	3	3	2	4:00	4:01	2	2
AA	2	3	1	4:02	4:03	1	2
TWA	8	3	2	4:03	4:04	1	2
UA	9	3	2	4:03	4:04	2	2

LISTING OF INPUT CARDS FOR EXAMPLE 1
FIGURE 4-9

AA	3	3	2	4:14	4:15	2	2
UA	10	3	2	4:15	4:16	1	2
AA	3	3	2	4:16	4:17	2	2
AA	2	3	1	4:30	4:31	1	2
TWA	8	3	2	4:31	4:32	1	2
TWA	6	3	1	4:32	4:33	2	2
AA	4	3	2	4:45	4:46	1	2
AA	5	3	2	4:45	4:46	2	2
UA	10	3	2	5:00	5:01	1	2
AA	2	3	1	5:03	5:04	1	2
TWA	7	3	2	5:03	5:04	2	2
AA	5	3	2	5:14	5:15	2	2
TWA	6	3	1	5:16	5:17	2	2
AA	3	3	2	5:17	5:18	2	2
AA	4	3	2	5:30	5:31	1	2
AA	2	3	1	5:31	5:32	1	2
TWA	7	3	2	5:31	5:32	2	2
UA	9	3	2	5:32	5:33	2	2
UA	10	3	2	5:33	5:34	1	2
AA	5	3	2	5:46	5:47	2	2
AA	2	3	1	5:47	5:48	1	2
AA	1	3	2	5:52	5:53	2	2
AA	1	3	2	6:00	6:01	1	2
UA	9	3	2	6:00	6:01	2	2
AA	5	3	2	6:03	6:04	2	2
TWA	7	3	2	6:14	6:15	2	2
AA	2	3	1	6:15	6:16	1	2
AA	1	3	2	6:16	6:17	1	2
TWA	8	3	2	6:16	6:17	1	2
UA	9	3	2	6:16	6:17	2	2
UA	10	3	2	6:45	6:46	1	2
TWA	6	3	1	6:45	6:46	2	2
AA	1	3	2	6:52	6:53	2	2
AA	-3	3	2	6:55	6:56	1	2

FIGURE 4-9 (Cont.)

```
//GO.SYSIN DD *
TITLE
    EXAMPLE 1
RANDOM NUMBER SEEDS
      10
    2001    2002    2003    2004    2005    2006    2007    2008    2009    2000
A/C SERVICE TIMES
CLASS  1   MEAN  50.0        STD  10.0
      -2         30.0              5.0
TIMES(START,FINISH)
    1:00    6:00
PRINT OPTIONS
FALSE   FALSE   FALSE   FALSE   TRUE    FALSE   FALSE   FALSE   FALSE   FALSE
RWYS NO. OF
       2
RWY NAMES
28R     28L
RWY END LINKS
       0     126
RWY XING LINKS
RUNWAY # LINK #
       2     132
      -2     133
RWY INTERARRIVAL GAP
QUEUE LENGTH   8         GAP  2.0
RWY DEP. OCCUPANCY TIMES
CLASS  1   MEAN 39.0        STD 5.0
      -2        39.0            5.0
RWY T/GO OCCUPANCY TIMES
CLASS  1   MEAN 25.0        STD 2.0
      -2        25.0            2.0
```

FIGURE 4-9 (Cont.)

```
RWY LENGTHS OF COMMON APPROACH PATHS IN NAUTICAL MILES
RWY     1 CLASS 1      8.0
        1       2      8.0
        2       1      8.0
       -2       2      8.0
RWY EXIT SELECTION
        1       1        2
      128      .4      129      .6
        2       1        2
      128      .7      129      .3
        1       2        1
      101     1.0
       -2       2        1
      101     1.0
RWY EXIT DISTANCES
        3
      128   6000.     129   8000.     101   6000.
RWY ARRIVAL OCCUPANCY TIMES (DISTANCE OF EXIT TAXIWAY,TIME)
        1       9
1000.   12.     2000.   21.     3000.   29.     4000.   38.     5000.   47.
6000.   56.     7000.   65.     8000.   73.     9000.   82.
       -2       9
1000.   12.     2000.   21.     3000.   29.     4000.   38.     5000.   47.
6000.   56.     7000.   65.     8000.   73.     9000.   82.
```

FIGURE 4-9 (Cont.)

```
HOLDING AREAS
      10 AREAS
      21       22       23       24       25       26       27       28       29       30
TAXIWAY SPEEDS (SIX STANDARD SPEEDS)
 5.       10.      15.      20.      25.      30.
AIRLINE NAMES
       3 AIRLINES
AA       TWA      UA
AIRLINE GATES
AA                5 GATES
        1        2        3        4        5
TWA               3
        6        7        8
UA               -2
        9       10
A/C APPROACH SPEEDS(KNOTS)
CLASS  1    MEAN  140.0        STD  5.0
      -2          130.0             5.0
A/C SEPARATIONS
        FIRST OPERATION              SECOND OPERATION
       OP    CLASS      RWY        OP    CLASS      RWY      MEAN      STD
        A        1        1         A        1        1        4.       .5
        A        1        1         A        2        1        5.       .5
        A        2        1         A        1        1        3.       .5
        A        2        1         A        2        1        3.       .5
        D        1        1         A        1        1        2.       .25
        D        1        1         A        2        1        2.       .25
        D        2        1         A        1        1        2.       .25
        D        2        1         A        2        1        2.       .25
        D        1        1         D        1        1        2.       .25
        D        1        1         D        2        1       2.0       .25
        D        2        1         D        1        1      1.25       .15
        D        2        1         D        2        1      1.25       .15
        A        1        1         A        1        2        4.       .5
        A        1        1         A        2        2        5.       .5
        D        1        1         D        1        2        1.       .25
        D        1        1         D        2        2        2.       .25
        A        1        2         A        2        1        5.       .5
        A        1        2         A        1        1        4.       .5
        D        1        2         D        1        1        1.       .25
        D       -1        2         D        2        1        2.       .25
A/C SCHEDULE
```

FIGURE 4-9 (Cont.)

TAXIWAY LINKS

LINK NO.	SIZE	LENGTH(SPD)	SPEED CODE	1-WAY ROUTE NO.
1	1	1.10	7	
2	1	1.10	7	
3	1	1.10	7	
4	1	1.10	7	
5	1	1.10	7	
6	1	1.10	7	
7	1	1.10	7	
8	1	1.10	7	
9	1	1.10	7	
10	1	1.10	7	
21	1	.10	7	
22	1	.10	7	
23	1	.10	7	
24	1	.10	7	
25	1	.10	7	
26	1	.10	7	
27	1	.10	7	
28	1	.10	7	
29	1	.10	7	
30	1	.10	7	
101		500.	5	
102		300.	4	
103		300.	3	
104		300.	2	
105		300.	2	
106		300.	1	
107		300.	1	
108		300.	1	
109		300.	1	
110		300.	1	
111		300.	1	
112		300.	1	
113		300.	1	
114		300.	1	
115		300.	1	
116		300.	2	
117		300.	2	
118		300.	3	
119		300.	3	
120		300.	3	
121		300.	3	
122		300.	3	
123		300.	3	
124		300.	3	
125		300.	2	
126		300.	2	
128		900.	5	
129		900.	5	
130		400.	5	
131		1900.	4	
132		300.	2	
133		300.	2	
134		400.	2	
135		400.	-2	

FIGURE 4-9 (Cont.)

TAXIWAY ROUTES

22
1 106 107 108 109 110 111 112 113 114
115 116 117 118 119 120 121 122 123 124
125 126

21
2 107 108 109 110 111 112 113 114 115
116 117 118 119 120 121 122 123 124 125
126

20
3 108 109 110 111 112 113 114 115 116
117 118 119 120 121 122 123 124 125 126

19
4 109 110 111 112 113 114 115 116 117
118 119 120 121 122 123 124 125 126

18
5 110 111 112 113 114 115 116 117 118
119 120 121 122 123 124 125 126

17
6 111 112 113 114 115 116 117 118 119
120 121 122 123 124 125 126

16
7 112 113 114 115 116 117 118 119 120
121 122 123 124 125 126

15
8 113 114 115 116 117 118 119 120 121
122 123 124 125 126

14
9 114 115 116 117 118 119 120 121 122
123 124 125 126

13
10 115 116 117 118 119 120 121 122 123
124 125 126

FIGURE 4-9 (Cont.)

```
 7
101     102     103     104     105     106      1
 8
101     102     103     104     105     106     107      2
 9
101     102     103     104     105     106     107     108      3
10
101     102     103     104     105     106     107     108     109      4
11
101     102     103     104     105     106     107     108     109     110
 5
12
101     102     103     104     105     106     107     108     109     110
111      6
13
101     102     103     104     105     106     107     108     109     110
111     112      7
14
101     102     103     104     105     106     107     108     109     110
111     112     113      8
15
101     102     103     104     105     106     107     108     109     110
111     112     113     114      9
16
101     102     103     104     105     106     107     108     109     110
111     112     113     114     115      10
```

FIGURE 4-9 (Cont.)

```
  5
101     102     103     104     21
  5
101     102     103     104     22
  5
101     102     103     104     23
  5
101     102     103     104     24
  5
101     102     103     104     25
  5
101     102     103     104     26
  5
101     102     103     104     27
  5
101     102     103     104     28
  5
101     102     103     104     29
  5
101     102     103     104     30
```

FIGURE 4-9 (Cont.)

```
 19
128  132  134  101  102  103  104  105  106  107
108  109  110  111  112  113  114  115   10
 18
128  132  134  101  102  103  104  105  106  107
108  109  110  111  112  113  114    9
 17
128  132  134  101  102  103  104  105  106  107
108  109  110  111  112  113    8
 16
128  132  134  101  102  103  104  105  106  107
108  109  110  111  112    7
 15
128  132  134  101  102  103  104  105  106  107
108  109  110  111    6
 14
128  132  134  101  102  103  104  105  106  107
108  109  110    5
 13
128  132  134  101  102  103  104  105  106  107
108  109    4
 12
128  132  134  101  102  103  104  105  106  107
108    3
 11
128  132  134  101  102  103  104  105  106  107
  2
 10
128  132  134  101  102  103  104  105  106    1
```

FIGURE 4-9 (Cont.)

```
 8
128     132     134     101     102     103     104     21
 8
128     132     134     101     102     103     104     22
 8
128     132     134     101     102     103     104     23
 8
128     132     134     101     102     103     104     24
 8
128     132     134     101     102     103     104     25
 8
128     132     134     101     102     103     104     26
 8
128     132     134     101     102     103     104     27
 8
128     132     134     101     102     103     104     28
 8
128     132     134     101     102     103     104     29
 8
128     132     134     101     102     103     104     30
```

FIGURE 4-9 (Cont.)

```
 20
129  133  135  130  131  102  103  104  105  106
107  108  109  110  111  112  113  114  115   10
 19
129  133  135  130  131  102  103  104  105  106
107  108  109  110  111  112  113  114    9
 18
129  133  135  130  131  102  103  104  105  106
107  108  109  110  111  112  113    8
 17
129  133  135  130  131  102  103  104  105  106
107  108  109  110  111  112    7
 16
129  133  135  130  131  102  103  104  105  106
107  108  109  110  111    6
 15
129  133  135  130  131  102  103  104  105  106
107  108  109  110    5
 14
129  133  135  130  131  102  103  104  105  106
107  108  109    4
 13
129  133  135  130  131  102  103  104  105  106
107  108    3
 12
129  133  135  130  131  102  103  104  105  106
107    2
 11
129  133  135  130  131  102  103  104  105  106
  1
```

FIGURE 4-9 (Cont.)

```
9
129    133    135    130    131    102    103    104    21
9
129    133    135    130    131    102    103    104    22
9
129    133    135    130    131    102    103    104    23
9
129    133    135    130    131    102    103    104    24
9
129    133    135    130    131    102    103    104    25
9
129    133    135    130    131    102    103    104    26
9
129    133    135    130    131    102    103    104    27
9
129    133    135    130    131    102    103    104    28
9
129    133    135    130    131    102    103    104    29
9
129    133    135    130    131    102    103    104    30
```

FIGURE 4-9 (Cont.)

```
 4
21      105     106       1
 5
21      105     106     107       2
 6
21      105     106     107     108       3
 7
21      105     106     107     108     109       4
 8
21      105     106     107     108     109     110       5
 9
21      105     106     107     108     109     110     111       6
10
21      105     106     107     108     109     110     111     112       7
11
21      105     106     107     108     109     110     111     112     113
 8
12
21      105     106     107     108     109     110     111     112     113
114       9
13
21      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 3
22      106       1
 4
22      106      107       2
 5
22      106      107      108       3
 6
22      106      107      108      109       4
 7
22      106      107      108      109      110       5
 8
22      106      107      108      109      110      111       6
 9
22      106      107      108      109      110      111      112       7
10
22      106      107      108      109      110      111      112      113       8
11
22      106      107      108      109      110      111      112      113      114
 9
12
22      106      107      108      109      110      111      112      113      114
115      10
```

FIGURE 4-9 (Cont.)

```
 4
23      105     106       1
 5
23      105     106     107       2
 6
23      105     106     107     108       3
 7
23      105     106     107     108     109       4
 8
23      105     106     107     108     109     110       5
 9
23      105     106     107     108     109     110     111       6
10
23      105     106     107     108     109     110     111     112       7
11
23      105     106     107     108     109     110     111     112     113
 8
12
23      105     106     107     108     109     110     111     112     113
114       9
13
23      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
24      105     106       1
 5
24      105     106     107       2
 6
24      105     106     107     108       3
 7
24      105     106     107     108     109       4
 8
24      105     106     107     108     109     110       5
 9
24      105     106     107     108     109     110     111       6
10
24      10      106     107     108     109     110     111     112       7
11
24      105     106     107     108     109     110     111     112     113
 8
12
24      105     106     107     108     109     110     111     112     113
114       9
13
24      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
25      105     106       1
 5
25      105     106     107       2
 6
25      105     106     107     108       3
 7
25      105     106     107     108     109       4
 8
25      105     106     107     108     109     110       5
 9
25      105     106     107     108     109     110     111       6
10
25      105     106     107     108     109     110     111     112       7
11
25      105     106     107     108     109     110     111     112     113
 8
12
25      105     106     107     108     109     110     111     112     113
114       9
13
25      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
26      105     106       1
 5
26      105     106     107       2
 6
26      105     106     107     108       3
 7
26      105     106     107     108     109       4
 8
26      105     106     107     108     109     110       5
 9
26      105     106     107     108     109     110     111       6
10
26      105     106     107     108     109     110     111     112       7
11
26      105     106     107     108     109     110     111     112     113
 8
12
26      105     106     107     108     109     110     111     112     113
114       9
13
26      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
27      105     106       1
 5
27      105     106     107       2
 6
27      105     106     107     108       3
 7
27      105     106     107     108     109       4
 8
27      105     106     107     108     109     110       5
 9
27      105     106     107     108     109     110     111       6
10
27      105     106     107     108     109     110     111     112       7
11
27      105     106     107     108     109     110     111     112     113
 8
12
27      105     106     107     108     109     110     111     112     113
114       9
13
27      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
28      105     106       1
 5
28      105     106     107       2
 6
28      105     106     107     108       3
 7
28      105     106     107     108     109       4
 8
28      105     106     107     108     109     110       5
 9
28      105     106     107     108     109     110     111       6
10
28      105     106     107     108     109     110     111     112       7
11
28      105     106     107     108     109     110     111     112     113
 8
12
28      105     106     107     108     109     110     111     112     113
114       9
13
28      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
 4
29      105     106      1
 5
29      105     106     107      2
 6
29      105     106     107     108      3
 7
29      105     106     107     108     109      4
 8
29      105     106     107     108     109     110      5
 9
29      105     106     107     108     109     110     111      6
10
29      105     106     107     108     109     110     111     112      7
11
29      105     106     107     108     109     110     111     112     113
 8
12
29      105     106     107     108     109     110     111     112     113
114      9
13
29      105     106     107     108     109     110     111     112     113
114     115      10
```

FIGURE 4-9 (Cont.)

```
        4
       30      105      106        1
        5
       30      105      106      107        2
        6
       30      105      106      107      108        3
        7
       30      105      106      107      108      109        4
        9
       30      105      106      107      108      109      110      111        6
       10
       30      105      106      107      108      109      110      111      112        7
       11
       30      105      106      107      108      109      110      111      112      113
        8
       12
       30      105      106      107      108      109      110      111      112      113
      114        9
      -13
       30      105      106      107      108      109      110      111      112      113
      114      115       10
COMPUTE
STOP
/*
```

FIGURE 4-9 (Cont.)

AIRPORT DELAY SIMULATION MODEL--VERSION IID

INPUT DATA

```
    EXAMPLE 1

NUMBER OF RANDOM NUMBER SEEDS
      10

RANDOM NUMBER SEEDS
    2001    2002    2003    2004    2005    2006    2007    2008    2009    2000

START TIME AND FINISH TIME
    1: 0    6: 0

PRINT OPTIONS
       F       F       F       T       T       F       F       F       F       F

NUMBER OF RUNWAYS
       2

RUNWAY NAMES
    28R     28L

RUNWAY END LINK NUMBERS
       0     126

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM
       2     132
       2     133

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
       8    2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   39.00    5.00
       2   39.00    5.00
       3    0.0     0.0
       4    0.0     0.0

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   25.00    2.00
       2   25.00    2.00
       3    0.0     0.0
       4    0.0     0.0

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)
       1   50.00   10.00
       2   30.00    5.00
       3    0.0     0.0
       4    0.0     0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)
       1  140.00    5.00
       2  130.00    5.00
       3    0.0     0.0
       4    0.0     0.0
```

MODEL RUN FOR EXAMPLE 1 - PRESENT CONDITIONS
FIGURE 4-10a

```
LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)
       1        1    8.00
       1        2    8.00
       1        3    0.0
       1        4    0.0
       2        1    8.00
       2        2    8.00
       2        3    0.0
       2        4    0.0

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)
CLASS  1 RWY   1
    128.    0.40    129.    1.00
CLASS  2 RWY   1
    128.    0.70    129.    1.00
CLASS  3 RWY   1
      0.
CLASS  4 RWY   1
      0.
CLASS  1 RWY   2
    101.    1.00
CLASS  2 RWY   2
    101.    1.00
CLASS  3 RWY   2
      0.
CLASS  4 RWY   2
      0.

NUMBER OF EXITS
       3

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)
     128  6000.0     129  8000.0     101  6000.0

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)
CLASS  1
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4000.0   38.00  5000.0   47.00
  6000.0   56.00  7000.0   65.00  8000.0   73.00  9000.0   82.00
CLASS  2
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4000.0   38.00  5000.0   47.00
  6000.0   56.00  7000.0   65.00  8000.0   73.00  9000.0   82.00
CLASS  3
     0.0
CLASS  4
     0.0

NUMBER OF HOLDING AREAS
      10

HOLDING AREA NUMBERS
      21      22      23      24      25      26      27      28      29      30

NUMBER OF G/A HOLDING AREAS
       0

G/A HOLDING AREA NUMBERS
       0

TAXIING SPEEDS IN MPH
    5.00   10.00   15.00   20.00   25.00   30.00
```

FIGURE 4-10a (Cont.)

TAXIWAY LINK DATA

LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY	ROUTE NO.
1	1	1.10	7		0
2	1	1.10	7		0
3	1	1.10	7		0
4	1	1.10	7		0
5	1	1.10	7		0
6	1	1.10	7		0
7	1	1.10	7		0
8	1	1.10	7		0
9	1	1.10	7		0
10	1	1.10	7		0
21	1	0.10	7		0
22	1	0.10	7		0
23	1	0.10	7		0
24	1	0.10	7		0
25	1	0.10	7		0
26	1	0.10	7		0
27	1	0.10	7		0
28	1	0.10	7		0
29	1	0.10	7		0
30	1	0.10	7		0
101	0	500.00	5		0
102	0	300.00	4		0
103	0	300.00	3		0
104	0	300.00	2		0
105	0	300.00	2		0
106	0	300.00	1		0
107	0	300.00	1		0
108	0	300.00	1		0
109	0	300.00	1		0
110	0	300.00	1		0
111	0	300.00	1		0
112	0	300.00	1		0
113	0	300.00	1		0
114	0	300.00	1		0
115	0	300.00	1		0
116	0	300.00	2		0
117	0	300.00	2		0
118	0	300.00	3		0
119	0	300.00	3		0
120	0	300.00	3		0
121	0	300.00	3		0
122	0	300.00	3		0
123	0	300.00	3		0
124	0	300.00	3		0
125	0	300.00	2		0
126	0	300.00	2		0
128	0	900.00	5		0
129	0	900.00	5		0
130	0	400.00	5		0
131	0	1900.00	4		0
132	0	300.00	2		0
133	0	300.00	2		0
134	0	400.00	2		0
135	0	400.00	2		0

FIGURE 4-10a (Cont.)

```
TAXIWAY PATH DATA
PATH     1                                   LENGTH    22                                  LOCATION    1          10.873
   1 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     2                                   LENGTH    21                                  LOCATION   23          10.191
   2 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     3                                   LENGTH    20                                  LOCATION   44          9.509
   3 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     4                                   LENGTH    19                                  LOCATION   64          8.827
   4 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     5                                   LENGTH    18                                  LOCATION   83          8.145
   5 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     6                                   LENGTH    17                                  LOCATION  101          7.464
   6 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     7                                   LENGTH    16                                  LOCATION  118          6.782
   7 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     8                                   LENGTH    15                                  LOCATION  134          6.100
   8 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     9                                   LENGTH    14                                  LOCATION  149          5.418
   9 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH    10                                   LENGTH    13                                  LOCATION  163          4.736
  10 115 116 117 118 119 120 121 122 123 124 125 126
PATH    11                                   LENGTH     7                                  LOCATION  176          3.089
 101 102 103 104 105 106   1
PATH    12                                   LENGTH     8                                  LOCATION  183          3.770
 101 102 103 104 105 106 107   2
PATH    13                                   LENGTH     9                                  LOCATION  191          4.452
 101 102 103 104 105 106 107 108   3
PATH    14                                   LENGTH    10                                  LOCATION  200          5.134
 101 102 103 104 105 106 107 108 109   4
PATH    15                                   LENGTH    11                                  LOCATION  210          5.816
 101 102 103 104 105 106 107 108 109 110   5
PATH    16                                   LENGTH    12                                  LOCATION  221          6.498
 101 102 103 104 105 106 107 108 109 110 111   6
PATH    17                                   LENGTH    13                                  LOCATION  233          7.180
 101 102 103 104 105 106 107 108 109 110 111 112   7
PATH    18                                   LENGTH    14                                  LOCATION  246          7.851
 101 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    19                                   LENGTH    15                                  LOCATION  260          8.543
 101 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    20                                   LENGTH    16                                  LOCATION  275          9.225
 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    21                                   LENGTH     5                                  LOCATION  291          1.066
 101 102 103 104  21
PATH    22                                   LENGTH     5                                  LOCATION  296          1.056
 101 102 103 104  22
PATH    23                                   LENGTH     5                                  LOCATION  301          1.066
 101 102 103 104  23
PATH    24                                   LENGTH     5                                  LOCATION  306          1.056
 101 102 103 104  24
PATH    25                                   LENGTH     5                                  LOCATION  311          1.056
 101 102 103 104  25
PATH    26                                   LENGTH     5                                  LOCATION  316          1.066
 101 102 103 104  26
PATH    27                                   LENGTH     5                                  LOCATION  321          1.066
 101 102 103 104  27
PATH    28                                   LENGTH     5                                  LOCATION  326          1.066
 101 102 103 104  28
```

FIGURE 4-10a (Cont.)

```
PATH    29                                  LENGTH     5                          LOCATION   331          1.066
 101 102 103 104  29
PATH    30                                  LENGTH     5                          LOCATION   336          1.066
 101 102 103 104  30
PATH    31                                  LENGTH    19                          LOCATION   341         10.430
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    32                                  LENGTH    18                          LOCATION   360          9.748
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    33                                  LENGTH    17                          LOCATION   378          9.066
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    34                                  LENGTH    16                          LOCATION   395          8.384
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112   7
PATH    35                                  LENGTH    15                          LOCATION   411          7.702
 128 132 134 101 102 103 104 105 106 107 108 109 110 111   6
PATH    36                                  LENGTH    14                          LOCATION   426          7.020
 128 132 134 101 102 103 104 105 106 107 108 109 110   5
PATH    37                                  LENGTH    13                          LOCATION   440          6.339
 128 132 134 101 102 103 104 105 106 107 108 109   4
PATH    38                                  LENGTH    12                          LOCATION   453          5.657
 128 132 134 101 102 103 104 105 106 107 108   3
PATH    39                                  LENGTH    11                          LOCATION   465          4.975
 128 132 134 101 102 103 104 105 106 107   2
PATH    40                                  LENGTH    10                          LOCATION   476          4.293
 128 132 134 101 102 103 104 105 106   1
PATH    41                                  LENGTH     8                          LOCATION   486          2.270
 128 132 134 101 102 103 104  21
PATH    42                                  LENGTH     8                          LOCATION   494          2.270
 128 132 134 101 102 103 104  22
PATH    43                                  LENGTH     8                          LOCATION   502          2.270
 128 132 134 101 102 103 104  23
PATH    44                                  LENGTH     8                          LOCATION   510          2.270
 128 132 134 101 102 103 104  24
PATH    45                                  LENGTH     8                          LOCATION   518          2.270
 128 132 134 101 102 103 104  25
PATH    46                                  LENGTH     8                          LOCATION   526          2.270
 128 132 134 101 102 103 104  26
PATH    47                                  LENGTH     8                          LOCATION   534          2.270
 128 132 134 101 102 103 104  27
PATH    48                                  LENGTH     8                          LOCATION   542          2.270
 128 132 134 101 102 103 104  28
PATH    49                                  LENGTH     8                          LOCATION   550          2.270
 128 132 134 101 102 103 104  29
PATH    50                                  LENGTH     8                          LOCATION   558          2.270
 128 132 134 101 102 103 104  30
PATH    51                                  LENGTH    20                          LOCATION   566         11.464
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    52                                  LENGTH    19                          LOCATION   586         10.782
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    53                                  LENGTH    18                          LOCATION   605         10.100
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    54                                  LENGTH    17                          LOCATION   623          9.418
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112   7
PATH    55                                  LENGTH    16                          LOCATION   640          8.736
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111   6
PATH    56                                  LENGTH    15                          LOCATION   656          8.055
 129 133 135 130 131 102 103 104 105 106 107 108 109 110   5
PATH    57                                  LENGTH    14                          LOCATION   671          7.373
 129 133 135 130 131 102 103 104 105 106 107 108 109   4
PATH    58                                  LENGTH    13                          LOCATION   685          6.691
 129 133 135 130 131 102 103 104 105 106 107 108   3
```

FIGURE 4-10a (Cont.)

PATH 59 129 133 135 130 131 102 103 104 105 106 107 2	LENGTH 12	LOCATION 698	6.009
PATH 60 129 133 135 130 131 102 103 104 105 106 1	LENGTH 11	LOCATION 710	5.327
PATH 61 129 133 135 130 131 102 103 104 21	LENGTH 9	LOCATION 721	3.305
PATH 62 129 133 135 130 131 102 103 104 22	LENGTH 9	LOCATION 730	3.305
PATH 63 129 133 135 130 131 102 103 104 23	LENGTH 9	LOCATION 739	3.305
PATH 64 129 133 135 130 131 102 103 104 24	LENGTH 9	LOCATION 748	3.305
PATH 65 129 133 135 130 131 102 103 104 25	LENGTH 9	LOCATION 757	3.305
PATH 66 129 133 135 130 131 102 103 104 26	LENGTH 9	LOCATION 766	3.305
PATH 67 129 133 135 130 131 102 103 104 27	LENGTH 9	LOCATION 775	3.305
PATH 68 129 133 135 130 131 102 103 104 28	LENGTH 9	LOCATION 784	3.305
PATH 69 129 133 135 130 131 102 103 104 29	LENGTH 9	LOCATION 793	3.305
PATH 70 129 133 135 130 131 102 103 104 30	LENGTH 9	LOCATION 802	3.305
PATH 71 21 105 106 1	LENGTH 4	LOCATION 811	2.223
PATH 72 21 105 106 107 2	LENGTH 5	LOCATION 815	2.905
PATH 73 21 105 106 107 108 3	LENGTH 6	LOCATION 820	3.586
PATH 74 21 105 106 107 108 109 4	LENGTH 7	LOCATION 826	4.268
PATH 75 21 105 106 107 108 109 110 5	LENGTH 8	LOCATION 833	4.950
PATH 76 21 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 841	5.632
PATH 77 21 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 850	6.314
PATH 78 21 105 106 107 108 109 110 111 112 113 8	LENGTH 11	LOCATION 860	6.995
PATH 79 21 105 106 107 108 109 110 111 112 113 114 9	LENGTH 12	LOCATION 871	7.677
PATH 80 21 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 13	LOCATION 883	8.359
PATH 81 22 106 1	LENGTH 3	LOCATION 896	1.882
PATH 82 22 106 107 2	LENGTH 4	LOCATION 899	2.564
PATH 83 22 106 107 108 3	LENGTH 5	LOCATION 903	3.245
PATH 84 22 106 107 108 109 4	LENGTH 6	LOCATION 908	3.927
PATH 85 22 106 107 108 109 110 5	LENGTH 7	LOCATION 914	4.609
PATH 86 22 106 107 108 109 110 111 6	LENGTH 8	LOCATION 921	5.291
PATH 87 22 106 107 108 109 110 111 112 7	LENGTH 9	LOCATION 929	5.973
PATH 88 22 106 107 108 109 110 111 112 113 8	LENGTH 10	LOCATION 938	6.655

FIGURE 4-10a (Cont.)

PATH 89	LENGTH 11	LOCATION 948	7.336
22 106 107 108 109 110 111 112 113 114 9			
PATH 90	LENGTH 12	LOCATION 959	8.018
22 106 107 108 109 110 111 112 113 114 115 10			
PATH 91	LENGTH 4	LOCATION 971	2.223
23 105 106 1			
PATH 92	LENGTH 5	LOCATION 975	2.905
23 105 106 107 2			
PATH 93	LENGTH 6	LOCATION 980	3.586
23 105 106 107 108 3			
PATH 94	LENGTH 7	LOCATION 986	4.268
23 105 106 107 108 109 4			
PATH 95	LENGTH 8	LOCATION 993	4.950
23 105 106 107 108 109 110 5			
PATH 96	LENGTH 9	LOCATION 1001	5.632
23 105 106 107 108 109 110 111 6			
PATH 97	LENGTH 10	LOCATION 1010	6.314
23 105 106 107 108 109 110 111 112 7			
PATH 98	LENGTH 11	LOCATION 1020	6.995
23 105 106 107 108 109 110 111 112 113 8			
PATH 99	LENGTH 12	LOCATION 1031	7.677
23 105 106 107 108 109 110 111 112 113 114 9			
PATH 100	LENGTH 13	LOCATION 1043	8.359
23 105 106 107 108 109 110 111 112 113 114 115 10			
PATH 101	LENGTH 4	LOCATION 1056	2.223
24 105 106 1			
PATH 102	LENGTH 5	LOCATION 1060	2.905
24 105 106 107 2			
PATH 103	LENGTH 6	LOCATION 1065	3.586
24 105 106 107 108 3			
PATH 104	LENGTH 7	LOCATION 1071	4.268
24 105 106 107 108 109 4			
PATH 105	LENGTH 8	LOCATION 1078	4.950
24 105 106 107 108 109 110 5			
PATH 106	LENGTH 9	LOCATION 1086	5.632
24 105 106 107 108 109 110 111 6			
PATH 107	LENGTH 10	LOCATION 1095	6.314
24 105 106 107 108 109 110 111 112 7			
PATH 108	LENGTH 11	LOCATION 1105	6.995
24 105 106 107 108 109 110 111 112 113 8			
PATH 109	LENGTH 12	LOCATION 1116	7.677
24 105 106 107 108 109 110 111 112 113 114 9			
PATH 110	LENGTH 13	LOCATION 1128	8.359
24 105 106 107 108 109 110 111 112 113 114 115 10			
PATH 111	LENGTH 4	LOCATION 1141	2.223
25 105 106 1			
PATH 112	LENGTH 5	LOCATION 1145	2.905
25 105 106 107 2			
PATH 113	LENGTH 6	LOCATION 1150	3.586
25 105 106 107 108 3			
PATH 114	LENGTH 7	LOCATION 1156	4.268
25 105 106 107 108 109 4			
PATH 115	LENGTH 8	LOCATION 1163	4.950
25 105 106 107 108 109 110 5			
PATH 116	LENGTH 9	LOCATION 1171	5.632
25 105 106 107 108 109 110 111 6			
PATH 117	LENGTH 10	LOCATION 1180	6.314
25 105 106 107 108 109 110 111 112 7			
PATH 118	LENGTH 11	LOCATION 1190	6.995
25 105 106 107 108 109 110 111 112 113 8			

FIGURE 4-10a (Cont.)

```
PATH   119                                    LENGTH    12
  25 105 106 107 108 109 110 111 112 113 114   9
PATH   120                                    LENGTH    13
  25 105 106 107 108 109 110 111 112 113 114 115  10
PATH   121                                    LENGTH     4
  26 105 106   1
PATH   122                                    LENGTH     5
  26 105 106 107   2
PATH   123                                    LENGTH     6
  26 105 106 107 108   3
PATH   124                                    LENGTH     7
  26 105 106 107 108 109   4
PATH   125                                    LENGTH     8
  26 105 106 107 108 109 110   5
PATH   126                                    LENGTH     9
  26 105 106 107 108 109 110 111   6
PATH   127                                    LENGTH    10
  26 105 106 107 108 109 110 111 112   7
PATH   128                                    LENGTH    11
  26 105 106 107 108 109 110 111 112 113   8
PATH   129                                    LENGTH    12
  26 105 106 107 108 109 110 111 112 113 114   9
PATH   130                                    LENGTH    13
  26 105 106 107 108 109 110 111 112 113 114 115  10
PATH   131                                    LENGTH     4
  27 105 106   1
PATH   132                                    LENGTH     5
  27 105 106 107   2
PATH   133                                    LENGTH     6
  27 105 106 107 108   3
PATH   134                                    LENGTH     7
  27 105 106 107 108 109   4
PATH   135                                    LENGTH     8
  27 105 106 107 108 109 110   5
PATH   136                                    LENGTH     9
  27 105 106 107 108 109 110 111   6
PATH   137                                    LENGTH    10
  27 105 106 107 108 109 110 111 112   7
PATH   138                                    LENGTH    11
  27 105 106 107 108 109 110 111 112 113   8
PATH   139                                    LENGTH    12
  27 105 106 107 108 109 110 111 112 113 114   9
PATH   140                                    LENGTH    13
  27 105 106 107 108 109 110 111 112 113 114 115  10
PATH   141                                    LENGTH     4
  28 105 106   1
PATH   142                                    LENGTH     5
  28 105 106 107   2
PATH   143                                    LENGTH     6
  28 105 106 107 108   3
PATH   144                                    LENGTH     7
  28 105 106 107 108 109   4
PATH   145                                    LENGTH     8
  28 105 106 107 108 109 110   5
PATH   146                                    LENGTH     9
  28 105 106 107 108 109 110 111   6
PATH   147                                    LENGTH    10
  28 105 106 107 108 109 110 111 112   7
PATH   148                                    LENGTH    11
  28 105 106 107 108 109 110 111 112 113   8
```

```
LOCATION  1201    7.677
LOCATION  1213    8.359
LOCATION  1226    2.223
LOCATION  1230    2.905
LOCATION  1235    3.586
LOCATION  1241    4.268
LOCATION  1248    4.950
LOCATION  1256    5.632
LOCATION  1265    6.314
LOCATION  1275    6.995
LOCATION  1286    7.677
LOCATION  1298    8.359
LOCATION  1311    2.223
LOCATION  1315    2.905
LOCATION  1320    3.586
LOCATION  1326    4.268
LOCATION  1333    4.950
LOCATION  1341    5.632
LOCATION  1350    6.314
LOCATION  1360    6.995
LOCATION  1371    7.677
LOCATION  1383    8.359
LOCATION  1396    2.223
LOCATION  1400    2.905
LOCATION  1405    3.586
LOCATION  1411    4.268
LOCATION  1418    4.950
LOCATION  1426    5.632
LOCATION  1435    6.314
LOCATION  1445    6.995
```

FIGURE 4-10a (Cont.)

```
PATH   149                                   LENGTH    12
  28 105 106 107 108 109 110 111 112 113 114   9
PATH   150                                   LENGTH    13
  28 105 106 107 108 109 110 111 112 113 114 115  10
PATH   151                                   LENGTH     4
  29 105 106   1
PATH   152                                   LENGTH     5
  29 105 106 107   2
PATH   153                                   LENGTH     6
  29 105 106 107 108   3
PATH   154                                   LENGTH     7
  29 105 106 107 108 109   4
PATH   155                                   LENGTH     8
  29 105 106 107 108 109 110   5
PATH   156                                   LENGTH     9
  29 105 106 107 108 109 110 111   6
PATH   157                                   LENGTH    10
  29 105 106 107 108 109 110 111 112   7
PATH   158                                   LENGTH    11
  29 105 106 107 108 109 110 111 112 113   8
PATH   159                                   LENGTH    12
  29 105 106 107 108 109 110 111 112 113 114   9
PATH   160                                   LENGTH    13
  29 105 106 107 108 109 110 111 112 113 114 115  10
PATH   161                                   LENGTH     4
  30 105 106   1
PATH   162                                   LENGTH     5
  30 105 106 107   2
PATH   163                                   LENGTH     6
  30 105 106 107 108   3
PATH   164                                   LENGTH     7
  30 105 106 107 108 109   4
PATH   165                                   LENGTH     9
  30 105 106 107 108 109 110 111   6
PATH   166                                   LENGTH    10
  30 105 106 107 108 109 110 111 112   7
PATH   167                                   LENGTH    11
  30 105 106 107 108 109 110 111 112 113   8
PATH   168                                   LENGTH    12
  30 105 106 107 108 109 110 111 112 113 114   9
PATH   169                                   LENGTH    13
  30 105 106 107 108 109 110 111 112 113 114 115  10
THIS AIRPORT USES THE FOLLOWING:
LINKS:      54          PATHS:     169          PATH SEGMENTS:    1642
AVERAGE PATH LENGTH IS  9.72  SEGMENTS

LOCATION  1456                               7.677
LOCATION  1468                               8.359
LOCATION  1481                               2.223
LOCATION  1485                               2.905
LOCATION  1490                               3.586
LOCATION  1496                               4.268
LOCATION  1503                               4.950
LOCATION  1511                               5.632
LOCATION  1520                               6.314
LOCATION  1530                               6.995
LOCATION  1541                               7.677
LOCATION  1553                               8.359
LOCATION  1566                               2.223
LOCATION  1570                               2.905
LOCATION  1575                               3.586
LOCATION  1581                               4.268
LOCATION  1588                               5.632
LOCATION  1597                               6.314
LOCATION  1607                               6.995
LOCATION  1618                               7.677
LOCATION  1630                               8.359
```

FIGURE 4-10a (Cont.)

```
TAXIWAY ONE-WAY PATHS
LINKS  0


NUMBER OF AIRLINES
       3

AIRLINE CODES
    AA       TWA      UA

AIRLINE GATES
    AA
       1        2        3        4        5
    TWA
       6        7        8
    UA
       9       10

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)
    0.0

A/C SEPARATIONS
128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / ARRIVAL, DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 - D CLASS
                           2 - C CLASS
                           3 - B CLASS
                           4 - A CLASS
THE ORDER OF SETS OF (X,Y) IS -
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY    1        TRAIL A/C RUNWAY    1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    3.00     0.50     3.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    1.25     0.15     1.25     0.15     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

FIGURE 4-10a (Cont.)

```
LEAD A/C RUNWAY    1        TRAIL A/C RUNWAY    2
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    1.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0

LEAD A/C RUNWAY    2        TRAIL A/C RUNWAY    1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    1.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

FIGURE 4-10a (Cont.)

A/C SCHEDULE DATA

A/C NO.	AIRLINE	GATE	FLT.TYPE	CLASS	ARRIVE	DEPART	SERV.TIME	ARR.RWY	DEP.RWY
1	AA	3	3	2	1: 0	1: 1	20.00	2	2
2	AA	2	3	1	1: 2	1: 3	49.41	1	2
3	TWA	8	3	2	1: 3	1: 4	21.63	1	2
4	UA	9	3	2	1: 3	1: 4	32.26	2	2
5	AA	3	3	2	1:14	1:15	24.84	2	2
6	UA	10	3	2	1:15	1:16	30.73	1	2
7	AA	3	3	2	1:16	1:17	29.42	2	2
8	AA	2	3	1	1:30	1:31	57.08	1	2
9	TWA	8	3	2	1:31	1:32	38.82	1	2
10	UA	9	3	2	1:31	1:32	39.13	2	2
11	TWA	6	3	1	1:32	1:33	52.94	2	2
12	AA	4	3	2	1:45	1:46	20.95	1	2
13	AA	5	3	2	1:45	1:46	35.81	2	2
14	UA	10	3	2	2: 0	2: 1	27.42	1	2
15	AA	2	3	1	2: 3	2: 4	50.55	1	2
16	TWA	7	3	2	2: 3	2: 4	26.99	2	2
17	AA	5	3	2	2:14	2:15	28.31	2	2
18	TWA	6	3	1	2:16	2:17	66.18	2	2
19	AA	3	3	2	2:17	2:18	28.34	2	2
20	AA	4	3	2	2:30	2:31	24.16	1	2
21	AA	2	3	1	2:31	2:32	67.62	1	2
22	TWA	7	3	2	2:31	2:32	28.65	2	2
23	UA	10	3	2	2:33	2:34	28.16	1	2
24	AA	5	3	2	2:46	2:47	29.97	2	2
25	AA	2	3	1	2:47	2:48	49.65	1	2
26	AA	1	3	2	2:52	2:53	36.58	2	2
27	AA	1	3	2	3: 0	3: 1	32.24	1	2
28	AA	5	3	2	3: 3	3: 4	26.91	2	2
29	TWA	7	3	2	3:14	3:15	23.84	2	2
30	AA	2	3	1	3:15	3:16	38.80	1	2
31	AA	1	3	2	3:16	3:17	23.08	1	2
32	TWA	8	3	2	3:16	3:17	27.49	1	2
33	UA	9	3	2	3:16	3:17	38.37	2	2
34	UA	10	3	2	3:45	3:46	34.60	1	2
35	TWA	6	3	1	3:45	3:46	56.34	2	2
36	AA	1	3	2	3:52	3:53	39.19	2	2
37	AA	3	3	2	3:55	3:56	20.91	1	2
38	AA	3	3	2	4: 0	4: 1	29.69	2	2
39	AA	2	3	1	4: 2	4: 3	30.05	1	2
40	TWA	8	3	2	4: 3	4: 4	34.53	1	2
41	UA	9	3	2	4: 3	4: 4	23.95	2	2
42	AA	3	3	2	4:14	4:15	37.16	2	2
43	UA	10	3	2	4:15	4:16	36.13	1	2
44	AA	3	3	2	4:16	4:17	36.00	2	2
45	AA	2	3	1	4:30	4:31	50.01	1	2
46	TWA	8	3	2	4:31	4:32	24.51	1	2
47	TWA	6	3	1	4:32	4:33	58.00	2	2
48	AA	4	3	2	4:45	4:46	36.11	1	2
49	AA	5	3	2	4:45	4:46	26.56	2	2
50	UA	10	3	2	5: 0	5: 1	34.24	1	2
51	AA	2	3	1	5: 3	5: 4	42.25	1	2
52	TWA	7	3	2	5: 3	5: 4	20.00	2	2
53	AA	5	3	2	5:14	5:15	21.13	2	2
54	TWA	6	3	1	5:16	5:17	47.71	2	2
55	AA	3	3	2	5:17	5:18	30.01	2	2
56	AA	4	3	2	5:30	5:31	32.21	1	2

FIGURE 4-10a (Cont.)

57	AA	2	3	1	5:31	5:32	42.41	1	2
58	TWA	7	3	2	5:31	5:32	40.00	2	2
59	UA	9	3	2	5:32	5:33	38.15	2	2
60	UA	10	3	2	5:33	5:34	23.22	1	2
61	AA	5	3	2	5:46	5:47	39.29	2	2
62	AA	2	3	1	5:47	5:48	65.47	1	2
63	AA	1	3	2	5:52	5:53	33.05	2	2
64	AA	1	3	2	6: 0	6: 1	37.85	1	2
65	UA	9	3	2	6: 0	6: 1	27.88	2	2
66	AA	5	3	2	6: 3	6: 4	22.00	2	2
67	TWA	7	3	2	6:14	6:15	32.21	2	2
68	AA	2	3	1	6:15	6:16	57.24	1	2
69	AA	1	3	2	6:16	6:17	29.48	1	2
70	TWA	8	3	2	6:16	6:17	21.15	1	2
71	UA	9	3	2	6:16	6:17	33.12	2	2
72	UA	10	3	2	6:45	6:46	33.02	1	2
73	TWA	6	3	1	6:45	6:46	33.17	2	2
74	AA	1	3	2	6:52	6:53	27.68	2	2
75	AA	3	3	2	6:55	6:56	28.30	1	2

AIRCRAFT READ IN: 75

FIGURE 4-10a (Cont.)

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  ALL GATES FOR THIS A/C FULL  A/C=   8 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT    99.35 DELAY = 9.36
SUBTRACE PDELAY N=    8 DELAY=      9.36
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   108.38 DELAY =15.44
SUBTRACE PDELAY N=   10 DELAY=     15.44
  ALL GATES FOR THIS A/C FULL  A/C=   8 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT    99.35 DELAY = 4.93
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   108.38 DELAY =13.53
SUBTRACE PDELAY N=   10 DELAY=     13.53
  ALL GATES FOR THIS A/C FULL  A/C=   8 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   100.45 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   109.48 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  16 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   130.16 DELAY = 4.11
  ALL GATES FOR THIS A/C FULL  A/C=  16 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   130.16 DELAY = 2.20
  ALL GATES FOR THIS A/C FULL  A/C=  16 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   131.26 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  18 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   146.83 DELAY =10.84
SUBTRACE PDELAY N=   18 DELAY=     10.84
  ALL GATES FOR THIS A/C FULL  A/C=  18 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   146.83 DELAY = 8.93
SUBTRACE PDELAY N=   18 DELAY=      8.93
  ALL GATES FOR THIS A/C FULL  A/C=  19 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   138.97 DELAY = 0.06
  ALL GATES FOR THIS A/C FULL  A/C=  19 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   142.28 DELAY = 1.48
  ALL GATES FOR THIS A/C FULL  A/C=  19 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   143.38 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  18 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   147.93 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   151.45 DELAY = 0.46
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   151.63 DELAY = 0.38
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   173.72 DELAY =20.82
SUBTRACE PDELAY N=   22 DELAY=     20.82
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   154.59 DELAY = 0.23
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   154.93 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   155.27 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   155.95 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   156.63 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   165.36 DELAY = 8.73
SUBTRACE PDELAY N=   21 DELAY=      8.73
  ALL GATES FOR THIS A/C FULL  A/C=  21 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   166.46 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  25 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   167.26 DELAY = 0.27
  ALL GATES FOR THIS A/C FULL  A/C=  25 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   170.25 DELAY = 0.15
  ALL GATES FOR THIS A/C FULL  A/C=  26 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   172.06 DELAY = 0.07
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   174.82 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   188.26 DELAY = 8.27
SUBTRACE PDELAY N=   27 DELAY=      8.27
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   188.26 DELAY = 5.27
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   188.26 DELAY = 3.36
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   188.26 DELAY = 1.26
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   189.36 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   189.36 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   189.47 DELAY = 0.11
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FIGURE 4-10a (Cont.)

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  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   190.15 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   190.83 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   197.30 DELAY = 6.46
SUBTRACE PDELAY N=   28 DELAY=     6.46
  ALL GATES FOR THIS A/C FULL  A/C=  29 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   194.66 DELAY = 0.67
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   197.30 DELAY = 2.31
  ALL GATES FOR THIS A/C FULL  A/C=  28 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   198.40 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   198.40 DELAY = 1.05
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   198.40 DELAY = 0.29
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   199.09 DELAY = 0.69
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   199.19 DELAY = 0.10
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   227.22 DELAY =28.03
SUBTRACE PDELAY N=   30 DELAY=    28.03
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   227.22 DELAY =24.08
SUBTRACE PDELAY N=   31 DELAY=    24.08
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   228.32 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   228.32 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   228.43 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   229.07 DELAY = 0.64
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   229.11 DELAY = 0.04
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   229.69 DELAY = 0.58
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   229.79 DELAY = 0.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   230.21 DELAY = 0.41
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   230.79 DELAY = 0.59
  ALL GATES FOR THIS A/C FULL  A/C=  36 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   232.18 DELAY = 0.19
  ALL GATES FOR THIS A/C FULL  A/C=  37 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   235.35 DELAY = 0.36
  ALL GATES FOR THIS A/C FULL  A/C=  38 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   240.17 DELAY = 0.18
  ALL GATES FOR THIS A/C FULL  A/C=  38 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   270.37 DELAY =28.47
SUBTRACE PDELAY N=   38 DELAY=    28.47
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   270.37 DELAY =28.38
SUBTRACE PDELAY N=   39 DELAY=    28.38
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   270.37 DELAY =22.14
SUBTRACE PDELAY N=   39 DELAY=    22.14
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   270.37 DELAY =16.38
SUBTRACE PDELAY N=   42 DELAY=    16.38
  ALL GATES FOR THIS A/C FULL  A/C=  43 A/C SIZE =  2PREFERRED GATE = 10NEXT GATE VACANT AT   277.95 DELAY =22.96
SUBTRACE PDELAY N=   43 DELAY=    22.96
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   270.37 DELAY =14.47
SUBTRACE PDELAY N=   42 DELAY=    14.47
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   270.37 DELAY =14.38
SUBTRACE PDELAY N=   44 DELAY=    14.38
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   270.37 DELAY =12.47
SUBTRACE PDELAY N=   44 DELAY=    12.47
  ALL GATES FOR THIS A/C FULL  A/C=  43 A/C SIZE =  2PREFERRED GATE = 10NEXT GATE VACANT AT   277.95 DELAY =19.59
SUBTRACE PDELAY N=   43 DELAY=    19.59
  ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   270.37 DELAY = 0.38
  ALL GATES FOR THIS A/C FULL  A/C=  38 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   271.47 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   271.47 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   271.47 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   271.47 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   271.58 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   271.58 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   271.58 DELAY = 0.11
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FIGURE 4-10a (Cont.)

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 ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   272.16 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   272.16 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   272.16 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   272.85 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   272.85 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   272.85 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   273.21 DELAY = 0.37
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   273.21 DELAY = 0.37
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   273.21 DELAY = 0.37
 ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   273.73 DELAY = 0.52
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   273.73 DELAY = 0.52
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   273.73 DELAY = 0.52
 ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   274.31 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.31 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.31 DELAY = 0.58
 ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.83 DELAY = 0.52
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.83 DELAY = 0.52
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.93 DELAY = 0.10
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   274.94 DELAY = 0.01
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   275.01 DELAY = 0.07
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   275.55 DELAY = 0.53
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   275.55 DELAY = 0.16
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   275.65 DELAY = 0.10
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   275.65 DELAY = 0.10
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   276.04 DELAY = 0.39
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   276.04 DELAY = 0.39
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   276.21 DELAY = 0.17
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   276.21 DELAY = 0.17
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   276.23 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   276.23 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   277.31 DELAY = 1.08
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   277.31 DELAY = 1.08
 ALL GATES FOR THIS A/C FULL  A/C=  46 A/C SIZE =  2PREFERRED GATE =  8NEXT GATE VACANT AT   277.33 DELAY = 0.38
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   277.34 DELAY = 0.03
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   277.36 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.02 DELAY = 0.66
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.04 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.15 DELAY = 0.11
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.70 DELAY = 0.55
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.73 DELAY = 0.03
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   278.83 DELAY = 0.10
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   279.39 DELAY = 0.56
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   279.41 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   280.07 DELAY = 0.66
 ALL GATES FOR THIS A/C FULL  A/C=  46 A/C SIZE =  2PREFERRED GATE =  8NEXT GATE VACANT AT   280.73 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   280.09 DELAY = 0.02
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   280.77 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  46 A/C SIZE =  2PREFERRED GATE =  8NEXT GATE VACANT AT   281.42 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   281.46 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  46 A/C SIZE =  2PREFERRED GATE =  8NEXT GATE VACANT AT   300.31 DELAY =18.90
SUBTRACE PDELAY N=   46 DELAY=     18.90
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   282.14 DELAY = 0.68
 ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   307.46 DELAY =25.33
SUBTRACE PDELAY N=   45 DELAY=     25.33
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FIGURE 4-10a (Cont.)

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  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   307.46 DELAY =22.47
SUBTRACE PDELAY N=   48 DELAY=     22.47
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   307.46 DELAY =16.20
SUBTRACE PDELAY N=   48 DELAY=     16.20
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   307.46 DELAY = 4.47
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   307.46 DELAY = 1.36
  ALL GATES FOR THIS A/C FULL  A/C= 45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.18 DELAY =-0.71
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   308.18 DELAY = 0.71
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.18 DELAY = 0.71
  ALL GATES FOR THIS A/C FULL  A/C= 45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.56 DELAY = 0.39
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   308.56 DELAY = 0.39
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.56 DELAY = 0.39
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   308.59 DELAY = 0.03
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.59 DELAY = 0.03
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   308.67 DELAY = 0.08
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   308.67 DELAY = 0.08
  ALL GATES FOR THIS A/C FULL  A/C= 48 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   309.69 DELAY = 1.02
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   309.69 DELAY = 1.02
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   310.39 DELAY = 0.69
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   311.07 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   311.18 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   311.75 DELAY = 0.57
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   312.41 DELAY = 0.66
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   312.43 DELAY = 0.02
  ALL GATES FOR THIS A/C FULL  A/C= 51 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   313.51 DELAY = 1.08
  ALL GATES FOR THIS A/C FULL  A/C= 53 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   314.30 DELAY = 0.31
  ALL GATES FOR THIS A/C FULL  A/C= 54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   333.25 DELAY =17.26
SUBTRACE PDELAY N=   54 DELAY=     17.26
  ALL GATES FOR THIS A/C FULL  A/C= 54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   333.25 DELAY =15.36
SUBTRACE PDELAY N=   54 DELAY=     15.36
  ALL GATES FOR THIS A/C FULL  A/C= 56 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   344.05 DELAY =14.06
SUBTRACE PDELAY N=   56 DELAY=     14.06
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   333.25 DELAY = 2.26
  ALL GATES FOR THIS A/C FULL  A/C= 57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   344.05 DELAY =12.92
SUBTRACE PDELAY N=   57 DELAY=     12.92
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   333.25 DELAY = 0.36
  ALL GATES FOR THIS A/C FULL  A/C= 54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   334.35 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   334.35 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C= 56 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   344.05 DELAY =10.53
SUBTRACE PDELAY N=   56 DELAY=     10.53
  ALL GATES FOR THIS A/C FULL  A/C= 59 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   338.16 DELAY = 4.22
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   334.46 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   335.14 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   335.83 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   344.05 DELAY = 8.49
SUBTRACE PDELAY N=   57 DELAY=     8.49
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   336.51 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 59 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   338.16 DELAY = 2.25
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   337.19 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   337.87 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   338.55 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 59 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   339.26 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   339.23 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C= 58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   345.42 DELAY = 6.19
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FIGURE 4-10a (Cont.)

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SUBTRACE PDELAY N=   58 DELAY=      6.19
  ALL GATES FOR THIS A/C FULL  A/C=  56 A/C SIZE =  2PREFERRED GATE =  4NEXT GATE VACANT AT   345.15 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   345.15 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   345.84 DELAY = 0.69
  ALL GATES FOR THIS A/C FULL  A/C=  58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   346.52 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   345.94 DELAY = 0.10
  ALL GATES FOR THIS A/C FULL  A/C=  57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   362.26 DELAY =16.32
SUBTRACE PDELAY N=   57 DELAY=     16.32
  ALL GATES FOR THIS A/C FULL  A/C=  61 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   362.26 DELAY =16.27
SUBTRACE PDELAY N=   61 DELAY=     16.27
  ALL GATES FOR THIS A/C FULL  A/C=  62 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   362.26 DELAY =15.27
SUBTRACE PDELAY N=   62 DELAY=     15.27
  ALL GATES FOR THIS A/C FULL  A/C=  61 A/C SIZE =  2PREFERRED GATE =  5NEXT GATE VACANT AT   362.26 DELAY =14.36
SUBTRACE PDELAY N=   61 DELAY=     14.36
  ALL GATES FOR THIS A/C FULL  A/C=  62 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   362.26 DELAY =10.84
SUBTRACE PDELAY N=   62 DELAY=     10.84
  ALL GATES FOR THIS A/C FULL  A/C=  63 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   362.26 DELAY =10.27
SUBTRACE PDELAY N=   63 DELAY=     10.27
  ALL GATES FOR THIS A/C FULL  A/C=  63 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   362.26 DELAY = 8.36
SUBTRACE PDELAY N=   63 DELAY=      8.36
  ALL GATES FOR THIS A/C FULL  A/C=  64 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   362.26 DELAY = 2.27
  ALL GATES FOR THIS A/C FULL  A/C=  65 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   381.13 DELAY =21.14
SUBTRACE PDELAY N=   65 DELAY=     21.14
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FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 1. 0. 0 TO 2. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0.0	4	0.0	1.00	0.0	0.0
TOTAL	14	0.21	0.79	0.0	0.0	0	0.0	0.0	0.0	0.0	4	0.0	1.00	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	3	15	0	0	18

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	13	0.23	0.77	0.0	0.0	5	0.0	1.00	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	13	0.23	0.77	0.0	0.0	5	0.0	1.00	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	14	0.21	0.79	0.0	0.0	5	0.0	1.00	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.44	0.0
2	0.73	0.29
WEIGHTED AVERAGE	0.59	0.29

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
2.95	0.05	0.18	0.23	0.0	0.21

ARRIVAL AIRFIELD DELAY = 3.95 DEPARTURE AIRFIELD DELAY = 0.56

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.63	0.0
2	7.42	8.32
WEIGHTED AVERAGE	8.02	8.32

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

		ARRIVAL				TOUCH-AND-GO					DEPARTURE				
RWY NO.	TOTAL	D	C	B	A	TOTAL	D	C	B	A	TOTAL	D	C	B	A
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0
TOTAL	13	0.31	0.69	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	7	16	0	0	23

	ON GATE					OFF GATE				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	11	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	11	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0

	TAXI-IN					TAXI-OUT				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL					DEPARTURE				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
132	2	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0
133	2	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.19	0.0
2	0.60	0.38
WEIGHTED AVERAGE	0.41	0.38

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
9.63	0.06	0.37	0.39	0.0	0.15

ARRIVAL AIRFIELD DELAY = 10.79 DEPARTURE AIRFIELD DELAY = 0.60

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	11.65	0.0
2	11.03	8.36
WEIGHTED AVERAGE	11.31	8.36

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * AVERAGE FLOW RATES * * *

TIME - FROM 3. 0. 0 TO 4. 0. 0

		ARRIVAL					TOUCH-AND-GO					DEPARTURE				
RWY NO.	TOTAL	D	C	B	A	TOTAL	D	C	B	A	TOTAL	D	C	B	A
1	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	6	0.17	0.83	0.0	0.0	0	0.0	0.0	0.0	0.0	9	0.22	0.78	0.0	0.0
TOTAL	11	0.18	0.82	0.0	0.0	0	0.0	0.0	0.0	0.0	9	0.22	0.78	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	4	16	0	0	20

	ON GATE					OFF GATE				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	10	0.20	0.80	0.0	0.0	11	0.27	0.73	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	10	0.20	0.80	0.0	0.0	11	0.27	0.73	0.0	0.0

	TAXI-IN					TAXI-OUT				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	11	0.18	0.82	0.0	0.0	11	0.27	0.73	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL					DEPARTURE				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

AVERAGE DELAY SUMMARY

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.93	0.0
2	0.28	0.32
WEIGHTED AVERAGE	0.58	0.32

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
10.49	0.07	0.33	0.70	0.0	0.17

ARRIVAL AIRFIELD DELAY = 12.10 DEPARTURE AIRFIELD DELAY = 0.55

AVERAGE TRAVEL TIME SUMMARY

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	18.30	0.0
2	13.55	8.89
WEIGHTED AVERAGE	15.71	8.89

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * AVERAGE FLOW RATES * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RWY NO.	TOTAL	ARRIVAL D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	13	0.15	0.85	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	13	0.15	0.85	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	5	20	0	0	25

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	11	0.18	0.82	0.0	0.0	10	0.20	0.80	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	11	0.18	0.82	0.0	0.0	10	0.20	0.80	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	12	0.25	0.75	0.0	0.0	10	0.20	0.80	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.11	0.0
2	0.30	0.59
WEIGHTED AVERAGE	0.77	0.59

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
16.41	0.08	0.91	0.47	0.0	0.12

ARRIVAL AIRFIELD DELAY = 18.56 DEPARTURE AIRFIELD DELAY = 0.79

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	18.41	0.0
2	14.59	8.71
WEIGHTED AVERAGE	16.82	8.71

FIGURE 4-10a (Cont.)

EXAMPLE 1

AVERAGE FLOW RATES

TIME - FROM 5. 0. 0 TO 6. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	9	0.11	0.89	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.27	0.73	0.0	0.0
TOTAL	15	0.27	0.73	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.27	0.73	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	7	19	0	0	26

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	12	0.25	0.75	0.0	0.0	12	0.25	0.75	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	12	0.25	0.75	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	15	0.27	0.73	0.0	0.0	12	0.25	0.75	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.33	0.67	0.0	0.0	0	0.0	0.0	0.0	0.0
133	2	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	5	0.60	0.40	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

AVERAGE DELAY SUMMARY

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.19	0.0
2	0.73	0.39
WEIGHTED AVERAGE	0.51	0.39

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
13.31	0.04	0.28	0.44	0.0	0.17

ARRIVAL AIRFIELD DELAY = 14.55 DEPARTURE AIRFIELD DELAY = 0.61

AVERAGE TRAVEL TIME SUMMARY

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	14.77	0.0
2	12.52	8.67
WEIGHTED AVERAGE	13.42	8.67

FIGURE 4-10a (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
1	0.0	0.4656
2	0.0	0.4018
3	0.0	0.2824
4	0.0	0.3024
5	0.0	0.2060
6	0.0	0.2826
7	0.0	0.2514
8	0.0	0.4828
9	0.0	0.4954
10	0.0	0.1092
21	0.9516	0.0
22	2.4973	0.0
23	0.2380	0.0
24	0.3082	0.0
25	0.4110	0.0
101	0.0727	0.0
102	0.1028	0.0
103	0.3393	0.0
104	0.4737	0.0
105	9.4760	0.0
106	4.6042	0.1634
107	2.4607	0.5846
108	0.9991	0.8739
109	0.4778	0.6318
110	1.8594	0.5350
111	0.4254	1.5069
112	0.5931	0.7841
113	0.1412	2.0315
114	0.0	1.2988
128	0.8058	0.0
129	0.4821	0.0
130	0.1502	0.0
131	0.0775	0.0
132	7.1469	0.0
133	5.4423	0.0
134	0.1164	0.0

FIGURE 4-10a (Cont.)

AIRPORT DELAY SIMULATION MODEL--VERSION IID

INPUT DATA

```
   EXAMPLE 1

NUMBER OF RANDOM NUMBER SEEDS
      10

RANDOM NUMBER SEEDS
    2001    2002    2003    2004    2005    2006    2007    2008    2009    2000

START TIME AND FINISH TIME
    1: 0    6: 0

PRINT OPTIONS
       F       F       F       T       T       F       F       F       F       F

NUMBER OF RUNWAYS
       2

RUNWAY NAMES
    28R     28L

RUNWAY END LINK NUMBERS
       0     126

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM
       2     132
       2     133

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
       8    2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   39.00    5.00
       2   39.00    5.00
       3    0.0     0.0
       4    0.0     0.0

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   25.00    2.00
       2   25.00    2.00
       3    0.0     0.0
       4    0.0     0.0

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)
       1   35.00   10.00
       2   21.00    5.00
       3    0.0     0.0
       4    0.0     0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)
       1  140.00    5.00
       2  130.00    5.00
       3    0.0     0.0
       4    0.0     0.0
```

MODEL RUN FOR EXAMPLE 1 - REDUCED GATE OCCUPANCY TIME
FIGURE 4-10b

```
LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)
       1        1    8.00
       1        2    8.00
       1        3    0.0
       1        4    0.0
       2        1    8.00
       2        2    8.00
       2        3    0.0
       2        4    0.0

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)
CLASS  1 RWY   1
   128.    0.40    129.    1.00
CLASS  2 RWY   1
   128.    0.70    129.    1.00
CLASS  3 RWY   1
      0.
CLASS  4 RWY   1
      0.
CLASS  1 RWY   2
   101.    1.00
CLASS  2 RWY   2
   101.    1.00
CLASS  3 RWY   2
      0.
CLASS  4 RWY   2
      0.

NUMBER OF EXITS
       3

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)
     128  6000.0     129  8000.0     101  6000.0

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)
CLASS  1
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4000.0   38.00  5000.0   47.00
  6000.0   56.00  7000.0   65.00  8000.0   73.00  9000.0   82.00
CLASS  2
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4000.0   38.00  5000.0   47.00
  6000.0   56.00  7000.0   65.00  8000.0   73.00  9000.0   82.00
CLASS  3
     0.0
CLASS  4
     0.0

NUMBER OF HOLDING AREAS
      10

HOLDING AREA NUMBERS
      21       22       23       24       25       26       27       28       29       30

NUMBER OF G/A HOLDING AREAS
       0

G/A HOLDING AREA NUMBERS
       0

TAXIING SPEEDS IN MPH
    5.00   10.00   15.00   20.00   25.00   30.00
```

FIGURE 4-10b (Cont.)

TAXIWAY LINK DATA

LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY	ROUTE NO.
1	1	1.10	7		0
2	1	1.10	7		0
3	1	1.10	7		0
4	1	1.10	7		0
5	1	1.10	7		0
6	1	1.10	7		0
7	1	1.10	7		0
8	1	1.10	7		0
9	1	1.10	7		0
10	1	1.10	7		0
21	1	0.10	7		0
22	1	0.10	7		0
23	1	0.10	7		0
24	1	0.10	7		0
25	1	0.10	7		0
26	1	0.10	7		0
27	1	0.10	7		0
28	1	0.10	7		0
29	1	0.10	7		0
30	1	0.10	7		0
101	0	500.00	5		0
102	0	300.00	4		0
103	0	300.00	3		0
104	0	300.00	2		0
105	0	300.00	2		0
106	0	300.00	1		0
107	0	300.00	1		0
108	0	300.00	1		0
109	0	300.00	1		0
110	0	300.00	1		0
111	0	300.00	1		0
112	0	300.00	1		0
113	0	300.00	1		0
114	0	300.00	1		0
115	0	300.00	1		0
116	0	300.00	2		0
117	0	300.00	2		0
118	0	300.00	3		0
119	0	300.00	3		0
120	0	300.00	3		0
121	0	300.00	3		0
122	0	300.00	3		0
123	0	300.00	3		0
124	0	300.00	3		0
125	0	300.00	2		0
126	0	300.00	2		0
128	0	900.00	5		0
129	0	900.00	5		0
130	0	400.00	5		0
131	0	1900.00	4		0
132	0	300.00	2		0
133	0	300.00	2		0
134	0	400.00	2		0
135	0	400.00	2		0

FIGURE 4-10b (Cont.)

```
TAXIWAY PATH DATA
PATH     1                                  LENGTH    22                                  LOCATION     1          10.873
   1 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     2                                  LENGTH    21                                  LOCATION    23          10.191
   2 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     3                                  LENGTH    20                                  LOCATION    44           9.509
   3 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     4                                  LENGTH    19                                  LOCATION    64           8.827
   4 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     5                                  LENGTH    18                                  LOCATION    83           8.145
   5 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     6                                  LENGTH    17                                  LOCATION   101           7.464
   6 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     7                                  LENGTH    16                                  LOCATION   118           6.782
   7 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     8                                  LENGTH    15                                  LOCATION   134           6.100
   8 113 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH     9                                  LENGTH    14                                  LOCATION   149           5.418
   9 114 115 116 117 118 119 120 121 122 123 124 125 126
PATH    10                                  LENGTH    13                                  LOCATION   163           4.736
  10 115 116 117 118 119 120 121 122 123 124 125 126
PATH    11                                  LENGTH     7                                  LOCATION   176           3.089
 101 102 103 104 105 106   1
PATH    12                                  LENGTH     8                                  LOCATION   183           3.770
 101 102 103 104 105 106 107   2
PATH    13                                  LENGTH     9                                  LOCATION   191           4.452
 101 102 103 104 105 106 107 108   3
PATH    14                                  LENGTH    10                                  LOCATION   200           5.134
 101 102 103 104 105 106 107 108 109   4
PATH    15                                  LENGTH    11                                  LOCATION   210           5.816
 101 102 103 104 105 106 107 108 109 110   5
PATH    16                                  LENGTH    12                                  LOCATION   221           6.498
 101 102 103 104 105 106 107 108 109 110 111   6
PATH    17                                  LENGTH    13                                  LOCATION   233           7.180
 101 102 103 104 105 106 107 108 109 110 111 112   7
PATH    18                                  LENGTH    14                                  LOCATION   246           7.861
 101 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    19                                  LENGTH    15                                  LOCATION   260           8.543
 101 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    20                                  LENGTH    16                                  LOCATION   275           9.225
 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    21                                  LENGTH     5                                  LOCATION   291           1.066
 101 102 103 104  21
PATH    22                                  LENGTH     5                                  LOCATION   296           1.066
 101 102 103 104  22
PATH    23                                  LENGTH     5                                  LOCATION   301           1.066
 101 102 103 104  23
PATH    24                                  LENGTH     5                                  LOCATION   306           1.066
 101 102 103 104  24
PATH    25                                  LENGTH     5                                  LOCATION   311           1.066
 101 102 103 104  25
PATH    26                                  LENGTH     5                                  LOCATION   316           1.066
 101 102 103 104  26
PATH    27                                  LENGTH     5                                  LOCATION   321           1.066
 101 102 103 104  27
PATH    28                                  LENGTH     5                                  LOCATION   326           1.066
 101 102 103 104  28
```

FIGURE 4-10b (Cont.)

```
PATH    29                                  LENGTH     5                          LOCATION   331          1.066
 101 102 103 104  29
PATH    30                                  LENGTH     5                          LOCATION   336          1.066
 101 102 103 104  30
PATH    31                                  LENGTH    19                          LOCATION   341         10.430
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    32                                  LENGTH    18                          LOCATION   360          9.748
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    33                                  LENGTH    17                          LOCATION   378          9.066
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    34                                  LENGTH    16                          LOCATION   395          8.384
 128 132 134 101 102 103 104 105 106 107 108 109 110 111 112   7
PATH    35                                  LENGTH    15                          LOCATION   411          7.702
 128 132 134 101 102 103 104 105 106 107 108 109 110 111   6
PATH    36                                  LENGTH    14                          LOCATION   426          7.020
 128 132 134 101 102 103 104 105 106 107 108 109 110   5
PATH    37                                  LENGTH    13                          LOCATION   440          6.339
 128 132 134 101 102 103 104 105 106 107 108 109   4
PATH    38                                  LENGTH    12                          LOCATION   453          5.657
 128 132 134 101 102 103 104 105 106 107 108   3
PATH    39                                  LENGTH    11                          LOCATION   465          4.975
 128 132 134 101 102 103 104 105 106 107   2
PATH    40                                  LENGTH    10                          LOCATION   476          4.293
 128 132 134 101 102 103 104 105 106   1
PATH    41                                  LENGTH     8                          LOCATION   486          2.270
 128 132 134 101 102 103 104  21
PATH    42                                  LENGTH     8                          LOCATION   494          2.270
 128 132 134 101 102 103 104  22
PATH    43                                  LENGTH     8                          LOCATION   502          2.270
 128 132 134 101 102 103 104  23
PATH    44                                  LENGTH     8                          LOCATION   510          2.270
 128 132 134 101 102 103 104  24
PATH    45                                  LENGTH     8                          LOCATION   518          2.270
 128 132 134 101 102 103 104  25
PATH    46                                  LENGTH     8                          LOCATION   526          2.270
 128 132 134 101 102 103 104  26
PATH    47                                  LENGTH     8                          LOCATION   534          2.270
 128 132 134 101 102 103 104  27
PATH    48                                  LENGTH     8                          LOCATION   542          2.270
 128 132 134 101 102 103 104  28
PATH    49                                  LENGTH     8                          LOCATION   550          2.270
 128 132 134 101 102 103 104  29
PATH    50                                  LENGTH     8                          LOCATION   558          2.270
 128 132 134 101 102 103 104  30
PATH    51                                  LENGTH    20                          LOCATION   566         11.464
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 115  10
PATH    52                                  LENGTH    19                          LOCATION   586         10.782
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114   9
PATH    53                                  LENGTH    18                          LOCATION   605         10.100
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113   8
PATH    54                                  LENGTH    17                          LOCATION   623          9.418
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112   7
PATH    55                                  LENGTH    16                          LOCATION   640          8.736
 129 133 135 130 131 102 103 104 105 106 107 108 109 110 111   6
PATH    56                                  LENGTH    15                          LOCATION   656          8.055
 129 133 135 130 131 102 103 104 105 106 107 108 109 110   5
PATH    57                                  LENGTH    14                          LOCATION   671          7.373
 129 133 135 130 131 102 103 104 105 106 107 108 109   4
PATH    58                                  LENGTH    13                          LOCATION   685          6.691
 129 133 135 130 131 102 103 104 105 106 107 108   3
```

FIGURE 4-10b (Cont.)

PATH 59	LENGTH 12	LOCATION 698	6.009
129 133 135 130 131 102 103 104 105 106 107 2			
PATH 60	LENGTH 11	LOCATION 710	5.327
129 133 135 130 131 102 103 104 105 106 1			
PATH 61	LENGTH 9	LOCATION 721	3.305
129 133 135 130 131 102 103 104 21			
PATH 62	LENGTH 9	LOCATION 730	3.305
129 133 135 130 131 102 103 104 22			
PATH 63	LENGTH 9	LOCATION 739	3.305
129 133 135 130 131 102 103 104 23			
PATH 64	LENGTH 9	LOCATION 748	3.305
129 133 135 130 131 102 103 104 24			
PATH 65	LENGTH 9	LOCATION 757	3.305
129 133 135 130 131 102 103 104 25			
PATH 66	LENGTH 9	LOCATION 766	3.305
129 133 135 130 131 102 103 104 26			
PATH 67	LENGTH 9	LOCATION 775	3.305
129 133 135 130 131 102 103 104 27			
PATH 68	LENGTH 9	LOCATION 784	3.305
129 133 135 130 131 102 103 104 28			
PATH 69	LENGTH 9	LOCATION 793	3.305
129 133 135 130 131 102 103 104 29			
PATH 70	LENGTH 9	LOCATION 802	3.305
129 133 135 130 131 102 103 104 30			
PATH 71	LENGTH 4	LOCATION 811	2.223
21 105 106 1			
PATH 72	LENGTH 5	LOCATION 815	2.905
21 105 106 107 2			
PATH 73	LENGTH 6	LOCATION 820	3.586
21 105 106 107 108 3			
PATH 74	LENGTH 7	LOCATION 826	4.268
21 105 106 107 108 109 4			
PATH 75	LENGTH 8	LOCATION 833	4.950
21 105 106 107 108 109 110 5			
PATH 76	LENGTH 9	LOCATION 841	5.632
21 105 106 107 108 109 110 111 6			
PATH 77	LENGTH 10	LOCATION 850	6.314
21 105 106 107 108 109 110 111 112 7			
PATH 78	LENGTH 11	LOCATION 860	6.995
21 105 106 107 108 109 110 111 112 113 8			
PATH 79	LENGTH 12	LOCATION 871	7.677
21 105 106 107 108 109 110 111 112 113 114 9			
PATH 80	LENGTH 13	LOCATION 883	8.359
21 105 106 107 108 109 110 111 112 113 114 115 10			
PATH 81	LENGTH 3	LOCATION 896	1.882
22 106 1			
PATH 82	LENGTH 4	LOCATION 899	2.564
22 106 107 2			
PATH 83	LENGTH 5	LOCATION 903	3.245
22 106 107 108 3			
PATH 84	LENGTH 6	LOCATION 908	3.927
22 106 107 108 109 4			
PATH 85	LENGTH 7	LOCATION 914	4.609
22 106 107 108 109 110 5			
PATH 86	LENGTH 8	LOCATION 921	5.291
22 106 107 108 109 110 111 6			
PATH 87	LENGTH 9	LOCATION 929	5.973
22 106 107 108 109 110 111 112 7			
PATH 88	LENGTH 10	LOCATION 938	6.655
22 106 107 108 109 110 111 112 113 8			

FIGURE 4-10b (Cont.)

```
PATH    89                                          LENGTH    11
  22 106 107 108 109 110 111 112 113 114   9
PATH    90                                          LENGTH    12
  22 106 107 108 109 110 111 112 113 114 115  10
PATH    91                                          LENGTH     4
  23 105 106   1
PATH    92                                          LENGTH     5
  23 105 106 107   2
PATH    93                                          LENGTH     6
  23 105 106 107 108   3
PATH    94                                          LENGTH     7
  23 105 106 107 108 109   4
PATH    95                                          LENGTH     8
  23 105 106 107 108 109 110   5
PATH    96                                          LENGTH     9
  23 105 106 107 108 109 110 111   6
PATH    97                                          LENGTH    10
  23 105 106 107 108 109 110 111 112   7
PATH    98                                          LENGTH    11
  23 105 106 107 108 109 110 111 112 113   8
PATH    99                                          LENGTH    12
  23 105 106 107 108 109 110 111 112 113 114   9
PATH   100                                          LENGTH    13
  23 105 106 107 108 109 110 111 112 113 114 115  10
PATH   101                                          LENGTH     4
  24 105 106   1
PATH   102                                          LENGTH     5
  24 105 106 107   2
PATH   103                                          LENGTH     6
  24 105 106 107 108   3
PATH   104                                          LENGTH     7
  24 105 106 107 108 109   4
PATH   105                                          LENGTH     8
  24 105 106 107 108 109 110   5
PATH   106                                          LENGTH     9
  24 105 106 107 108 109 110 111   6
PATH   107                                          LENGTH    10
  24 105 106 107 108 109 110 111 112   7
PATH   108                                          LENGTH    11
  24 105 106 107 108 109 110 111 112 113   8
PATH   109                                          LENGTH    12
  24 105 106 107 108 109 110 111 112 113 114   9
PATH   110                                          LENGTH    13
  24 105 106 107 108 109 110 111 112 113 114 115  10
PATH   111                                          LENGTH     4
  25 105 106   1
PATH   112                                          LENGTH     5
  25 105 106 107   2
PATH   113                                          LENGTH     6
  25 105 106 107 108   3
PATH   114                                          LENGTH     7
  25 105 106 107 108 109   4
PATH   115                                          LENGTH     8
  25 105 106 107 108 109 110   5
PATH   116                                          LENGTH     9
  25 105 106 107 108 109 110 111   6
PATH   117                                          LENGTH    10
  25 105 106 107 108 109 110 111 112   7
PATH   118                                          LENGTH    11
  25 105 106 107 108 109 110 111 112 113   8
```

```
LOCATION   948    7.336
LOCATION   959    8.018
LOCATION   971    2.223
LOCATION   975    2.905
LOCATION   980    3.586
LOCATION   986    4.268
LOCATION   993    4.950
LOCATION  1001    5.632
LOCATION  1010    6.314
LOCATION  1020    6.995
LOCATION  1031    7.677
LOCATION  1043    8.359
LOCATION  1056    2.223
LOCATION  1060    2.905
LOCATION  1065    3.586
LOCATION  1071    4.268
LOCATION  1078    4.950
LOCATION  1086    5.632
LOCATION  1095    6.314
LOCATION  1105    6.995
LOCATION  1116    7.677
LOCATION  1128    8.359
LOCATION  1141    2.223
LOCATION  1145    2.905
LOCATION  1150    3.586
LOCATION  1156    4.268
LOCATION  1163    4.950
LOCATION  1171    5.632
LOCATION  1180    6.314
LOCATION  1190    6.995
```

FIGURE 4-10b (Cont.)

```
PATH   119                                  LENGTH    12
  25 105 106 107 108 109 110 111 112 113 114   9
PATH   120                                  LENGTH    13
  25 105 106 107 108 109 110 111 112 113 114 115  10
PATH   121                                  LENGTH     4
  26 105 106   1
PATH   122                                  LENGTH     5
  26 105 106 107   2
PATH   123                                  LENGTH     6
  26 105 106 107 108   3
PATH   124                                  LENGTH     7
  26 105 106 107 108 109   4
PATH   125                                  LENGTH     8
  26 105 106 107 108 109 110   5
PATH   126                                  LENGTH     9
  26 105 106 107 108 109 110 111   6
PATH   127                                  LENGTH    10
  26 105 106 107 108 109 110 111 112   7
PATH   128                                  LENGTH    11
  25 105 106 107 108 109 110 111 112 113   8
PATH   129                                  LENGTH    12
  26 105 106 107 108 109 110 111 112 113 114   9
PATH   130                                  LENGTH    13
  26 105 106 107 108 109 110 111 112 113 114 115  10
PATH   131                                  LENGTH     4
  27 105 106   1
PATH   132                                  LENGTH     5
  27 105 106 107   2
PATH   133                                  LENGTH     6
  27 105 106 107 108   3
PATH   134                                  LENGTH     7
  27 105 106 107 108 109   4
PATH   135                                  LENGTH     8
  27 105 106 107 108 109 110   5
PATH   136                                  LENGTH     9
  27 105 106 107 108 109 110 111   6
PATH   137                                  LENGTH    10
  27 105 106 107 108 109 110 111 112   7
PATH   138                                  LENGTH    11
  27 105 106 107 108 109 110 111 112 113   8
PATH   139                                  LENGTH    12
  27 105 106 107 108 109 110 111 112 113 114   9
PATH   140                                  LENGTH    13
  27 105 106 107 108 109 110 111 112 113 114 115  10
PATH   141                                  LENGTH     4
  28 105 106   1
PATH   142                                  LENGTH     5
  28 105 106 107   2
PATH   143                                  LENGTH     6
  28 105 106 107 108   3
PATH   144                                  LENGTH     7
  28 105 106 107 108 109   4
PATH   145                                  LENGTH     8
  28 105 106 107 108 109 110   5
PATH   146                                  LENGTH     9
  28 105 106 107 108 109 110 111   6
PATH   147                                  LENGTH    10
  28 105 106 107 108 109 110 111 112   7
PATH * 148                                  LENGTH    11
  28 105 106 107 108 109 110 111 112 113   8
```

```
LOCATION  1201    7.677
LOCATION  1213    8.359
LOCATION  1226    2.223
LOCATION  1230    2.905
LOCATION  1235    3.586
LOCATION  1241    4.268
LOCATION  1248    4.950
LOCATION  1256    5.632
LOCATION  1265    6.314
LOCATION  1275    6.995
LOCATION  1286    7.677
LOCATION  1298    8.359
LOCATION  1311    2.223
LOCATION  1315    2.905
LOCATION  1320    3.586
LOCATION  1326    4.268
LOCATION  1333    4.950
LOCATION  1341    5.632
LOCATION  1350    6.314
LOCATION  1360    6.995
LOCATION  1371    7.677
LOCATION  1383    8.359
LOCATION  1396    2.223
LOCATION  1400    2.905
LOCATION  1405    3.586
LOCATION  1411    4.268
LOCATION  1418    4.950
LOCATION  1426    5.632
LOCATION  1435    6.314
LOCATION  1445    6.995
```

FIGURE 4-10b (Cont.)

```
PATH   149                                LENGTH    12
  28 105 106 107 108 109 110 111 112 113 114   9
PATH   150                                LENGTH    13
  28 105 106 107 108 109 110 111 112 113 114 115  10
PATH   151                                LENGTH     4
  29 105 106   1
PATH   152                                LENGTH     5
  29 105 106 107   2
PATH   153                                LENGTH     6
  29 105 106 107 108   3
PATH   154                                LENGTH     7
  29 105 106 107 108 109   4
PATH   155                                LENGTH     8
  29 105 106 107 108 109 110   5
PATH   156                                LENGTH     9
  29 105 106 107 108 109 110 111   6
PATH   157                                LENGTH    10
  29 105 106 107 108 109 110 111 112   7
PATH   158                                LENGTH    11
  29 105 106 107 108 109 110 111 112 113   8
PATH   159                                LENGTH    12
  29 105 106 107 108 109 110 111 112 113 114   9
PATH   160                                LENGTH    13
  29 105 106 107 108 109 110 111 112 113 114 115  10
PATH   161                                LENGTH     4
  30 105 106   1
PATH   162                                LENGTH     5
  30 105 106 107   2
PATH   163                                LENGTH     6
  30 105 106 107 108   3
PATH   164                                LENGTH     7
  30 105 106 107 108 109   4
PATH   165                                LENGTH     9
  30 105 106 107 108 109 110 111   6
PATH   166                                LENGTH    10
  30 105 106 107 108 109 110 111 112   7
PATH   167                                LENGTH    11
  30 105 106 107 108 109 110 111 112 113   8
PATH   168                                LENGTH    12
  30 105 106 107 108 109 110 111 112 113 114   9
PATH   169                                LENGTH    13
  30 105 106 107 108 109 110 111 112 113 114 115  10
THIS AIRPORT USES THE FOLLOWING:
LINKS:      54          PATHS:     169          PATH SEGMENTS:    1642
AVERAGE PATH LENGTH IS  9.72  SEGMENTS

LOCATION  1456                            7.677
LOCATION  1468                            8.359
LOCATION  1481                            2.223
LOCATION  1485                            2.905
LOCATION  1490                            3.586
LOCATION  1496                            4.258
LOCATION  1503                            4.950
LOCATION  1511                            5.632
LOCATION  1520                            6.314
LOCATION  1530                            6.995
LOCATION  1541                            7.677
LOCATION  1553                            8.359
LOCATION  1566                            2.223
LOCATION  1570                            2.905
LOCATION  1575                            3.586
LOCATION  1581                            4.268
LOCATION  1588                            5.632
LOCATION  1597                            6.314
LOCATION  1607                            6.995
LOCATION  1618                            7.677
LOCATION  1630                            8.359
```

FIGURE 4-10b (Cont.)

```
TAXIWAY ONE-WAY PATHS
LINKS  0


NUMBER OF AIRLINES
       3

AIRLINE CODES
    AA       TWA      UA

AIRLINE GATES
    AA
       1        2        3        4        5
    TWA
       6        7        8
    UA
       9       10

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)
    0.0

A/C SEPARATIONS
128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / ARRIVAL, DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 - D CLASS
                           2 - C CLASS
                           3 - B CLASS
                           4 - A CLASS
THE ORDER OF SETS OF (X,Y) IS -
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY    1        TRAIL A/C RUNWAY    1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    3.00     0.50     3.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    2.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    1.25     0.15     1.25     0.15     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

FIGURE 4-10b (Cont.)

```
LEAD A/C RUNWAY    1        TRAIL A/C RUNWAY    2
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    1.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0

LEAD A/C RUNWAY    2        TRAIL A/C RUNWAY    1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
    4.00     0.50     5.00     0.50     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    1.00     0.25     2.00     0.25     0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

FIGURE 4-10b (Cont.)

A/C SCHEDULE DATA

A/C NO.	AIRLINE	GATE	FLT.TYPE	CLASS	ARRIVE	DEPART	SERV.TIME	ARR.RWY	DEP.RWY
1	AA	3	3	2	1: 0	1: 1	11.00	2	2
2	AA	2	3	1	1: 2	1: 3	34.41	1	2
3	TWA	8	3	2	1: 3	1: 4	12.63	1	2
4	UA	9	3	2	1: 3	1: 4	23.26	2	2
5	AA	3	3	2	1:14	1:15	15.84	2	2
6	UA	10	3	2	1:15	1:16	21.73	1	2
7	AA	3	3	2	1:16	1:17	20.42	2	2
8	AA	2	3	1	1:30	1:31	42.08	1	2
9	TWA	8	3	2	1:31	1:32	29.82	1	2
10	UA	9	3	2	1:31	1:32	30.13	2	2
11	TWA	6	3	1	1:32	1:33	37.94	2	2
12	AA	4	3	2	1:45	1:46	11.95	1	2
13	AA	5	3	2	1:45	1:46	26.81	2	2
14	UA	10	3	2	2: 0	2: 1	18.42	1	2
15	AA	2	3	1	2: 3	2: 4	35.55	1	2
16	TWA	7	3	2	2: 3	2: 4	17.99	2	2
17	AA	5	3	2	2:14	2:15	19.31	2	2
18	TWA	6	3	1	2:16	2:17	51.18	2	2
19	AA	3	3	2	2:17	2:18	19.34	2	2
20	AA	4	3	2	2:30	2:31	15.16	1	2
21	AA	2	3	1	2:31	2:32	52.62	1	2
22	TWA	7	3	2	2:31	2:32	19.65	2	2
23	UA	10	3	2	2:33	2:34	19.16	1	2
24	AA	5	3	2	2:46	2:47	20.97	2	2
25	AA	2	3	1	2:47	2:48	34.65	1	2
26	AA	1	3	2	2:52	2:53	27.58	2	2
27	AA	1	3	2	3: 0	3: 1	23.24	1	2
28	AA	5	3	2	3: 3	3: 4	17.91	2	2
29	TWA	7	3	2	3:14	3:15	14.84	2	2
30	AA	2	3	1	3:15	3:16	23.80	1	2
31	AA	1	3	2	3:16	3:17	14.08	1	2
32	TWA	8	3	2	3:16	3:17	18.49	1	2
33	UA	9	3	2	3:16	3:17	29.37	2	2
34	UA	10	3	2	3:45	3:46	25.60	1	2
35	TWA	6	3	1	3:45	3:46	41.34	2	2
36	AA	1	3	2	3:52	3:53	30.19	2	2
37	AA	3	3	2	3:55	3:56	11.91	1	2
38	AA	3	3	2	4: 0	4: 1	20.69	2	2
39	AA	2	3	1	4: 2	4: 3	15.05	1	2
40	TWA	8	3	2	4: 3	4: 4	25.53	1	2
41	UA	9	3	2	4: 3	4: 4	14.95	2	2
42	AA	3	3	2	4:14	4:15	28.16	2	2
43	UA	10	3	2	4:15	4:16	27.13	1	2
44	AA	3	3	2	4:16	4:17	27.00	2	2
45	AA	2	3	1	4:30	4:31	35.01	1	2
46	TWA	8	3	2	4:31	4:32	15.51	1	2
47	TWA	6	3	1	4:32	4:33	43.00	2	2
48	AA	4	3	2	4:45	4:46	27.11	1	2
49	AA	5	3	2	4:45	4:46	17.56	2	2
50	UA	10	3	2	5: 0	5: 1	25.24	1	2
51	AA	2	3	1	5: 3	5: 4	27.25	1	2
52	TWA	7	3	2	5: 3	5: 4	11.00	2	2
53	AA	5	3	2	5:14	5:15	12.13	2	2
54	TWA	6	3	1	5:16	5:17	32.71	2	2
55	AA	3	3	2	5:17	5:18	21.01	2	2
56	AA	4	3	2	5:30	5:31	23.21	1	2

FIGURE 4-10b (Cont.)

```
  57      AA       2       3       1      5:31     5:32     27.41        1        2
  58      TWA      7       3       2      5:31     5:32     31.00        2        2
  59      UA       9       3       2      5:32     5:33     29.15        2        2
  60      UA      10       3       2      5:33     5:34     14.22        1        2
  61      AA       5       3       2      5:46     5:47     30.29        2        2
  62      AA       2       3       1      5:47     5:48     50.47        1        2
  63      AA       1       3       2      5:52     5:53     24.05        2        2
  64      AA       1       3       2      6: 0     6: 1     28.85        1        2
  65      UA       9       3       2      6: 0     6: 1     18.88        2        2
  66      AA       5       3       2      6: 3     6: 4     13.00        2        2
  67      TWA      7       3       2      6:14     6:15     23.21        2        2
  68      AA       2       3       1      6:15     6:16     42.24        1        2
  69      AA       1       3       2      6:16     6:17     20.48        1        2
  70      TWA      8       3       2      6:16     6:17     12.15        1        2
  71      UA       9       3       2      6:16     6:17     24.12        2        2
  72      UA      10       3       2      6:45     6:46     24.02        1        2
  73      TWA      6       3       1      6:45     6:46     18.17        2        2
  74      AA       1       3       2      6:52     6:53     18.68        2        2
  75      AA       3       3       2      6:55     6:56     19.30        1        2
AIRCRAFT READ IN:   75
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT    99.38 DELAY = 6.44
SUBTRACE PDELAY N=   10 DELAY=      6.44
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT    99.38 DELAY = 4.53
  ALL GATES FOR THIS A/C FULL  A/C=  10 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   100.48 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   163.57 DELAY =12.58
SUBTRACE PDELAY N=   22 DELAY=     12.58
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   163.57 DELAY =10.67
SUBTRACE PDELAY N=   22 DELAY=     10.67
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   163.58 DELAY = 0.01
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   164.68 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   180.12 DELAY = 0.13
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.56 DELAY = 0.14
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.90 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   185.24 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   185.92 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   186.60 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   187.29 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   187.97 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   190.57 DELAY = 2.61
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   191.67 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.32 DELAY = 7.33
SUBTRACE PDELAY N=   30 DELAY=      7.33
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   202.32 DELAY = 5.03
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.32 DELAY = 2.64
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   202.32 DELAY = 1.91
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   203.42 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   203.42 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   203.65 DELAY = 0.23
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   204.12 DELAY = 0.47
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   204.22 DELAY = 0.10
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   204.80 DELAY = 0.58
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   205.48 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   217.00 DELAY =11.51
SUBTRACE PDELAY N=   31 DELAY=     11.51
  ALL GATES FOR THIS A/C FULL  A/C=  31 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   218.10 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   242.24 DELAY = 0.25
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   250.47 DELAY = 3.78
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   251.57 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.65 DELAY = 5.66
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.65 DELAY = 3.75
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.65 DELAY = 3.66
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.65 DELAY = 1.75
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FIGURE 4-10b (Cont.)

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  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.94 DELAY = 0.29
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   259.94 DELAY = 0.29
  ALL GATES FOR THIS A/C FULL  A/C=  42 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   261.04 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   261.04 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   261.15 DELAY = 0.11
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   261.73 DELAY = 0.58
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   262.41 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   265.12 DELAY = 2.71
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   266.22 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   271.30 DELAY = 1.31
  ALL GATES FOR THIS A/C FULL  A/C=  54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   316.95 DELAY = 0.96
  ALL GATES FOR THIS A/C FULL  A/C=  58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   336.21 DELAY = 5.22
  ALL GATES FOR THIS A/C FULL  A/C=  58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   336.21 DELAY = 3.31
  ALL GATES FOR THIS A/C FULL  A/C=  58 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   337.31 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  63 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   352.73 DELAY = 0.74
  ALL GATES FOR THIS A/C FULL  A/C=  64 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   360.84 DELAY = 0.85
  ALL GATES FOR THIS A/C FULL  A/C=  65 A/C SIZE =  2PREFERRED GATE =  9NEXT GATE VACANT AT   369.02 DELAY = 9.03
SUBTRACE PDELAY N=   65 DELAY=     9.03
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   157.81 DELAY = 6.82
SUBTRACE PDELAY N=   22 DELAY=     6.82
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   157.81 DELAY = 4.92
  ALL GATES FOR THIS A/C FULL  A/C=  22 A/C SIZE =  2PREFERRED GATE =  7NEXT GATE VACANT AT   158.91 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  26 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   175.55 DELAY = 3.56
  ALL GATES FOR THIS A/C FULL  A/C=  26 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   175.55 DELAY = 1.65
  ALL GATES FOR THIS A/C FULL  A/C=  26 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   176.65 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   180.55 DELAY = 0.56
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.16 DELAY = 1.06
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.33 DELAY = 0.17
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.56 DELAY = 0.23
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   184.90 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   185.24 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   185.92 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   186.60 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   187.29 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   187.36 DELAY = 0.07
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   187.97 DELAY = 0.61
  ALL GATES FOR THIS A/C FULL  A/C=  27 A/C SIZE =  2PREFERRED GATE =  1NEXT GATE VACANT AT   188.46 DELAY = 0.49
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   195.99 DELAY = 1.00
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   199.77 DELAY = 0.35
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   200.11 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   200.57 DELAY = 0.45
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   200.75 DELAY = 0.18
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   201.78 DELAY = 1.03
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   201.83 DELAY = 0.05
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.00 DELAY = 0.17
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.23 DELAY = 0.23
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.57 DELAY = 0.34
  ALL GATES FOR THIS A/C FULL  A/C=  30 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   202.88 DELAY = 0.31
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   242.24 DELAY = 0.25
  ALL GATES FOR THIS A/C FULL  A/C=  39 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   245.79 DELAY = 0.68
  ALL GATES FOR THIS A/C FULL  A/C=  43 A/C SIZE =  2PREFERRED GATE = 10NEXT GATE VACANT AT   279.77 DELAY =24.78
SUBTRACE PDELAY N=   43 DELAY=    24.78
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   256.24 DELAY = 0.25
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   261.24 DELAY = 3.34
  ALL GATES FOR THIS A/C FULL  A/C=  44 A/C SIZE =  2PREFERRED GATE =  3NEXT GATE VACANT AT   262.34 DELAY = 1.10
  ALL GATES FOR THIS A/C FULL  A/C=  45 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   270.21 DELAY = 0.22
  ALL GATES FOR THIS A/C FULL  A/C=  54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   327.65 DELAY =11.66
SUBTRACE PDELAY N=   54 DELAY=    11.66
  ALL GATES FOR THIS A/C FULL  A/C=  54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   327.65 DELAY = 9.75
SUBTRACE PDELAY N=   54 DELAY=     9.75
  ALL GATES FOR THIS A/C FULL  A/C=  54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   327.81 DELAY = 0.16
  ALL GATES FOR THIS A/C FULL  A/C=  54 A/C SIZE =  1PREFERRED GATE =  6NEXT GATE VACANT AT   328.75 DELAY = 0.94
  ALL GATES FOR THIS A/C FULL  A/C=  57 A/C SIZE =  1PREFERRED GATE =  2NEXT GATE VACANT AT   331.93 DELAY = 0.24
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FIGURE 4-10b (Cont.)

EXAMPLE 1

AVERAGE FLOW RATES

TIME - FROM 1. 0. 0 TO 2. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0.0	5	0.0	1.00	0.0	0.0
TOTAL	14	0.21	0.79	0.0	0.0	0	0.0	0.0	0.0	0.0	5	0.0	1.00	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	3	16	0	0	19

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	13	0.23	0.77	0.0	0.0	7	0.14	0.86	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	13	0.23	0.77	0.0	0.0	7	0.14	0.86	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	14	0.21	0.79	0.0	0.0	7	0.14	0.86	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RWY NO.	TOTAL	ARRIVAL D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.18	0.82	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.18	0.82	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	5	18	0	0	23

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	12	0.25	0.75	0.0	0.0	10	0.20	0.80	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	10	0.20	0.80	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	12	0.25	0.75	0.0	0.0	10	0.20	0.80	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.02	0.0
2	0.30	0.50
WEIGHTED AVERAGE	0.72	0.50

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
2.73	0.05	0.70	0.31	0.0	0.19

ARRIVAL AIRFIELD DELAY = 4.47 DEPARTURE AIRFIELD DELAY = 0.73

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	9.69	0.0
2	7.23	8.76
WEIGHTED AVERAGE	8.67	8.76

FIGURE 4-10b (Cont.)

EXAMPLE 1

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 5. 0. 0 TO 6. 0. 0

RWY NO.	TOTAL	ARRIVAL D	C	B	A.	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	9	0.11	0.89	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0
TOTAL	15	0.27	0.73	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	7	18	0	0	25

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	15	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.33	0.67	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

AVERAGE DELAY SUMMARY

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.24	0.0
2	0.78	0.57
WEIGHTED AVERAGE	0.56	0.57

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
1.64	0.03	0.45	0.29	0.0	0.15

ARRIVAL AIRFIELD DELAY = 2.94 DEPARTURE AIRFIELD DELAY = 0.75

AVERAGE TRAVEL TIME SUMMARY

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.16	0.0
2	6.77	8.84
WEIGHTED AVERAGE	7.32	8.84

FIGURE 4-10b (Cont.)

AVERAGE DELAY SUMMARY

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.44	0.0
2	0.74	0.33
WEIGHTED AVERAGE	0.59	0.33

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
0.56	0.05	0.30	0.36	0.0	0.18

ARRIVAL AIRFIELD DELAY = 1.81 DEPARTURE AIRFIELD DELAY = 0.56

AVERAGE TRAVEL TIME SUMMARY

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.36	0.0
2	6.59	8.38
WEIGHTED AVERAGE	7.48	8.38

FIGURE 4-10b (Cont.)

EXAMPLE 1

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.27	0.73	0.0	0.0
TOTAL	13	0.31	0.69	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.27	0.73	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	7	17	0	0	24

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	12	0.33	0.67	0.0	0.0	11	0.27	0.73	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	12	0.33	0.67	0.0	0.0	11	0.27	0.73	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	2	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	2	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

• • • A V E R A G E D E L A Y S U M M A R Y • • •

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.20	0.0
2	0.63	0.77
WEIGHTED AVERAGE	0.43	0.77

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	*DEPARTURE*	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
1.83	0.05	0.34	0.19	0.0	0.11

ARRIVAL AIRFIELD DELAY = 2.79 DEPARTURE AIRFIELD DELAY = 0.93

• • • A V E R A G E T R A V E L T I M E S U M M A R Y • • •

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.00	0.0
2	6.94	8.89
WEIGHTED AVERAGE	7.43	8.89

FIGURE 4-10b (Cont.)

EXAMPLE 1

• • • A V E R A G E F L O W R A T E S • • •

TIME - FROM 3. 0. 0 TO 4. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	6	0.17	0.83	0.0	0.0	0	0.0	0.0	0.0	0.0	12	0.25	0.75	0.0	0.0
TOTAL	11	0.18	0.82	0.0	0.0	0	0.0	0.0	0.0	0.0	12	0.25	0.75	0.0	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	5	18	0	0	23

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	10	0.20	0.80	0.0	0.0	12	0.17	0.83	0.0	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	10	0.20	0.80	0.0	0.0	12	0.17	0.83	0.0	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	11	0.18	0.82	0.0	0.0	12	0.17	0.83	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
133	1	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	4	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

• • • A V E R A G E D E L A Y S U M M A R Y • • •

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.00	0.0
2	0.29	0.46
WEIGHTED AVERAGE	0.61	0.46

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
2.16	0.04	0.41	0.35	0.0	0.20

ARRIVAL AIRFIELD DELAY = 3.53 DEPARTURE AIRFIELD DELAY = 0.71

• • • A V E R A G E T R A V E L T I M E S U M M A R Y • • •

TIME - FROM 3. 0. 0 TO 4. 0. 0

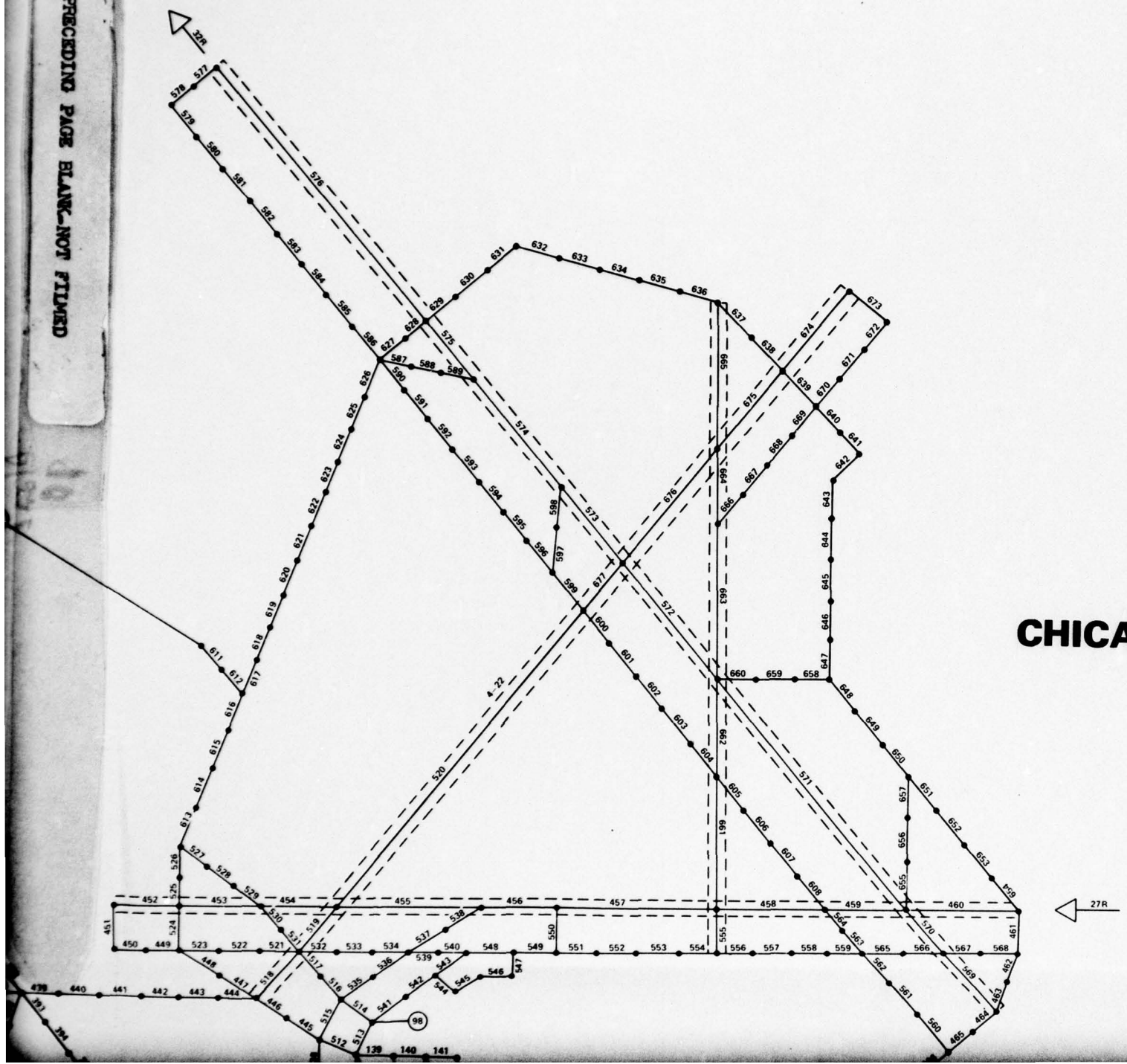
RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	10.13	0.0
2	7.09	8.89
WEIGHTED AVERAGE	8.47	8.89

FIGURE 4-10b (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
1	0.0	0.5462
2	0.0	0.0620
3	0.0	0.1385
4	0.0	0.1318
5	0.0	0.2722
6	0.0	0.1801
7	0.0	0.1213
8	0.0	0.3387
9	0.0	0.4935
10	0.0	0.1107
21	0.6961	0.0
22	1.3894	0.0
23	0.0702	0.0
101	0.0637	0.0
102	0.1225	0.0
103	0.5853	0.0
104	1.1546	0.0
105	6.0754	0.0
106	1.7886	1.1821
107	1.3863	0.8797
108	1.8680	0.6044
109	1.4163	1.0170
110	0.4547	0.8015
111	0.4828	0.9933
112	0.1776	1.2119
113	0.3584	1.1988
114	0.0	1.1748
128	0.3511	0.0
129	0.1486	0.0
130	0.1826	0.0
131	0.0775	0.0
132	7.1133	0.0
133	6.1480	0.0
134	0.4530	0.0

FIGURE 4-10b (Cont.)

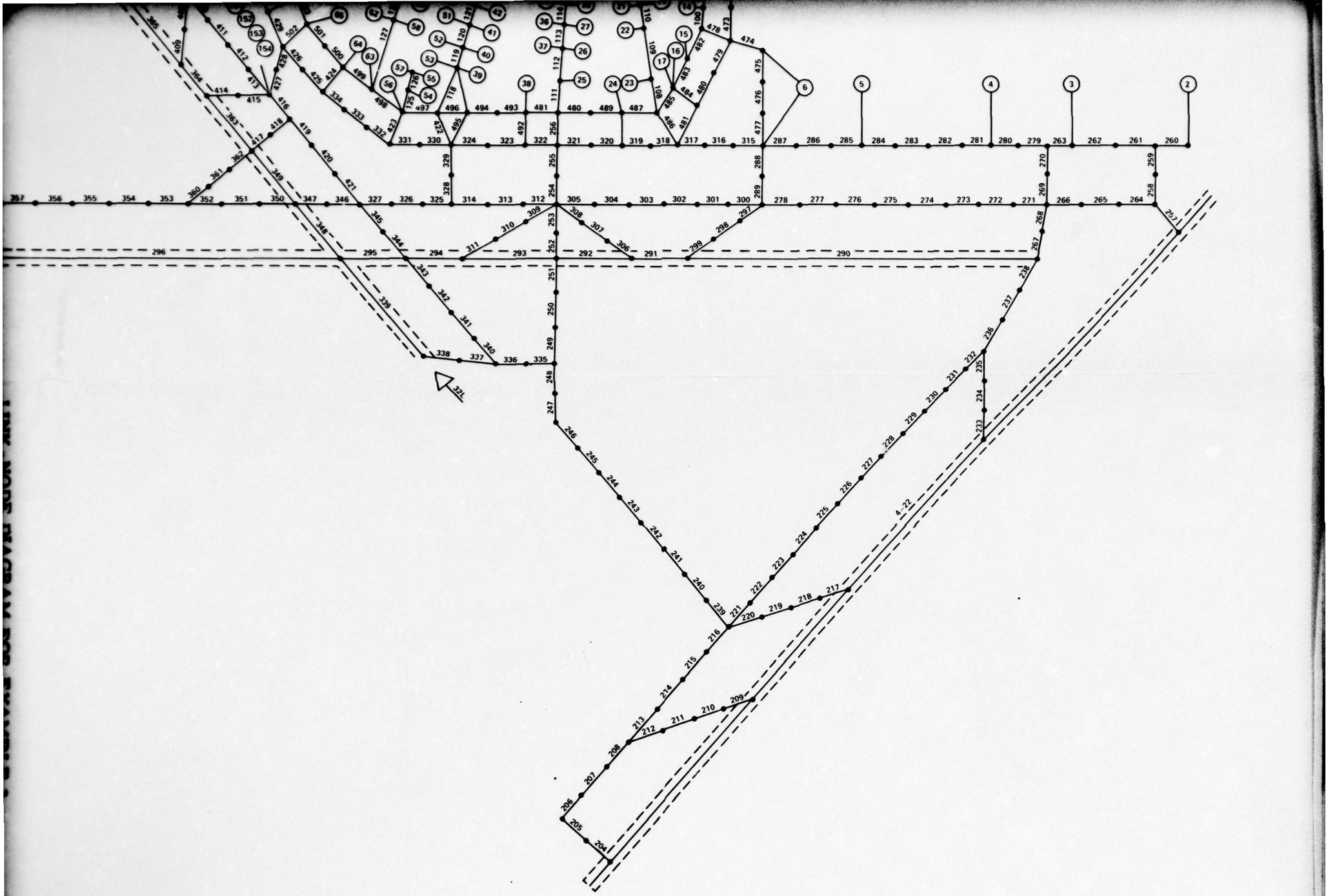
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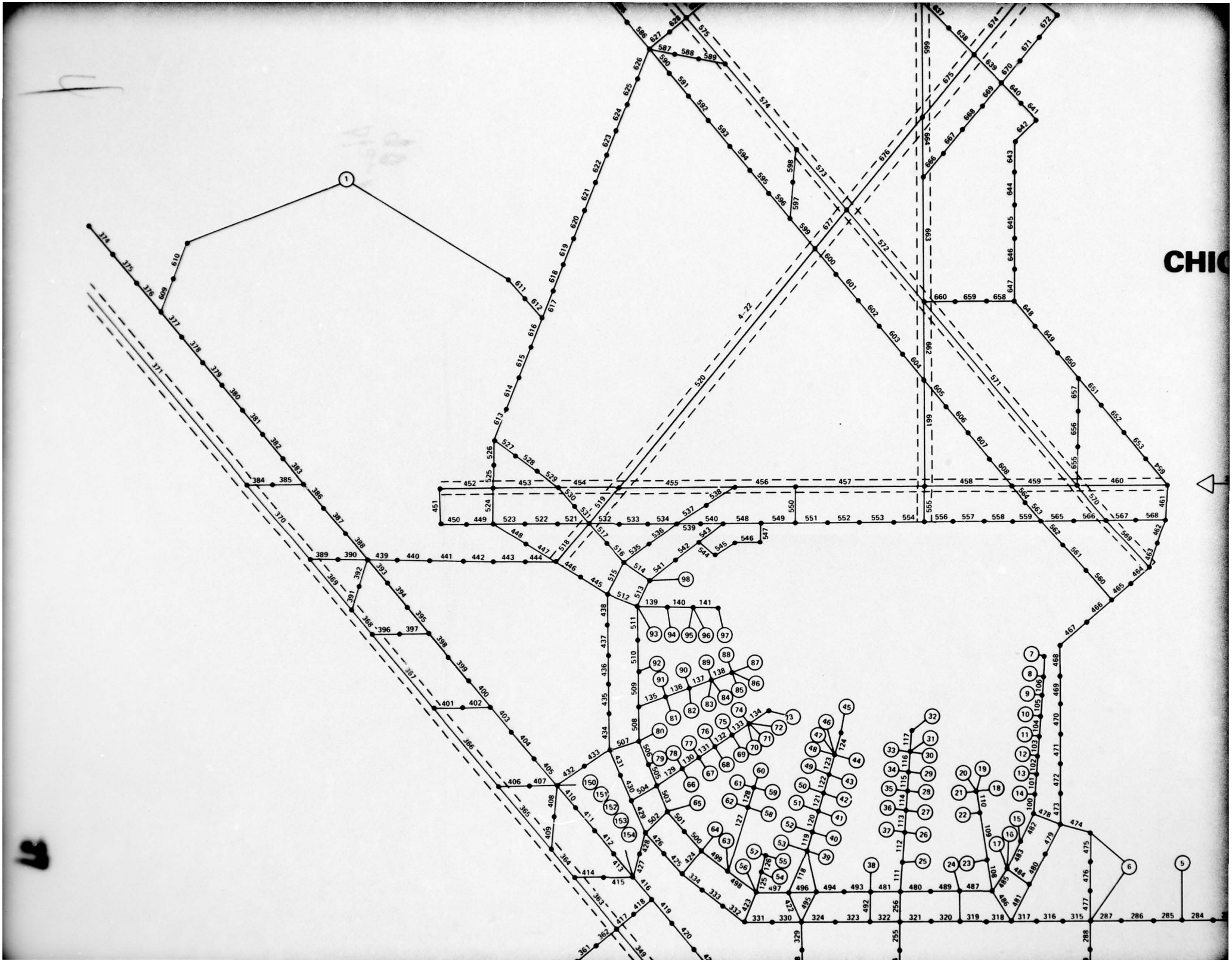


CHICAGO NETWORK

LINK-NODE DIAGRAM FOR E

FIGURE 4-11

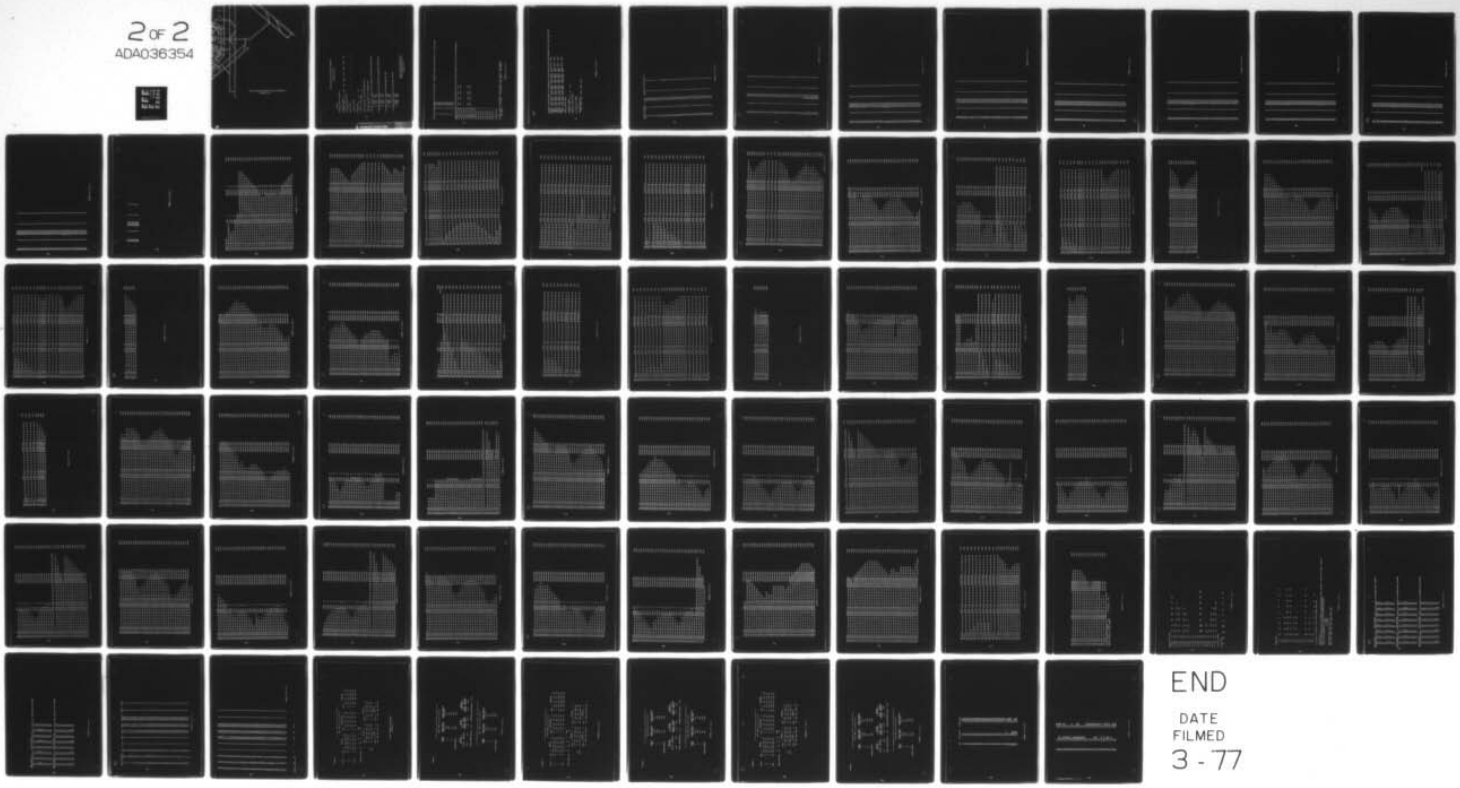

4-22


CHIC

AD-A036 354 FEDERAL AVIATION ADMINISTRATION WASHINGTON D C SYSTE--ETC F/G 1/5
MODEL USERS' MANUAL FOR AIRFIELD CAPACITY AND DELAY MODELS. BOO--ETC(U)
NOV 76 C T BALL

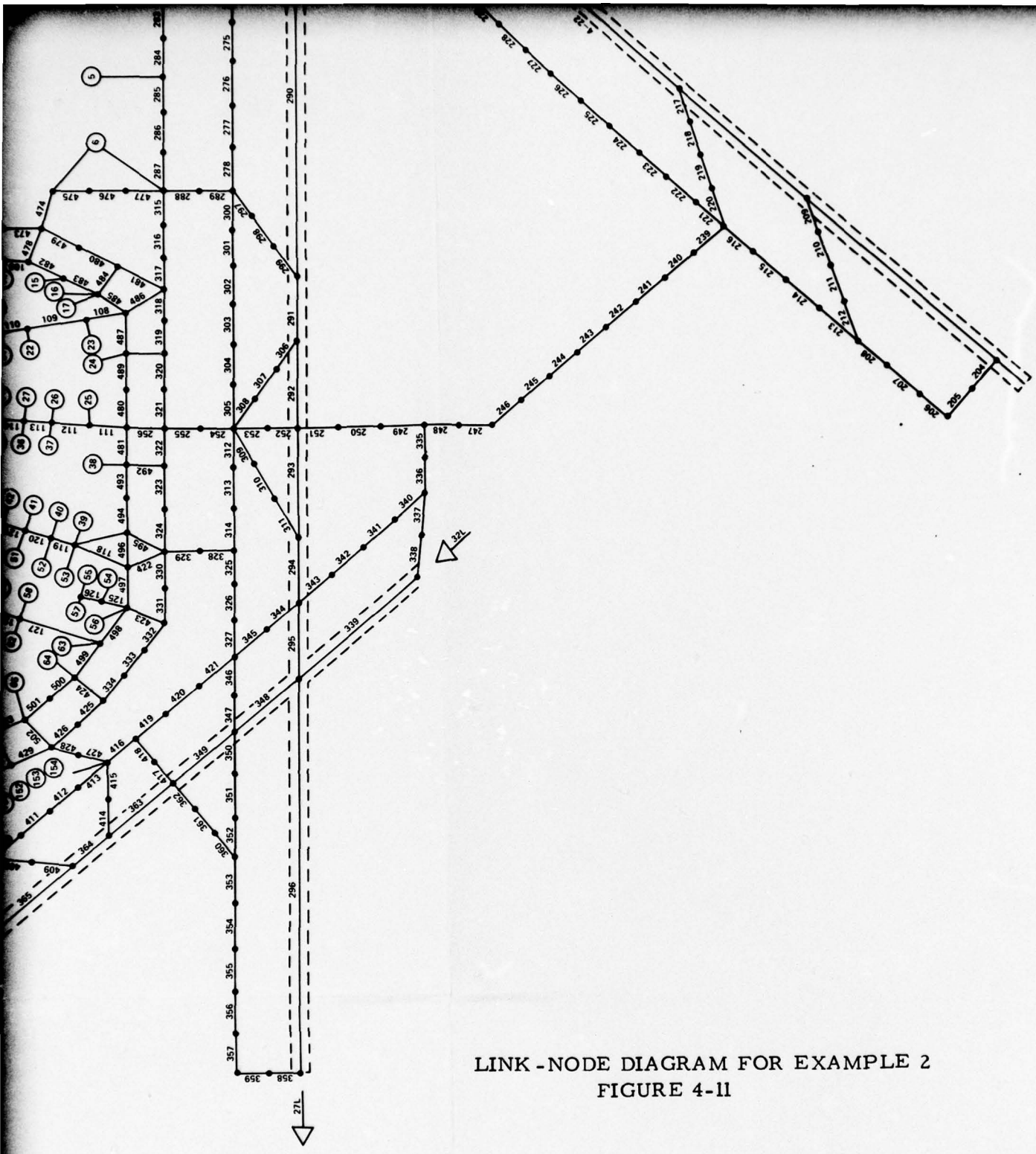
UNCLASSIFIED FAA-RD-76-128-BK-2 NL

2 OF 2
ADA036354



END

DATE
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3 - 77



LINK-NODE DIAGRAM FOR EXAMPLE 2
FIGURE 4-11

AIRPORT DELAY SIMULATION MODEL--VERSION IID

INPUT DATA

```
     EXAMPLE 2

NUMBER OF RANDOM NUMBER SEEDS
      10

RANDOM NUMBER SEEDS
    2001    2002    2003    2004    2005    2006    2007    2008    2009    2010

START TIME AND FINISH TIME
    1: 0    4: 0

PRINT OPTIONS
       F       F       F       T       F       F       F       F       F       F

NUMBER OF RUNWAYS
       4

RUNWAY NAMES
    32L     27R     27L     32R

RUNWAY END LINK NUMBERS
       0       0     257     464

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM
       1       0

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
       8    2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   35.00    5.00
       2   30.00    5.00
       3   29.00    3.00
       4   26.00    2.00

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)
       1   72.00    7.00
       2   72.00    7.00
       3   23.10    3.00
       4   21.60    2.00

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)
       1   48.00    3.00
       2   35.00    3.00
       3   20.00    2.00
       4    0.10    0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)
       1  140.00    5.00
       2  130.00    5.00
       3  120.00    5.00
       4   95.00    5.00
```

INPUT VALUES FOR EXAMPLE 2
(Obtained from Model Run)
FIGURE 4-12

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```
LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)
        1         1    6.00
        1         2    6.00
        1         3    6.00
        1         4    2.00
        2         1    5.00
        2         2    5.00
        2         3    2.00
        2         4    2.00
        3         1    5.00
        3         2    5.00
        3         3    2.00
        3         4    2.00
        4         1    6.00
        4         2    6.00
        4         3    6.00
        4         4    2.00

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)
CLASS  1 RWY   1
   406.     0.03    401.    0.53    391.    1.00
CLASS  2 RWY   1
   406.     0.20    401.    0.77    391.    1.00
CLASS  3 RWY   1
   406.     1.00
CLASS  4 RWY   1
   406.     1.00
CLASS  1 RWY   2
   538.     0.17    519.    0.50    530.    1.00
CLASS  2 RWY   2
   538.     0.48    519.    0.90    530.    1.00
CLASS  3 RWY   2
   538.     1.00
CLASS  4 RWY   2
   538.     1.00
CLASS  1 RWY   3
     0.
CLASS  2 RWY   3
     0.
CLASS  3 RWY   3
     0.
CLASS  4 RWY   3
     0.
CLASS  1 RWY   4
     0.
CLASS  2 RWY   4
     0.
CLASS  3 RWY   4
     0.
CLASS  4 RWY   4
     0.

NUMBER OF EXITS
     6

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)
   406  4460.0     401  5480.0     391  6800.0     538  4330.0     519  5480.0
   530  6080.0
```

FIGURE 4-12 (Cont.)

```
THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)
CLASS  1
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4400.0   45.00  5500.0   55.00
  6000.0   62.00  6800.0   64.00  8000.0   73.00  9000.0   82.00
CLASS  2
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4400.0   40.00  5500.0   50.00
  6000.0   62.00  6800.0   64.00  8000.0   73.00  9000.0   82.00
CLASS  3
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4400.0   50.00  5500.0   55.00
  6000.0   56.00  6800.0   65.00  8000.0   73.00  9000.0   82.00
CLASS  4
  1000.0   12.00  2000.0   21.00  3000.0   29.00  4400.0   50.00  5500.0   55.00
  6000.0   56.00  6800.0   65.00  8000.0   73.00  9000.0   82.00

NUMBER OF HOLDING AREAS
      5

HOLDING AREA NUMBERS
    150     151     152     153     154

NUMBER OF G/A HOLDING AREAS
      1

G/A HOLDING AREA NUMBERS
      1

TAXIING SPEEDS IN MPH
   5.00   10.00   15.00   23.00   25.00   35.00
```

FIGURE 4-12 (Cont.)

TAXIWAY LINK DATA

LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY ROUTE NO.
1	1	3.10	7	0
2	1	3.10	7	0
3	1	3.10	7	0
4	1	3.10	7	0
5	1	3.10	7	0
6	1	3.10	7	0
7	2	2.40	7	1
8	2	2.40	7	1
9	2	2.40	7	1
10	1	3.10	7	1
11	2	2.40	7	1
12	1	3.10	7	1
13	2	2.40	7	1
14	1	3.10	7	1
15	1	3.10	7	0
16	1	3.10	7	10
17	2	2.40	7	10
18	1	3.10	7	2
19	2	2.40	7	2
20	2	2.40	7	2
21	2	2.40	7	2
22	2	2.40	7	2
23	2	2.40	7	2
24	1	3.10	7	0
25	1	3.10	7	3
26	2	2.40	7	3
27	1	3.10	7	3
28	2	2.40	7	3
29	2	2.40	7	3
30	2	2.40	7	3
31	2	2.40	7	3
32	2	2.40	7	3
33	2	2.40	7	3
36	1	3.10	7	3
34	2	2.40	7	3
35	2	2.40	7	3
37	1	3.10	7	3
38	1	3.10	7	0
39	1	3.10	7	4
40	1	3.10	7	4
41	1	3.10	7	4
42	2	2.40	7	4
43	2	2.40	7	4
44	2	2.40	7	4
45	2	2.40	7	4
46	1	3.10	7	4
47	2	2.40	7	4
48	2	2.40	7	4
49	2	2.40	7	4
50	1	3.10	7	4
51	1	3.10	7	4
52	2	2.40	7	4
53	1	3.10	7	4
54	2	2.40	7	0
55	2	2.40	7	0
56	2	2.40	7	14

FIGURE 4-12 (Cont.)

57	2	2.40	7	14
58	2	2.40	7	5
59	2	2.40	7	5
60	2	2.40	7	5
61	2	2.40	7	5
62	2	2.40	7	5
63	2	2.40	7	0
64	1	2.10	7	0
65	1	2.10	7	0
66	2	2.40	7	6
67	1	3.10	7	6
68	1	3.10	7	6
69	1	3.10	7	6
70	2	2.40	7	6
71	2	2.40	7	6
72	2	2.40	7	6
73	2	2.40	7	6
74	2	2.40	7	6
75	2	2.40	7	6
76	1	3.10	7	6
77	2	2.40	7	6
78	1	3.10	7	6
79	1	3.10	7	0
80	1	3.10	7	0
81	2	2.40	7	7
82	1	3.10	7	7
83	1	3.10	7	7
84	2	2.40	7	7
85	2	2.40	7	7
86	2	2.40	7	7
87	2	2.40	7	7
88	1	3.10	7	7
89	1	3.10	7	7
91	1	3.10	7	7
90	1	3.10	7	7
92	1	3.10	7	0
93	1	3.10	7	8
94	1	3.10	7	8
95	1	3.10	7	8
96	1	3.10	7	8
97	1	3.10	7	8
98	3	0.10	7	0
150	1	0.10	7	0
151	1	0.10	7	0
152	1	0.10	7	0
153	1	0.10	7	0
154	1	0.10	7	0
100	0	150.00	2	0
101	0	200.00	2	0
102	0	200.00	2	0
103	0	200.00	2	0
104	0	180.00	2	0
105	0	180.00	2	0
106	0	150.00	2	0
107	0	150.00	2	0
108	0	300.00	2	0
109	0	200.00	2	0
110	0	200.00	2	0
111	0	300.00	2	0
112	0	150.00	2	0

FIGURE 4-12 (Cont.)

113	0	180.00	2	0
114	0	150.00	2	0
115	0	150.00	2	0
116	0	150.00	2	0
117	0	200.00	2	0
118	0	220.00	2	0
119	0	180.00	2	0
120	0	200.00	2	0
121	0	180.00	2	0
122	0	150.00	2	0
123	0	200.00	2	0
124	0	150.00	2	0
125	0	250.00	2	0
126	0	150.00	2	0
127	0	370.00	2	0
128	0	200.00	2	0
129	0	400.00	2	0
130	0	180.00	2	0
131	0	180.00	2	0
132	0	180.00	2	0
133	0	200.00	2	0
134	0	150.00	2	0
135	0	400.00	2	0
136	0	200.00	2	0
137	0	220.00	2	0
138	0	200.00	2	0
139	0	400.00	2	0
140	0	200.00	2	0
141	0	230.00	2	0
200	0	2750.00	4	0
201	0	1870.00	4	0
202	0	1400.00	4	0
203	0	2000.00	4	0
204	0	300.00	4	0
205	0	300.00	4	0
206	0	310.00	4	0
207	0	310.00	4	0
208	0	310.00	4	0
209	0	300.00	4	0
210	0	300.00	4	0
211	0	300.00	4	0
212	0	300.00	4	0
213	0	350.00	4	0
214	0	350.00	4	0
215	0	350.00	4	0
216	0	350.00	4	0
217	0	300.00	4	0
218	0	300.00	4	0
219	0	300.00	4	0
220	0	300.00	4	0
221	0	300.00	4	0
222	0	300.00	4	0
223	0	300.00	4	0
224	0	300.00	4	0
225	0	300.00	4	0
226	0	300.00	4	0
227	0	300.00	4	0
228	0	300.00	4	0
229	0	300.00	4	0
230	0	300.00	4	0

FIGURE 4-12 (Cont.)

231	0	300.00	4	0
232	0	300.00	4	0
233	0	300.00	4	0
234	0	300.00	4	0
235	0	300.00	4	0
236	0	350.00	4	0
237	0	350.00	4	0
238	0	350.00	4	0
239	0	315.00	4	0
240	0	315.00	4	0
241	0	315.00	4	0
242	0	315.00	4	0
243	0	315.00	4	0
244	0	315.00	4	0
245	0	315.00	4	0
246	0	315.00	4	0
247	0	300.00	4	0
248	0	300.00	4	0
249	0	340.00	4	0
250	0	350.00	4	0
251	0	340.00	4	0
252	0	250.00	4	0
253	0	250.00	4	0
254	0	275.00	4	0
255	0	275.00	4	0
256	0	300.00	4	0
257	0	330.00	4	0
258	0	275.00	4	0
259	0	275.00	4	0
260	0	300.00	4	0
261	0	385.00	4	0
262	0	385.00	4	0
263	0	230.00	4	0
264	0	330.00	4	0
265	0	340.00	4	0
266	0	330.00	4	0
267	0	255.00	6	0
268	0	255.00	6	0
269	0	275.00	4	0
270	0	275.00	4	0
271	0	330.00	6	0
272	0	330.00	6	0
273	0	330.00	6	0
274	0	330.00	6	0
275	0	340.00	6	0
276	0	330.00	6	0
277	0	330.00	6	0
278	0	330.00	6	0
279	0	260.00	4	0
280	0	260.00	4	0
281	0	300.00	4	0
282	0	300.00	4	0
283	0	300.00	4	0
284	0	300.00	4	0
285	0	310.00	4	0
286	0	310.00	4	0
287	0	310.00	4	0
288	0	275.00	4	0
289	0	275.00	4	0
290	0	3300.00	4	0

FIGURE 4-12 (Cont.)

291	0	500.00	4	0
292	0	700.00	4	0
293	0	880.00	4	0
294	0	500.00	4	0
295	0	640.00	4	0
296	0	3200.00	4	0
297	0	290.00	4	0
298	0	290.00	4	0
299	0	290.00	4	0
300	0	320.00	6	0
301	0	320.00	6	0
302	0	320.00	6	0
303	0	320.00	6	0
304	0	320.00	6	0
305	0	320.00	6	0
306	0	290.00	4	0
307	0	290.00	4	0
308	0	290.00	4	0
309	0	340.00	4	0
310	0	340.00	4	0
311	0	340.00	4	0
312	0	330.00	4	0
313	0	320.00	4	0
314	0	330.00	4	0
315	0	270.00	4	0
316	0	270.00	4	0
317	0	270.00	4	0
318	0	255.00	4	0
319	0	255.00	4	0
320	0	300.00	4	0
321	0	300.00	4	0
322	0	300.00	4	0
323	0	340.00	4	0
324	0	340.00	4	0
325	0	290.00	4	0
326	0	290.00	4	0
327	0	290.00	4	0
328	0	275.00	4	0
329	0	275.00	4	0
330	0	300.00	4	0
331	0	300.00	4	0
332	0	260.00	4	0
333	0	260.00	4	0
334	0	260.00	4	0
335	0	275.00	4	0
336	0	275.00	4	0
337	0	340.00	4	0
338	0	340.00	4	0
339	0	1250.00	4	0
340	0	340.00	4	0
341	0	335.00	4	0
342	0	335.00	4	0
343	0	340.00	4	0
344	0	335.00	4	0
345	0	335.00	4	0
346	0	290.00	4	0
347	0	290.00	4	0
348	0	670.00	4	0
349	0	680.00	4	0
350	0	350.00	4	0

FIGURE 4-12 (Cont.)

351	0	350.00	4	0
352	0	350.00	4	0
353	0	350.00	4	0
354	0	350.00	4	0
355	0	340.00	4	0
356	0	350.00	4	0
357	0	350.00	4	0
358	0	250.00	4	0
359	0	250.00	4	0
360	0	270.00	4	0
361	0	270.00	4	0
362	0	270.00	4	0
363	0	680.00	4	0
364	0	380.00	4	0
365	0	800.00	4	0
366	0	1020.00	4	0
367	0	1020.00	4	0
368	0	300.00	4	0
369	0	700.00	4	0
370	0	1000.00	4	0
371	0	3000.00	4	0
372	0	225.00	4	0
373	0	225.00	4	0
374	0	380.00	4	0
375	0	370.00	4	0
376	0	380.00	4	0
377	0	320.00	4	0
378	0	320.00	4	0
379	0	320.00	4	0
380	0	330.00	4	0
381	0	320.00	4	0
382	0	320.00	4	0
383	0	320.00	4	0
384	0	285.00	4	0
385	0	285.00	4	0
386	0	330.00	4	0
387	0	340.00	4	0
388	0	330.00	4	0
389	0	285.00	4	0
390	0	285.00	4	0
391	0	280.00	4	0
392	0	280.00	4	0
393	0	330.00	4	0
394	0	330.00	4	0
395	0	330.00	4	0
396	0	285.00	4	0
397	0	285.00	4	0
398	0	340.00	4	0
399	0	340.00	4	0
400	0	340.00	4	0
401	0	285.00	4	0
402	0	285.00	4	0
403	0	340.00	4	0
404	0	340.00	4	0
405	0	340.00	4	0
406	0	285.00	4	0
407	0	285.00	4	0
408	0	315.00	4	0
409	0	315.00	4	0
410	0	300.00	4	0

FIGURE 4-12 (Cont.)

411	0	300.00	4	0
412	0	300.00	4	0
413	0	300.00	4	0
414	0	285.00	4	0
415	0	285.00	4	0
416	0	280.00	4	0
417	0	225.00	4	0
418	0	225.00	4	0
419	0	350.00	4	0
420	0	350.00	4	0
421	0	350.00	4	0
422	0	340.00	4	0
423	0	330.00	4	0
424	0	300.00	4	0
425	0	290.00	4	0
426	0	290.00	4	0
427	0	240.00	4	0
428	0	240.00	4	0
429	0	330.00	4	0
430	0	280.00	4	0
431	0	280.00	4	0
432	0	330.00	4	0
433	0	330.00	4	0
434	0	315.00	4	0
435	0	315.00	4	0
436	0	315.00	4	0
437	0	315.00	4	0
438	0	315.00	4	0
439	0	325.00	4	0
440	0	325.00	4	0
441	0	325.00	4	0
442	0	325.00	4	0
443	0	325.00	4	0
444	0	325.00	4	0
445	0	300.00	4	0
446	0	300.00	4	0
447	0	375.00	4	0
448	0	375.00	4	0
449	0	265.00	4	0
450	0	265.00	4	0
451	0	360.00	4	0
452	0	530.00	4	0
453	0	660.00	4	0
454	0	600.00	4	0
455	0	1150.00	4	0
456	0	600.00	4	0
457	0	1300.00	4	0
458	0	870.00	4	0
459	0	660.00	4	0
460	0	900.00	4	0
461	0	360.00	4	0
462	0	270.00	3	0
463	0	270.00	3	0
464	0	250.00	3	0
465	0	250.00	3	0
466	0	350.00	3	0
467	0	350.00	3	0
468	0	300.00	3	0
469	0	300.00	3	0
470	0	300.00	3	0

FIGURE 4-12 (Cont.)

471	0	300.00	3	0
472	0	300.00	3	0
473	0	300.00	3	0
474	0	300.00	4	0
475	0	310.00	4	0
476	0	310.00	4	0
477	0	310.00	4	0
478	0	300.00	4	0
479	0	340.00	4	0
480	0	340.00	4	0
481	0	410.00	4	0
482	0	300.00	4	0
483	0	300.00	4	0
484	0	300.00	4	0
485	0	280.00	4	0
486	0	370.00	4	0
487	0	330.00	4	0
488	0	300.00	4	0
489	0	300.00	4	0
490	0	300.00	4	0
491	0	300.00	4	0
492	0	300.00	4	0
493	0	275.00	4	0
494	0	275.00	4	0
495	0	340.00	4	0
496	0	280.00	4	0
497	0	330.00	4	0
498	0	345.00	4	0
499	0	345.00	4	0
500	0	260.00	4	0
501	0	260.00	4	0
502	0	300.00	4	0
503	0	290.00	4	0
504	0	300.00	4	0
505	0	250.00	4	0
506	0	250.00	4	0
507	0	300.00	4	0
508	0	345.00	4	0
509	0	345.00	4	0
510	0	345.00	4	0
511	0	345.00	4	0
512	0	300.00	4	0
513	0	290.00	4	0
514	0	300.00	4	0
515	0	360.00	4	0
516	0	260.00	4	0
517	0	260.00	4	0
518	0	520.00	4	0
519	0	460.00	4	0
520	0	3100.00	4	0
521	0	320.00	4	0
522	0	330.00	4	0
523	0	320.00	4	0
524	0	360.00	4	0
525	0	250.00	4	0
526	0	250.00	4	0
527	0	270.00	4	0
528	0	270.00	4	0
529	0	270.00	4	0
530	0	240.00	4	0

FIGURE 4-12 (Cont.)

531	0	240.00	4	0
532	0	290.00	4	0
533	0	290.00	4	0
534	0	290.00	4	0
535	0	335.00	4	0
536	0	335.00	4	0
537	0	335.00	4	0
538	0	335.00	4	0
539	0	230.00	4	0
540	0	230.00	4	0
541	0	320.00	4	0
542	0	320.00	4	0
543	0	300.00	4	0
544	0	210.00	4	0
545	0	260.00	4	0
546	0	260.00	4	0
547	0	200.00	4	0
548	0	370.00	4	0
549	0	350.00	4	0
550	0	360.00	4	0
551	0	325.00	4	0
552	0	325.00	4	0
553	0	325.00	4	0
554	0	325.00	3	0
555	0	360.00	3	0
556	0	295.00	3	0
557	0	295.00	3	0
558	0	295.00	3	0
559	0	295.00	3	0
560	0	360.00	3	0
561	0	360.00	4	0
562	0	360.00	4	0
563	0	240.00	4	0
564	0	240.00	4	0
565	0	330.00	4	0
566	0	330.00	4	0
567	0	300.00	4	0
568	0	300.00	4	0
569	0	650.00	4	0
570	0	480.00	4	0
571	0	2400.00	4	0
572	0	1200.00	4	0
573	0	800.00	4	0
574	0	1100.00	4	0
575	0	606.00	4	0
576	0	2640.00	4	0
577	0	250.00	4	0
578	0	250.00	4	0
579	0	330.00	4	0
580	0	330.00	4	0
581	0	330.00	4	0
582	0	330.00	4	0
583	0	330.00	4	0
584	0	330.00	4	0
585	0	330.00	4	0
586	0	330.00	4	0
587	0	270.00	4	0
588	0	260.00	4	0
589	0	270.00	4	0
590	0	320.00	4	0

FIGURE 4-12 (Cont.)

591	0	320.00	4	0
592	0	320.00	4	0
593	0	320.00	4	0
594	0	320.00	4	0
595	0	320.00	4	0
596	0	320.00	4	0
597	0	350.00	4	0
598	0	350.00	4	0
599	0	400.00	4	0
600	0	350.00	4	0

FIGURE 4-12 (Cont.)

```
TAXIWAY PATH DATA
PATH     1                                  LENGTH     9                                  LOCATION     1                                  4.180
   2 260 261 262 263 270 269 268 267
PATH     2                                  LENGTH     7                                  LOCATION    10                                  3.651
   3 263 270 269 268 267   0
PATH     3                                  LENGTH     7                                  LOCATION    17                                  3.794
   4 280 279 270 269 268 267
PATH     4                                  LENGTH    11                                  LOCATION    24                                  4.387
   5 284 283 282 281 280 279 270 269 268 267
PATH     5                                  LENGTH    13                                  LOCATION    35                                  4.398
   6 288 289 278 277 276 275 274 273 272 271 268 267
PATH     6                                  LENGTH    28                                  LOCATION    48                                  6.318
   7 107 106 105 104 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH     7                                  LENGTH    28                                  LOCATION    76                                  6.318
   8 107 106 105 104 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH     8                                  LENGTH    27                                  LOCATION   104                                  6.147
   9 106 105 104 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH     9                                  LENGTH    26                                  LOCATION   131                                  6.677
  10 105 104 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    10                                  LENGTH    25                                  LOCATION   157                                  5.772
  11 104 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    11                                  LENGTH    24                                  LOCATION   182                                  6.268
  12 103 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    12                                  LENGTH    23                                  LOCATION   206                                  5.340
  13 102 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    13                                  LENGTH    22                                  LOCATION   229                                  5.813
  14 101 100 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    14                                  LENGTH    20                                  LOCATION   251                                  5.415
  15 482 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    15                                  LENGTH    19                                  LOCATION   271                                  5.267
  16 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    16                                  LENGTH    19                                  LOCATION   290                                  4.567
  17 483 485 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    17                                  LENGTH    20                                  LOCATION   309                                  5.776
  18 110 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    18                                  LENGTH    20                                  LOCATION   329                                  5.076
  19 110 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    19                                  LENGTH    20                                  LOCATION   349                                  5.076
  20 110 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    20                                  LENGTH    20                                  LOCATION   369                                  5.076
  21 110 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    21                                  LENGTH    20                                  LOCATION   389                                  5.076
  22 110 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    22                                  LENGTH    19                                  LOCATION   409                                  4.849
  23 109 108 486 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    23                                  LENGTH    20                                  LOCATION   428                                  5.346
  24 489 488 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    24                                  LENGTH    23                                  LOCATION   448                                  6.006
  25 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    25                                  LENGTH    24                                  LOCATION   471                                  5.510
  26 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    26                                  LENGTH    25                                  LOCATION   495                                  6.381
  27 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    27                                  LENGTH    26                                  LOCATION   520                                  5.851
  28 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    28                                  LENGTH    27                                  LOCATION   546                                  6.022
  29 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
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FIGURE 4-12 (Cont.)

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PATH    29                              LENGTH    28                              LOCATION   573                                  6.249
  30 117 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    30                              LENGTH    28                              LOCATION   601                                  6.249
  31 117 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    31                              LENGTH    28                              LOCATION   629                                  6.249
  32 117 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    32                              LENGTH    28                              LOCATION   657                                  6.249
  33 117 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    33                              LENGTH    27                              LOCATION   685                                  6.022
  34 116 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    34                              LENGTH    26                              LOCATION   712                                  5.851
  35 115 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    35                              LENGTH    25                              LOCATION   738                                  6.381
  36 114 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    36                              LENGTH    24                              LOCATION   763                                  6.210
  37 113 112 111 256 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    37                              LENGTH    23                              LOCATION   787                                  5.779
  38 493 492 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    38                              LENGTH    26                              LOCATION   810                                  6.453
  39 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    39                              LENGTH    27                              LOCATION   836                                  6.680
  40 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    40                              LENGTH    28                              LOCATION   863                                  6.885
  41 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    41                              LENGTH    29                              LOCATION   891                                  6.355
  42 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    42                              LENGTH    30                              LOCATION   920                                  6.583
  43 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    43                              LENGTH    31                              LOCATION   950                                  6.753
  44 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268
 267
PATH    44                              LENGTH    31                              LOCATION   981                                  6.753
  45 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268
 267
PATH    45                              LENGTH    31                              LOCATION  1012                                  7.453
  46 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268
 267
PATH    46                              LENGTH    31                              LOCATION  1043                                  6.753
  47 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268
 267
PATH    47                              LENGTH    31                              LOCATION  1074                                  6.753
  48 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268
 267
PATH    48                              LENGTH    30                              LOCATION  1105                                  6.583
  49 123 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    49                              LENGTH    29                              LOCATION  1135                                  7.055
  50 122 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    50                              LENGTH    28                              LOCATION  1164                                  6.885
  51 121 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    51                              LENGTH    27                              LOCATION  1192                                  5.980
  52 120 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    52                              LENGTH    26                              LOCATION  1219                                  6.453
  53 119 118 422 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    53                              LENGTH    28                              LOCATION  1245                                  6.045
  54 126 125 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    54                              LENGTH    28                              LOCATION  1273                                  6.045
  55 126 125 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    55                              LENGTH    27                              LOCATION  1301                                  5.753
  56 497 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    56                              LENGTH    27                              LOCATION  1328                                  5.753
  57 497 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    57                              LENGTH    29                              LOCATION  1355                                  6.408
  58 128 127 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
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FIGURE 4-12 (Cont.)

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PATH    58                              LENGTH    29                              LOCATION  1384                                  6.408
  59 128 127 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267

PATH    59                              LENGTH    29                              LOCATION  1413                                  6.408
  60 128 127 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    60                              LENGTH    29                              LOCATION  1442                                  6.408
  61 128 127 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    61                              LENGTH    29                              LOCATION  1471                                  6.408
  62 128 127 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    62                              LENGTH    28                              LOCATION  1500                                  5.931
  63 499 498 423 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    63                              LENGTH    30                              LOCATION  1528                                  5.789
  64 500 424 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 289 278 277 276 275 274 273 272 271 268 267
PATH    64                              LENGTH    32                              LOCATION  1558                                  6.090
  65 503 502 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271
 268 267
PATH    65                              LENGTH    34                              LOCATION  1590                                  7.069
  66 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273
 272 271 268 267
PATH    66                              LENGTH    35                              LOCATION  1624                                  7.974
  67 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274
 273 272 271 268 267
PATH    67                              LENGTH    36                              LOCATION  1659                                  8.178
  68 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275
 274 273 272 271 268 267
PATH    68                              LENGTH    37                              LOCATION  1695                                  8.406
  69 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276
 275 274 273 272 271 268 267
PATH    69                              LENGTH    38                              LOCATION  1732                                  7.876
  70 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    70                              LENGTH    38                              LOCATION  1770                                  7.876
  71 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    71                              LENGTH    38                              LOCATION  1808                                  7.876
  72 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    72                              LENGTH    38                              LOCATION  1846                                  7.876
  73 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    73                              LENGTH    38                              LOCATION  1884                                  7.876
  74 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    74                              LENGTH    37                              LOCATION  1922                                  7.706
  75 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276
 275 274 273 272 271 268 267
PATH    75                              LENGTH    36                              LOCATION  1959                                  8.178
  76 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275
 274 273 272 271 268 267
PATH    76                              LENGTH    35                              LOCATION  1995                                  7.296
  77 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 219 318 317 316 315 288 289 278 277 276 275 274
 273 272 271 268 267
PATH    77                              LENGTH    34                              LOCATION  2030                                  7.769
  78 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273
 272 271 268 267
PATH    78                              LENGTH    33                              LOCATION  2064                                  7.234
  79 505 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272
 271 268 267
PATH    79                              LENGTH    35                              LOCATION  2097                                  7.510
  80 506 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276 275 274
 273 272 271 268 267
PATH    80                              LENGTH    37                              LOCATION  2132                                  7.539
  81 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276
 275 274 273 272 271 268 267
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FIGURE 4-12 (Cont.)

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PATH    81                              LENGTH    38                              LOCATION  2169                                  8.489
  82 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277
 276 275 274 273 272 271 268 267
PATH    82                              LENGTH    39                              LOCATION  2207                                  8.716
  83 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    83                              LENGTH    39                              LOCATION  2246                                  8.016
  84 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    84                              LENGTH    39                              LOCATION  2285                                  8.016
  85 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    85                              LENGTH    39                              LOCATION  2324                                  8.016
  86 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    86                              LENGTH    39                              LOCATION  2363                                  8.016
  87 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    87                              LENGTH    39                              LOCATION  2402                                  8.716
  88 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    88                              LENGTH    39                              LOCATION  2441                                  8.716
  89 138 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278
 277 276 275 274 273 272 271 268 267
PATH    89                              LENGTH    40                              LOCATION  2480                                  8.786
  90 137 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 322 321 320 319 318 317 316 315 288 289
 278 277 276 275 274 273 272 271 268 267
PATH    90                              LENGTH    37                              LOCATION  2520                                  8.239
  91 136 135 508 507 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289 278 277 276
 275 274 273 272 271 268 267
PATH    91                              LENGTH    42                              LOCATION  2557                                  8.676
  92 509 510 511 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 288 289 278 277 276 275 274 273 272 271 268 267
PATH    92                              LENGTH    48                              LOCATION  2599                                  9.462
  93 513 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 530 531 517 516 515 438 437 436 435 434
 320 319 318 317 316 315 288 289 278 277 276 275 274 273 272 271 268 267
PATH    93                              LENGTH    41                              LOCATION  2647                                  8.847
  94 140 139 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288
 289 278 277 276 275 274 273 272 271 268 267
PATH    94                              LENGTH    42                              LOCATION  2688                                  9.108
  95 141 140 139 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 288 289 278 277 276 275 274 273 272 271 268 267
PATH    95                              LENGTH    42                              LOCATION  2730                                  9.108
  96 141 140 139 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 288 289 278 277 276 275 274 273 272 271 268 267
PATH    96                              LENGTH    42                              LOCATION  2772                                  9.108
  97 141 140 139 512 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 288 289 278 277 276 275 274 273 272 271 268 267
PATH    97                              LENGTH    40                              LOCATION  2814                                  5.343
  98 514 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 288 289
 278 277 276 275 274 273 272 271 268 267
PATH    98                              LENGTH    44                              LOCATION  2854                                  9.343
 520 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281 280 279 263 262 261 260   2
PATH    99                              LENGTH    41                              LOCATION  2898                                  8.814
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281 280 279 263   3
PATH   100                              LENGTH    38                              LOCATION  2939                                  8.443
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281   4
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FIGURE 4-12 (Cont.)

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PATH   101                              LENGTH    34                              LOCATION  2977                                        7.850
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285   5
PATH   102                              LENGTH    31                              LOCATION  3011                                        7.391
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
   6
PATH   103                              LENGTH    40                              LOCATION  3042                                        8.580
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105 106 107   7
PATH   104                              LENGTH    39                              LOCATION  3082                                        8.409
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105 106   8
PATH   105                              LENGTH    38                              LOCATION  3121                                        8.239
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105   9
PATH   106                              LENGTH    37                              LOCATION  3159                                        8.734
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104  10
PATH   107                              LENGTH    36                              LOCATION  3196                                        7.830
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103  11
PATH   108                              LENGTH    35                              LOCATION  3232                                        8.303
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102  12
PATH   109                              LENGTH    34                              LOCATION  3267                                        7.375
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101  13
PATH   110                              LENGTH    33                              LOCATION  3301                                        7.848
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100  14
PATH   111                              LENGTH    31                              LOCATION  3334                                        7.490
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484 483
  15
PATH   112                              LENGTH    30                              LOCATION  3365                                        7.342
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  16
PATH   113                              LENGTH    30                              LOCATION  3395                                        6.642
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  17
PATH   114                              LENGTH    32                              LOCATION  3425                                        7.969
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  18
PATH   115                              LENGTH    32                              LOCATION  3457                                        7.269
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  19
PATH   116                              LENGTH    32                              LOCATION  3489                                        7.269
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  20
PATH   117                              LENGTH    32                              LOCATION  3521                                        7.269
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  21
PATH   118                              LENGTH    31                              LOCATION  3553                                        7.042
 530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
  22
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FIGURE 4-12 (Cont.)

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PATH   119                              LENGTH    30                              LOCATION  3584                                                
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PATH 149	LENGTH 23	LOCATION 4412	6.376
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 53			
PATH 150	LENGTH 20	LOCATION 4435	5.350
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125 54			
PATH 151	LENGTH 21	LOCATION 4455	5.520
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125 126 55			
PATH 152	LENGTH 19	LOCATION 4476	5.066
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 56			
PATH 153	LENGTH 19	LOCATION 4495	5.066
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 57			
PATH 154	LENGTH 19	LOCATION 4514	5.316
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 58			
PATH 155	LENGTH 20	LOCATION 4533	5.543
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128 59			
PATH 156	LENGTH 20	LOCATION 4553	5.543
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128 60			
PATH 157	LENGTH 20	LOCATION 4573	5.543
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128 61			
PATH 158	LENGTH 19	LOCATION 4593	5.316
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 62			
PATH 159	LENGTH 18	LOCATION 4612	4.895
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 63			
PATH 160	LENGTH 17	LOCATION 4630	4.425
530 531 517 516 515 438 437 436 435 434 431 430 429 426 425 424 64			
PATH 161	LENGTH 15	LOCATION 4647	4.133
530 531 517 516 515 438 437 436 435 434 431 430 429 426 65			
PATH 162	LENGTH 15	LOCATION 4662	4.730
530 531 517 516 515 438 437 436 435 434 431 430 504 129 66			
PATH 163	LENGTH 16	LOCATION 4677	5.634
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 67			
PATH 164	LENGTH 17	LOCATION 4693	5.839
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 68			
PATH 165	LENGTH 18	LOCATION 4710	6.043
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 69			
PATH 166	LENGTH 19	LOCATION 4728	5.570
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 70			
PATH 167	LENGTH 19	LOCATION 4747	5.570
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 71			
PATH 168	LENGTH 19	LOCATION 4766	5.570
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 72			
PATH 169	LENGTH 20	LOCATION 4785	5.741
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 134 73			
PATH 170	LENGTH 19	LOCATION 4805	5.570
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 74			
PATH 171	LENGTH 18	LOCATION 4824	5.343
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 75			
PATH 172	LENGTH 17	LOCATION 4842	5.839
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 131 76			
PATH 173	LENGTH 16	LOCATION 4859	4.934
530 531 517 516 515 438 437 436 435 434 431 430 504 129 130 77			
PATH 174	LENGTH 15	LOCATION 4875	5.430
530 531 517 516 515 438 437 436 435 434 431 430 504 129 78			
PATH 175	LENGTH 14	LOCATION 4890	4.975
530 531 517 516 515 438 437 436 435 434 431 430 504 79			
PATH 176	LENGTH 12	LOCATION 4904	4.698
530 531 517 516 515 438 437 436 435 434 507 80			
PATH 177	LENGTH 14	LOCATION 4916	4.623
530 531 517 516 515 438 437 436 435 434 507 508 135 81			
PATH 178	LENGTH 15	LOCATION 4930	5.551
530 531 517 516 515 438 437 436 435 434 507 508 135 136 82			

FIGURE 4-12 (Cont.)

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PATH   179                                   LENGTH    16                                  LOCATION  4945                                  5.801
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137  83
PATH   180                                   LENGTH    16                                  LOCATION  4961                                  5.101
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137  84
PATH   181                                   LENGTH    17                                  LOCATION  4977                                  5.328
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137 138  85
PATH   182                                   LENGTH    17                                  LOCATION  4994                                  5.328
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137 138  86
PATH   183                                   LENGTH    17                                  LOCATION  5011                                  5.328
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137 138  87
PATH   184                                   LENGTH    17                                  LOCATION  5028                                  6.028
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137 138  88
PATH   185                                   LENGTH    16                                  LOCATION  5045                                  5.801
 530 531 517 516 515 438 437 436 435 434 507 508 135 136 137  89
PATH   186                                   LENGTH    15                                  LOCATION  5061                                  5.551
 530 531 517 516 515 438 437 436 435 434 507 508 135 136  90
PATH   187                                   LENGTH    14                                  LOCATION  5076                                  5.323
 530 531 517 516 515 438 437 436 435 434 507 508 135  91
PATH   188                                   LENGTH    14                                  LOCATION  5090                                  5.039
 530 531 517 516 515 438 437 436 435 434 507 508 509  92
PATH   189                                   LENGTH     7                                  LOCATION  5104                                  3.920
 530 531 517 516 515 512  93
PATH   190                                   LENGTH     8                                  LOCATION  5111                                  4.375
 530 531 517 516 515 512 139  94
PATH   191                                   LENGTH     9                                  LOCATION  5119                                  4.602
 530 531 517 516 515 512 139 140  95
PATH   192                                   LENGTH     9                                  LOCATION  5128                                  4.602
 530 531 517 516 515 512 139 140  96
PATH   193                                   LENGTH    10                                  LOCATION  5137                                  4.863
 530 531 517 516 515 512 139 140 141  97
PATH   194                                   LENGTH     6                                  LOCATION  5147                                  0.742
 530 531 517 516 514  98
PATH   195                                   LENGTH    44                                  LOCATION  5153                                  9.511
 533 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281 280 279 263 262 261 260   2
PATH   196                                   LENGTH    41                                  LOCATION  5197                                  8.982
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281 280 279 263   3
PATH   197                                   LENGTH    38                                  LOCATION  5238                                  8.611
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285 284 283 282 281   4
PATH   198                                   LENGTH    34                                  LOCATION  5276                                  8.018
 536 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
 287 286 285   5
PATH   199                                   LENGTH    31                                  LOCATION  5310                                  7.559
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315
   6
PATH   200                                   LENGTH    40                                  LOCATION  5341                                  8.748
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105 106 107   7
PATH   201                                   LENGTH    39                                  LOCATION  5381                                  8.577
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105 106   8
PATH   202                                   LENGTH    38                                  LOCATION  5420                                  8.407
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104 105   9
PATH   203                                   LENGTH    37                                  LOCATION  5458                                  8.902
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103 104  10
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FIGURE 4-12 (Cont.)

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PATH   204                              LENGTH    36                              LOCATION  5495                                                    7.998
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102 103  11
PATH   205                              LENGTH    35                              LOCATION  5531                                                    8.471
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101 102  12
PATH   206                              LENGTH    34                              LOCATION  5566                                                    7.543
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100 101  13
PATH   207                              LENGTH    33                              LOCATION  5600                                                    8.016
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479
 478 100  14
PATH   208                              LENGTH    31                              LOCATION  5633                                                    7.658
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484 483
  15
PATH   209                              LENGTH    30                              LOCATION  5664                                                    7.510
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  16
PATH   210                              LENGTH    30                              LOCATION  5694                                                    6.810
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  17
PATH   211                              LENGTH    32                              LOCATION  5724                                                    8.137
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  18
PATH   212                              LENGTH    32                              LOCATION  5756                                                    7.437
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  19
PATH   213                              LENGTH    32                              LOCATION  5788                                                    7.437
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  20
PATH   214                              LENGTH    32                              LOCATION  5820                                                    7.437
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
 110  21
PATH   215                              LENGTH    31                              LOCATION  5852                                                    7.210
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109
  22
PATH   216                              LENGTH    30                              LOCATION  5883                                                    6.983
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108  23
PATH   217                              LENGTH    27                              LOCATION  5913                                                    7.055
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 488  24
PATH   218                              LENGTH    26                              LOCATION  5940                                                    7.099
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111  25
PATH   219                              LENGTH    27                              LOCATION  5966                                                    6.570
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112  26
PATH   220                              LENGTH    28                              LOCATION  5993                                                    7.474
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113  27
PATH   221                              LENGTH    29                              LOCATION  6021                                                    6.945
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114  28
PATH   222                              LENGTH    30                              LOCATION  6050                                                    7.115
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115  29
PATH   223                              LENGTH    31                              LOCATION  6080                                                    7.286
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115 116
  30
PATH   224                              LENGTH    31                              LOCATION  6111                                                    7.286
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115 116
  31
PATH   225                              LENGTH    32                              LOCATION  6142                                                    7.513
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115 116
 117  32
PATH   226                              LENGTH    31                              LOCATION  6174                                                    7.286
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115 116
  33
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FIGURE 4-12 (Cont.)

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PATH   227                          LENGTH    30                          LOCATION  6205                                                    7.115
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114 115  34
PATH   228                          LENGTH    29                          LOCATION  6235                                                    6.945
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113 114  35
PATH   229                          LENGTH    28                          LOCATION  6264                                                    7.474
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112 113  36
PATH   230                          LENGTH    27                          LOCATION  6292                                                    7.270
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 256 111 112  37
PATH   231                          LENGTH    24                          LOCATION  6319                                                    6.610
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492  38
PATH   232                          LENGTH    23                          LOCATION  6343                                                    6.544
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118  39
PATH   233                          LENGTH    24                          LOCATION  6366                                                    6.749
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119  40
PATH   234                          LENGTH    25                          LOCATION  6390                                                    6.976
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120  41
PATH   235                          LENGTH    26                          LOCATION  6415                                                    6.481
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121  42
PATH   236                          LENGTH    27                          LOCATION  6441                                                    6.651
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122  43
PATH   237                          LENGTH    28                          LOCATION  6468                                                    6.878
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  44
PATH   238                          LENGTH    29                          LOCATION  6496                                                    7.049
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123 124  45
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FIGURE 4-12 (Cont.)

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PATH   239                              LENGTH    28                                  LOCATION  6525                                  7.578
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  46
PATH   240                              LENGTH    28                                  LOCATION  6553                                  6.878
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  47
PATH   241                              LENGTH    28                                  LOCATION  6581                                  6.878
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  48
PATH   242                              LENGTH    27                                  LOCATION  6609                                  6.651
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122  49
PATH   243                              LENGTH    26                                  LOCATION  6636                                  7.181
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121  50
PATH   244                              LENGTH    25                                  LOCATION  6662                                  6.976
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120  51
PATH   245                              LENGTH    24                                  LOCATION  6687                                  6.049
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119  52
PATH   246                              LENGTH    23                                  LOCATION  6711                                  6.544
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118  53
PATH   247                              LENGTH    20                                  LOCATION  6734                                  5.518
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125  54
PATH   248                              LENGTH    21                                  LOCATION  6754                                  5.688
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125 126  55
PATH   249                              LENGTH    19                                  LOCATION  6775                                  5.233
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 498  56
PATH   250                              LENGTH    19                                  LOCATION  6794                                  5.233
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 498  57
PATH   251                              LENGTH    19                                  LOCATION  6813                                  5.483
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 127  58
PATH   252                              LENGTH    20                                  LOCATION  6832                                  5.711
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  59
PATH   253                              LENGTH    20                                  LOCATION  6852                                  5.711
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  60
PATH   254                              LENGTH    20                                  LOCATION  6872                                  5.711
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  61
PATH   255                              LENGTH    19                                  LOCATION  6892                                  5.483
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499 127  62
PATH   256                              LENGTH    18                                  LOCATION  6911                                  5.063
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424 499  63
PATH   257                              LENGTH    17                                  LOCATION  6929                                  4.593
 538 537 536 535 515 438 437 436 435 434 431 430 429 426 425 424  64
PATH   258                              LENGTH    15                                  LOCATION  6946                                  4.306
 538 537 536 535 515 438 437 436 435 434 431 430 429 502  65
PATH   259                              LENGTH    15                                  LOCATION  6961                                  4.898
 538 537 536 535 515 438 437 436 435 434 431 430 504 129  66
PATH   260                              LENGTH    16                                  LOCATION  6976                                  5.802
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130  67
PATH   261                              LENGTH    17                                  LOCATION  6992                                  6.007
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131  68
PATH   262                              LENGTH    18                                  LOCATION  7009                                  6.211
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132  69
PATH   263                              LENGTH    19                                  LOCATION  7027                                  5.738
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132 133  70
PATH   264                              LENGTH    19                                  LOCATION  7046                                  5.738
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132 133  71
PATH   265                              LENGTH    19                                  LOCATION  7065                                  5.738
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132 133  72
PATH   266                              LENGTH    20                                  LOCATION  7084                                  5.909
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132 133 134  73
PATH   267                              LENGTH    19                                  LOCATION  7104                                  5.738
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132 133  74
PATH   268                              LENGTH    18                                  LOCATION  7123                                  5.511
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131 132  75
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FIGURE 4-12 (Cont.)

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PATH   269                                  LENGTH    17
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130 131  76
PATH   270                                  LENGTH    16
 538 537 536 535 515 438 437 436 435 434 431 430 504 129 130  77
PATH   271                                  LENGTH    15
 538 537 536 535 515 438 437 436 435 434 431 430 504 129  78
PATH   272                                  LENGTH    14
 538 537 536 535 515 438 437 436 435 434 431 430 504  79
PATH   273                                  LENGTH    12
 538 537 536 535 515 438 437 436 435 434 507  80
PATH   274                                  LENGTH    14
 538 537 536 535 515 438 437 436 435 434 507 508 135  81
PATH   275                                  LENGTH    15
 538 537 536 535 515 438 437 436 435 434 507 508 135 136  82
PATH   276                                  LENGTH    16
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137  83
PATH   277                                  LENGTH    16
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137  84
PATH   278                                  LENGTH    17
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137 138  85
PATH   279                                  LENGTH    17
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137 138  86
PATH   280                                  LENGTH    17
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137 138  87
PATH   281                                  LENGTH    17
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137 138  88
PATH   282                                  LENGTH    16
 538 537 536 535 515 438 437 436 435 434 507 508 135 136 137  89
PATH   283                                  LENGTH    15
 538 537 536 535 515 438 437 436 435 434 507 508 135 136  90
PATH   284                                  LENGTH    14
 538 537 536 535 515 438 437 436 435 434 507 508 135  91
PATH   285                                  LENGTH    14
 538 537 536 535 515 438 437 436 435 434 507 508 509  92
PATH   286                                  LENGTH     7
 538 537 536 535 515 512  93
PATH   287                                  LENGTH     8
 538 537 536 535 515 512 139  94
PATH   288                                  LENGTH     9
 538 537 536 535 515 512 139 140  95
PATH   289                                  LENGTH     9
 538 537 536 535 515 512 139 140  96
PATH   290                                  LENGTH    10
 538 537 536 535 515 512 139 140 141  97
PATH   291                                  LENGTH     6
 538 537 536 535 514  98
PATH   292                                  LENGTH    18
 538 537 534 533 532 521 522 523 524 525 526 613 614 615 616 612 611   1
PATH   293                                  LENGTH    43
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287
 286 285 284 283 282 281 280 279 263 262 261 260   2
PATH   294                                  LENGTH    40
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287
 286 285 284 283 282 281 280 279 263   3
PATH   295                                  LENGTH    37
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287
 286 285 284 283 282 281   4
PATH   296                                  LENGTH    33
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287
 286 285   5
PATH   297                                  LENGTH    30
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315   6
PATH   298                                  LENGTH    39
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102 103 104 105 106 107   7
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LOCATION  7141                                  6.007
LOCATION  7158                                  5.102
LOCATION  7174                                  5.598
LOCATION  7189                                  5.143
LOCATION  7203                                  4.866
LOCATION  7215                                  4.791
LOCATION  7229                                  5.719
LOCATION  7244                                  5.969
LOCATION  7260                                  5.269
LOCATION  7276                                  5.496
LOCATION  7293                                  5.496
LOCATION  7310                                  5.496
LOCATION  7327                                  6.196
LOCATION  7344                                  5.969
LOCATION  7360                                  5.719
LOCATION  7375                                  5.491
LOCATION  7389                                  5.207
LOCATION  7403                                  4.088
LOCATION  7410                                  4.543
LOCATION  7418                                  4.770
LOCATION  7427                                  4.770
LOCATION  7436                                  5.031
LOCATION  7446                                  0.910
LOCATION  7452                                  ***********
LOCATION  7470                                  9.333
LOCATION  7513                                  8.804
LOCATION  7553                                  8.433
LOCATION  7590                                  7.841
LOCATION  7623                                  7.381
LOCATION  7653                                  8.570
```

FIGURE 4-12 (Cont.)

```
PATH   299                          LENGTH    38                          LOCATION  7692                                                  8.399
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102 103 104 105 106   8
PATH   300                          LENGTH    37                          LOCATION  7730                                                  8.229
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102 103 104 105   9
PATH   301                          LENGTH    36                          LOCATION  7767                                                  8.724
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102 103 104  10
PATH   302                          LENGTH    35                          LOCATION  7803                                                  7.820
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102 103  11
PATH   303                          LENGTH    34                          LOCATION  7838                                                  8.293
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101 102  12
PATH   304                          LENGTH    33                          LOCATION  7872                                                  7.365
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100 101  13
PATH   305                          LENGTH    32                          LOCATION  7905                                                  7.838
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478
 100  14
PATH   306                          LENGTH    30                          LOCATION  7937                                                  7.480
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484 483  15
PATH   307                          LENGTH    29                          LOCATION  7967                                                  7.332
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  16
PATH   308                          LENGTH    29                          LOCATION  7996                                                  6.632
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 484  17
PATH   309                          LENGTH    31                          LOCATION  8025                                                  7.959
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109 110
  18
PATH   310                          LENGTH    31                          LOCATION  8056                                                  7.259
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109 110
  19
PATH   311                          LENGTH    31                          LOCATION  8087                                                  7.259
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109 110
  20
PATH   312                          LENGTH    31                          LOCATION  8118                                                  7.259
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109 110
  21
PATH   313                          LENGTH    30                          LOCATION  8149                                                  7.032
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108 109  22
PATH   314                          LENGTH    29                          LOCATION  8179                                                  6.805
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 486 108  23
PATH   315                          LENGTH    26                          LOCATION  8208                                                  6.877
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 488  24
PATH   316                          LENGTH    25                          LOCATION  8234                                                  6.922
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111  25
PATH   317                          LENGTH    26                          LOCATION  8259                                                  6.392
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112  26
PATH   318                          LENGTH    27                          LOCATION  8285                                                  7.272
 519 517 516 515 438 437 436 435 434 431 430 429 428 425 334 333 332 331 330 324 323 492 491 111 112 113  27
PATH   319                          LENGTH    28                          LOCATION  8312                                                  6.767
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114  28
PATH   320                          LENGTH    29                          LOCATION  8340                                                  6.938
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115  29
PATH   321                          LENGTH    30                          LOCATION  8369                                                  7.108
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115 116  30
PATH   322                          LENGTH    30                          LOCATION  8399                                                  7.108
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115 116  31
PATH   323                          LENGTH    31                          LOCATION  8429                                                  7.335
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115 116 117
  32
```

FIGURE 4-12 (Cont.)

PATH 324	LENGTH 30	LOCATION 8460		7.108
519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115 116 33				
PATH 325	LENGTH 29	LOCATION 8490		6.938
519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 115 34				
PATH 326	LENGTH 28	LOCATION 8519		6.767
519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 114 35				
PATH 327	LENGTH 27	LOCATION 8547		7.297
519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 113 36				
PATH 328	LENGTH 26	LOCATION 8574		7.092
519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492 491 111 112 37				

FIGURE 4-12 (Cont.)

```
PATH   329                          LENGTH    23                          LOCATION  8600                          6.433
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 492  38
PATH   330                          LENGTH    22                          LOCATION  8623                          6.366
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118  39
PATH   331                          LENGTH    23                          LOCATION  8645                          6.571
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119  40
PATH   332                          LENGTH    24                          LOCATION  8668                          6.798
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120  41
PATH   333                          LENGTH    25                          LOCATION  8692                          6.303
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121  42
PATH   334                          LENGTH    26                          LOCATION  8717                          6.473
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122  43
PATH   335                          LENGTH    27                          LOCATION  8743                          6.700
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  44
PATH   336                          LENGTH    28                          LOCATION  8770                          6.871
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123 124  45
PATH   337                          LENGTH    27                          LOCATION  8798                          7.400
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  46
PATH   338                          LENGTH    27                          LOCATION  8825                          6.700
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  47
PATH   339                          LENGTH    27                          LOCATION  8852                          6.700
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122 123  48
PATH   340                          LENGTH    26                          LOCATION  8879                          6.473
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121 122  49
PATH   341                          LENGTH    25                          LOCATION  8905                          7.003
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120 121  50
PATH   342                          LENGTH    24                          LOCATION  8930                          6.798
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119 120  51
PATH   343                          LENGTH    23                          LOCATION  8954                          5.871
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118 119  52
PATH   344                          LENGTH    22                          LOCATION  8977                          6.366
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 495 118  53
PATH   345                          LENGTH    19                          LOCATION  8999                          5.340
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125  54
PATH   346                          LENGTH    20                          LOCATION  9018                          5.510
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498 125 126  55
PATH   347                          LENGTH    18                          LOCATION  9038                          5.056
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498  56
PATH   348                          LENGTH    18                          LOCATION  9056                          5.056
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 498  57
PATH   349                          LENGTH    18                          LOCATION  9074                          5.306
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127  58
PATH   350                          LENGTH    19                          LOCATION  9092                          5.533
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  59
PATH   351                          LENGTH    19                          LOCATION  9111                          5.533
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  60
PATH   352                          LENGTH    19                          LOCATION  9130                          5.533
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127 128  61
PATH   353                          LENGTH    18                          LOCATION  9149                          5.306
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499 127  62
PATH   354                          LENGTH    17                          LOCATION  9167                          4.885
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424 499  63
PATH   355                          LENGTH    16                          LOCATION  9184                          4.415
 519 517 516 515 438 437 436 435 434 431 430 429 426 425 424  64
PATH   356                          LENGTH    14                          LOCATION  9200                          4.128
 519 517 516 515 438 437 436 435 434 431 430 429 502  65
PATH   357                          LENGTH    14                          LOCATION  9214                          4.720
 519 517 516 515 438 437 436 435 434 431 430 504 129  66
PATH   358                          LENGTH    15                          LOCATION  9228                          5.624
 519 517 516 515 438 437 436 435 434 431 430 504 129 130  67
```

FIGURE 4-12 (Cont.)

```
PATH   359                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131  68
PATH   360                                    LENGTH    17
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132  69
PATH   361                                    LENGTH    18
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133  70
PATH   362                                    LENGTH    18
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133  71
PATH   363                                    LENGTH    18
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133  72
PATH   364                                    LENGTH    19
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133 134  73
PATH   365                                    LENGTH    18
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132 133  74
PATH   366                                    LENGTH    17
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131 132  75
PATH   367                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 431 430 504 129 130 131  76
PATH   368                                    LENGTH    15
 519 517 516 515 438 437 436 435 434 431 430 504 129 130  77
PATH   369                                    LENGTH    14
 519 517 516 515 438 437 436 435 434 431 430 504 129  78
PATH   370                                    LENGTH    13
 519 517 516 515 438 437 436 435 434 431 430 504  79
PATH   371                                    LENGTH    11
 519 517 516 515 438 437 436 435 434 507  80
PATH   372                                    LENGTH    13
 519 517 516 515 438 437 436 435 434 507 508 135  81
PATH   373                                    LENGTH    14
 519 517 516 515 438 437 436 435 434 507 508 135 136  82
PATH   374                                    LENGTH    15
 519 517 516 515 438 437 436 435 434 507 508 135 136 137  83
PATH   375                                    LENGTH    15
 519 517 516 515 438 437 436 435 434 507 508 135 136 137  84
PATH   376                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 507 508 135 136 137 138  85
PATH   377                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 507 508 135 136 137 138  86
PATH   378                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 507 508 135 136 137 138  87
PATH   379                                    LENGTH    16
 519 517 516 515 438 437 436 435 434 507 508 135 136 137 138  88
PATH   380                                    LENGTH    15
 519 517 516 515 438 437 436 435 434 507 508 135 136 137  89
PATH   381                                    LENGTH    14
 519 517 516 515 438 437 436 435 434 507 508 135 136  90
PATH   382                                    LENGTH    13
 519 517 516 515 438 437 436 435 434 507 508 135  91
PATH   383                                    LENGTH    13
 519 517 516 515 438 437 436 435 434 507 508 509  92
PATH   384                                    LENGTH     6
 519 517 516 515 512  93
PATH   385                                    LENGTH     7
 519 517 516 515 512 139  94
PATH   386                                    LENGTH     8
 519 517 516 515 512 139 140  95
PATH   387                                    LENGTH     8
 519 517 516 515 512 139 140  96
PATH   388                                    LENGTH     9
 519 517 516 515 512 139 140 141  97
```

```
LOCATION  9243    5.829
LOCATION  9259    6.033
LOCATION  9276    5.561
LOCATION  9294    5.561
LOCATION  9312    5.561
LOCATION  9330    5.731
LOCATION  9349    5.561
LOCATION  9367    5.333
LOCATION  9384    5.829
LOCATION  9400    4.924
LOCATION  9415    5.420
LOCATION  9429    4.965
LOCATION  9442    4.688
LOCATION  9453    4.613
LOCATION  9466    5.541
LOCATION  9480    5.791
LOCATION  9495    5.091
LOCATION  9510    5.318
LOCATION  9526    5.318
LOCATION  9542    5.318
LOCATION  9558    6.018
LOCATION  9574    5.791
LOCATION  9589    5.541
LOCATION  9603    5.313
LOCATION  9616    5.029
LOCATION  9629    3.910
LOCATION  9635    4.365
LOCATION  9642    4.592
LOCATION  9650    4.592
LOCATION  9658    4.853
```

FIGURE 4-12 (Cont.)

```
PATH   389                              LENGTH     5                          LOCATION  9667                                  0.732
 519 517 516 514  98
PATH   390                              LENGTH    14                          LOCATION  9672                                  ***********
 519 521 522 523 524 525 526 613 614 615 616 612 611   1
PATH   391                              LENGTH    47                          LOCATION  9686                                  9.884
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301
 300 289 288 287 286 285 284 283 282 281 280 279 263 262 261 260   2
PATH   392                              LENGTH    44                          LOCATION  9733                                  9.356
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301
 300 289 288 287 286 285 284 283 282 281 280 279 263   3
PATH   393                              LENGTH    41                          LOCATION  9777                                  8.985
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301
 300 289 288 287 286 285 284 283 282 281   4
PATH   394                              LENGTH    37                          LOCATION  9818                                  8.392
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301
 300 289 288 287 286 285   5
PATH   395                              LENGTH    34                          LOCATION  9855                                  7.933
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301
 300 289 288   6
PATH   396                              LENGTH    44                          LOCATION  9889                                  9.447
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH   397                              LENGTH    43                          LOCATION  9933                                  9.276
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102 103 104 105 106   8
PATH   398                              LENGTH    42                          LOCATION  9976                                  9.106
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102 103 104 105   9
PATH   399                              LENGTH    41                          LOCATION 10018                                  9.601
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102 103 104  10
PATH   400                              LENGTH    40                          LOCATION 10059                                  8.697
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102 103  11
PATH   401                              LENGTH    39                          LOCATION 10099                                  9.170
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101 102  12
PATH   402                              LENGTH    38                          LOCATION 10138                                  8.242
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 478 100 101  13
PATH   403                              LENGTH    37                          LOCATION 10176                                  8.735
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 480 479 479 100  14
PATH   404                              LENGTH    35                          LOCATION 10213                                  8.357
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 484 483  15
PATH   405                              LENGTH    34                          LOCATION 10248                                  8.209
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 484  16
PATH   406                              LENGTH    34                          LOCATION 10282                                  7.509
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 481 484  17
PATH   407                              LENGTH    36                          LOCATION 10316                                  8.836
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108 109 110  18
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FIGURE 4-12 (Cont.)

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PATH   408                              LENGTH    36                              LOCATION 10352                                                  8.136
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108 109 110  19
PATH   409                              LENGTH    36                              LOCATION 10388                                                  8.136
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108 109 110  20
PATH   410                              LENGTH    36                              LOCATION 10424                                                  8.136
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108 109 110  21
PATH   411                              LENGTH    35                              LOCATION 10460                                                  7.909
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108 109  22
PATH   412                              LENGTH    34                              LOCATION 10495                                                  7.682
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319
 318 486 108  23
PATH   413                              LENGTH    31                              LOCATION 10529                                                  7.754
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 498
  24
PATH   414                              LENGTH    30                              LOCATION 10560                                                  7.799
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH   415                              LENGTH    31                              LOCATION 10590                                                  7.269
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
  26
PATH   416                              LENGTH    31                              LOCATION 10621                                                  7.969
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
  37
PATH   417                              LENGTH    32                              LOCATION 10652                                                  8.174
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113  27
PATH   418                              LENGTH    32                              LOCATION 10684                                                  8.174
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113  36
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FIGURE 4-12 (Cont.)

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PATH   419                          LENGTH    33                          LOCATION 10716                                                  7.644
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114  28
PATH   420                          LENGTH    33                          LOCATION 10749                                                  7.644
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114  35
PATH   421                          LENGTH    34                          LOCATION 10782                                                  7.815
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115  29
PATH   422                          LENGTH    34                          LOCATION 10816                                                  7.815
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115  34
PATH   423                          LENGTH    35                          LOCATION 10850                                                  7.985
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115 116  30
PATH   424                          LENGTH    35                          LOCATION 10885                                                  7.985
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115 116  31
PATH   425                          LENGTH    35                          LOCATION 10920                                                  7.985
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115 116  33
PATH   426                          LENGTH    36                          LOCATION 10955                                                  8.212
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112
 113 114 115 116 117  32
PATH   427                          LENGTH    28                          LOCATION 10991                                                  7.309
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH   428                          LENGTH    27                          LOCATION 11019                                                  7.243
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118  39
PATH   429                          LENGTH    27                          LOCATION 11046                                                  7.243
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118  53
PATH   430                          LENGTH    28                          LOCATION 11073                                                  7.448
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH   431                          LENGTH    28                          LOCATION 11101                                                  6.748
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH   432                          LENGTH    29                          LOCATION 11129                                                  7.675
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH   433                          LENGTH    29                          LOCATION 11158                                                  7.675
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH   434                          LENGTH    30                          LOCATION 11187                                                  7.180
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH   435                          LENGTH    30                          LOCATION 11217                                                  7.880
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH   436                          LENGTH    31                          LOCATION 11247                                                  7.350
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
  43
PATH   437                          LENGTH    31                          LOCATION 11278                                                  7.350
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
  49
PATH   438                          LENGTH    32                          LOCATION 11309                                                  7.577
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
 123  44
PATH   439                          LENGTH    32                          LOCATION 11341                                                  7.577
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
 123  48
PATH   440                          LENGTH    32                          LOCATION 11373                                                  7.577
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
 123  47
PATH   441                          LENGTH    32                          LOCATION 11405                                                  8.277
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
 123  46
PATH   442                          LENGTH    33                          LOCATION 11437                                                  7.748
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122
 123 124  45
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FIGURE 4-12 (Cont.)

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PATH   443                          LENGTH    25                          LOCATION 11470                                    6.234
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 498 125 126  55
PATH   444                          LENGTH    23                          LOCATION 11495                                    6.029
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 127  58
PATH   445                          LENGTH    24                          LOCATION 11518                                    6.257
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128  59
PATH   446                          LENGTH    24                          LOCATION 11542                                    6.257
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128  60
PATH   447                          LENGTH    24                          LOCATION 11566                                    6.257
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128  61
PATH   448                          LENGTH    23                          LOCATION 11590                                    6.029
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 127  62
```

FIGURE 4-12 (Cont.)

```
PATH   449                                    LENGTH    24                                    LOCATION 11613   6.054
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 498 125  54
PATH   450                                    LENGTH    23                                    LOCATION 11637   5.779
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 498  56
PATH   451                                    LENGTH    23                                    LOCATION 11660   5.779
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499 498  57
PATH   452                                    LENGTH    22                                    LOCATION 11683   5.609
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424 499  63
PATH   453                                    LENGTH    21                                    LOCATION 11705   5.139
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 426 425 424  54
PATH   454                                    LENGTH    19                                    LOCATION 11726   4.852
 391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 427 428 502  65
PATH   455                                    LENGTH    17                                    LOCATION 11745   5.625
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504  79
PATH   456                                    LENGTH    18                                    LOCATION 11762   5.379
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129  66
PATH   457                                    LENGTH    18                                    LOCATION 11780   6.079
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129  78
PATH   458                                    LENGTH    19                                    LOCATION 11798   6.284
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130  67
PATH   459                                    LENGTH    19                                    LOCATION 11817   5.584
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130  77
PATH   460                                    LENGTH    20                                    LOCATION 11836   6.488
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131  68
PATH   461                                    LENGTH    20                                    LOCATION 11856   6.488
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131  76
PATH   462                                    LENGTH    21                                    LOCATION 11876   6.693
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132  69
PATH   463                                    LENGTH    21                                    LOCATION 11897   5.993
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132  75
PATH   464                                    LENGTH    22                                    LOCATION 11918   6.220
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132 133  70
PATH   465                                    LENGTH    22                                    LOCATION 11940   6.220
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132 133  71
PATH   466                                    LENGTH    22                                    LOCATION 11962   6.220
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132 133  72
PATH   467                                    LENGTH    22                                    LOCATION 11984   6.220
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132 133  74
PATH   468                                    LENGTH    23                                    LOCATION 12006   6.391
 391 392 393 394 395 398 399 400 403 404 405 432 433 431 430 504 129 130 131 132 133 134  73
PATH   469                                    LENGTH    15                                    LOCATION 12029   5.348
 391 392 393 394 395 398 399 400 403 404 405 432 433 507  80
PATH   470                                    LENGTH    19                                    LOCATION 12044   5.488
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135  81
PATH   471                                    LENGTH    19                                    LOCATION 12063   6.188
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135  91
PATH   472                                    LENGTH    20                                    LOCATION 12082   6.415
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136  82
PATH   473                                    LENGTH    20                                    LOCATION 12102   6.415
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136  90
PATH   474                                    LENGTH    21                                    LOCATION 12122   6.665
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137  83
PATH   475                                    LENGTH    21                                    LOCATION 12143   5.965
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137  84
PATH   476                                    LENGTH    21                                    LOCATION 12164   6.665
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137  89
PATH   477                                    LENGTH    22                                    LOCATION 12185   6.192
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137 138  85
PATH   478                                    LENGTH    22                                    LOCATION 12207   6.192
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137 138  86
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FIGURE 4-12 (Cont.)

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PATH   479                              LENGTH    22                                  LOCATION 12229                                    6.192
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137 138  87
PATH   480                              LENGTH    22                                  LOCATION 12251                                    6.892
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136 137 138  88
PATH   481                              LENGTH    12                                  LOCATION 12273                                    4.785
 391 392 439 440 441 442 443 444 446 445 512  93
PATH   482                              LENGTH    13                                  LOCATION 12285                                    5.239
 391 392 439 440 441 442 443 444 446 445 512 139  94
PATH   483                              LENGTH    14                                  LOCATION 12298                                    5.467
 391 392 439 440 441 442 443 444 446 445 512 139 140  95
PATH   484                              LENGTH    14                                  LOCATION 12312                                    5.467
 391 392 439 440 441 442 443 444 446 445 512 139 140  96
PATH   485                              LENGTH    15                                  LOCATION 12326                                    5.728
 391 392 439 440 441 442 443 444 446 445 512 139 140 141  97
PATH   486                              LENGTH    13                                  LOCATION 12341                                    1.928
 391 392 439 440 441 442 443 444 446 445 512 513  98
PATH   487                              LENGTH    19                                  LOCATION 12354                                    5.904
 391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 509  92
PATH   488                              LENGTH    41                                  LOCATION 12373                                    8.896
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285
 284 283 282 281 280 279 263 262 261 260   2
PATH   489                              LENGTH    38                                  LOCATION 12414                                    8.368
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285
 284 283 282 281 280 279 263   3
PATH   490                              LENGTH    35                                  LOCATION 12452                                    8.002
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 324 313 312 305 304 303 302 301 300 289 288 287 286 285
 284 283 282 281   4
PATH   491                              LENGTH    31                                  LOCATION 12487                                    7.404
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285
   5
PATH   492                              LENGTH    28                                  LOCATION 12518                                    6.945
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH   493                              LENGTH    38                                  LOCATION 12546                                    8.459
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102 103 104 105 106 107   7
PATH   494                              LENGTH    37                                  LOCATION 12584                                    8.288
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102 103 104 105 106   8
PATH   495                              LENGTH    36                                  LOCATION 12621                                    8.118
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102 103 104 105   9
PATH   496                              LENGTH    35                                  LOCATION 12657                                    8.613
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102 103 104  10
PATH   497                              LENGTH    34                                  LOCATION 12692                                    7.709
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102 103  11
PATH   498                              LENGTH    33                                  LOCATION 12726                                    8.182
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101 102  12
PATH   499                              LENGTH    32                                  LOCATION 12759                                    7.254
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
 101  13
PATH   500                              LENGTH    31                                  LOCATION 12791                                    7.727
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100
  14
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FIGURE 4-12 (Cont.)

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PATH   501                              LENGTH    29                              LOCATION 12822                                                  7.369
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH   502                              LENGTH    28                              LOCATION 12851                                                  7.221
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH   503                              LENGTH    28                              LOCATION 12879                                                  6.521
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH   504                              LENGTH    30                              LOCATION 12907                                                  7.848
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH   505                              LENGTH    30                              LOCATION 12937                                                  7.148
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH   506                              LENGTH    30                              LOCATION 12967                                                  7.148
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH   507                              LENGTH    30                              LOCATION 12997                                                  7.148
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH   508                              LENGTH    29                              LOCATION 13027                                                  6.921
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
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FIGURE 4-12 (Cont.)

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PATH   509                              LENGTH    28                                  LOCATION 13056                                                  6.693
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH   510                              LENGTH    25                                  LOCATION 13084                                                  6.766
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH   511                              LENGTH    24                                  LOCATION 13109                                                  6.810
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH   512                              LENGTH    25                                  LOCATION 13133                                                  6.281
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH   513                              LENGTH    26                                  LOCATION 13158                                                  7.185
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH   514                              LENGTH    27                                  LOCATION 13184                                                  6.656
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH   515                              LENGTH    28                                  LOCATION 13211                                                  6.826
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH   516                              LENGTH    29                                  LOCATION 13239                                                  6.997
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH   517                              LENGTH    29                                  LOCATION 13268                                                  6.997
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
PATH   518                              LENGTH    30                                  LOCATION 13297                                                  7.224
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117  32
PATH   519                              LENGTH    29                                  LOCATION 13327                                                  6.997
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH   520                              LENGTH    28                                  LOCATION 13356                                                  6.826
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH   521                              LENGTH    27                                  LOCATION 13384                                                  6.656
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH   522                              LENGTH    26                                  LOCATION 13411                                                  7.185
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH   523                              LENGTH    25                                  LOCATION 13437                                                  6.981
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH   524                              LENGTH    22                                  LOCATION 13462                                                  6.321
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH   525                              LENGTH    21                                  LOCATION 13484                                                  6.255
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118  39
PATH   526                              LENGTH    22                                  LOCATION 13505                                                  6.460
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH   527                              LENGTH    23                                  LOCATION 13527                                                  6.687
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH   528                              LENGTH    24                                  LOCATION 13550                                                  6.191
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH   529                              LENGTH    25                                  LOCATION 13574                                                  6.362
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH   530                              LENGTH    26                                  LOCATION 13599                                                  6.589
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH   531                              LENGTH    27                                  LOCATION 13625                                                  6.760
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
PATH   532                              LENGTH    26                                  LOCATION 13652                                                  7.289
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  46
PATH   533                              LENGTH    26                                  LOCATION 13678                                                  6.589
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH   534                              LENGTH    26                                  LOCATION 13704                                                  6.589
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH   535                              LENGTH    25                                  LOCATION 13730                                                  6.362
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
PATH   536                              LENGTH    24                                  LOCATION 13755                                                  6.891
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH   537                              LENGTH    23                                  LOCATION 13779                                                  6.687
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH   538                              LENGTH    22                                  LOCATION 13802                                                  5.760
 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  52
```

FIGURE 4-12 (Cont.)

PATH 539 LENGTH 21 401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 53	LOCATION 13824	6.255
PATH 540 LENGTH 18 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 498 125 54	LOCATION 13845	5.075
PATH 541 LENGTH 19 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 498 125 126 55	LOCATION 13863	5.246
PATH 542 LENGTH 17 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 498 56	LOCATION 13882	4.791
PATH 543 LENGTH 17 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 498 57	LOCATION 13899	4.791
PATH 544 LENGTH 17 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 127 58	LOCATION 13916	5.041
PATH 545 LENGTH 18 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128 59	LOCATION 13933	5.269
PATH 546 LENGTH 18 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128 60	LOCATION 13951	5.269
PATH 547 LENGTH 18 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 127 128 61	LOCATION 13969	5.269
PATH 548 LENGTH 17 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 127 62	LOCATION 13987	5.041
PATH 549 LENGTH 16 401 402 403 404 405 410 411 412 413 427 428 426 425 424 499 63	LOCATION 14004	4.621
PATH 550 LENGTH 15 401 402 403 404 405 410 411 412 413 427 428 426 425 424 64	LOCATION 14020	4.150
PATH 551 LENGTH 13 401 402 403 404 405 410 411 412 413 427 428 502 65	LOCATION 14035	3.864
PATH 552 LENGTH 12 401 402 403 404 405 432 433 431 430 504 129 66	LOCATION 14048	4.391
PATH 553 LENGTH 13 401 402 403 404 405 432 433 431 430 504 129 130 67	LOCATION 14060	5.296
PATH 554 LENGTH 14 401 402 403 404 405 432 433 431 430 504 129 130 131 68	LOCATION 14073	5.500
PATH 555 LENGTH 15 401 402 403 404 405 432 433 431 430 504 129 130 131 132 69	LOCATION 14087	5.705
PATH 556 LENGTH 16 401 402 403 404 405 432 433 431 430 504 129 130 131 132 133 70	LOCATION 14102	5.232
PATH 557 LENGTH 16 401 402 403 404 405 432 433 431 430 504 129 130 131 132 133 71	LOCATION 14118	5.232
PATH 558 LENGTH 16 401 402 403 404 405 432 433 431 430 504 129 130 131 132 133 72	LOCATION 14134	5.232
PATH 559 LENGTH 17 401 402 403 404 405 432 433 431 430 504 129 130 131 132 133 134 73	LOCATION 14150	5.402
PATH 560 LENGTH 16 401 402 403 404 405 432 433 431 430 504 129 130 131 132 133 74	LOCATION 14167	5.232
PATH 561 LENGTH 15 401 402 403 404 405 432 433 431 430 504 129 130 131 132 75	LOCATION 14183	5.005
PATH 562 LENGTH 14 401 402 403 404 405 432 433 431 430 504 129 130 131 76	LOCATION 14198	5.500
PATH 563 LENGTH 13 401 402 403 404 405 432 433 431 430 504 129 130 77	LOCATION 14212	4.596
PATH 564 LENGTH 12 401 402 403 404 405 432 433 431 430 504 129 78	LOCATION 14225	5.091
PATH 565 LENGTH 11 401 402 403 404 405 432 433 431 430 504 79	LOCATION 14237	4.637
PATH 566 LENGTH 9 401 402 403 404 405 432 433 507 80	LOCATION 14248	4.360
PATH 567 LENGTH 11 401 402 403 404 405 432 433 507 508 135 81	LOCATION 14257	4.285
PATH 568 LENGTH 12 401 402 403 404 405 432 433 507 508 135 136 82	LOCATION 14268	5.212

FIGURE 4-12 (Cont.)

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PATH   569                              LENGTH    13                          LOCATION 14280                                  5.462
 401 402 403 404 405 432 433 507 508 135 136 137  83
PATH   570                              LENGTH    13                          LOCATION 14293                                  4.762
 401 402 403 404 405 432 433 507 508 135 136 137  84
PATH   571                              LENGTH    14                          LOCATION 14306                                  4.989
 401 402 403 404 405 432 433 507 508 135 136 137 138  85
PATH   572                              LENGTH    14                          LOCATION 14320                                  4.989
 401 402 403 404 405 432 433 507 508 135 136 137 138  86
PATH   573                              LENGTH    14                          LOCATION 14334                                  4.989
 401 402 403 404 405 432 433 507 508 135 136 137 138  87
PATH   574                              LENGTH    14                          LOCATION 14348                                  5.689
 401 402 403 404 405 432 433 507 508 135 136 137 138  88
PATH   575                              LENGTH    13                          LOCATION 14362                                  5.462
 401 402 403 404 405 432 433 507 508 135 136 137  89
PATH   576                              LENGTH    12                          LOCATION 14375                                  5.212
 401 402 403 404 405 432 433 507 508 135 136  90
PATH   577                              LENGTH    11                          LOCATION 14387                                  4.985
 401 402 403 404 405 432 433 507 508 135  91
PATH   578                              LENGTH    11                          LOCATION 14398                                  4.701
 401 402 403 404 405 432 433 507 508 509  92
PATH   579                              LENGTH    13                          LOCATION 14409                                  5.042
 401 402 403 404 405 432 433 507 508 509 510 511  93
PATH   580                              LENGTH    14                          LOCATION 14422                                  5.496
 401 402 403 404 405 432 433 507 508 509 510 511 139  94
PATH   581                              LENGTH    15                          LOCATION 14436                                  5.724
 401 402 403 404 405 432 433 507 508 509 510 511 139 140  95
PATH   582                              LENGTH    15                          LOCATION 14451                                  5.724
 401 402 403 404 405 432 433 507 508 509 510 511 139 140  96
PATH   583                              LENGTH    16                          LOCATION 14466                                  5.985
 401 402 403 404 405 432 433 507 508 509 510 511 139 140 141  97
PATH   584                              LENGTH    15                          LOCATION 14482                                  2.185
 401 402 403 404 405 432 433 507 508 509 510 511 513  98   0
PATH   585                              LENGTH    38                          LOCATION 14497                                  8.392
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282
 281 280 279 263 262 261 260   2
PATH   586                              LENGTH    35                          LOCATION 14535                                  7.864
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282
 281 280 279 263   3
PATH   587                              LENGTH    32                          LOCATION 14570                                  7.493
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282
 281   4
PATH   588                              LENGTH    28                          LOCATION 14602                                  6.900
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH   589                              LENGTH    25                          LOCATION 14630                                  6.441
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH   590                              LENGTH    35                          LOCATION 14655                                  7.955
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103
 104 105 106 107   7
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FIGURE 4-12 (Cont.)

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PATH   591                          LENGTH    34                          LOCATION 14690                                                    7.784
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103
 104 105 106   8
PATH   592                          LENGTH    33                          LOCATION 14724                                                    7.614
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103
 104 105   9
PATH   593                          LENGTH    32                          LOCATION 14757                                                    8.109
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103
 104  10
PATH   594                          LENGTH    31                          LOCATION 14789                                                    7.205
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103
  11
PATH   595                          LENGTH    30                          LOCATION 14820                                                    7.678
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
PATH   596                          LENGTH    29                          LOCATION 14850                                                    6.750
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH   597                          LENGTH    28                          LOCATION 14879                                                    7.223
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH   598                          LENGTH    26                          LOCATION 14907                                                    6.865
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
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FIGURE 4-12 (Cont.)

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PATH   599                              LENGTH    25                                  LOCATION 14933                                                    6.717
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH   600                              LENGTH    25                                  LOCATION 14958                                                    6.017
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH   601                              LENGTH    27                                  LOCATION 14983                                                    7.344
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH   602                              LENGTH    27                                  LOCATION 15010                                                    6.644
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH   603                              LENGTH    27                                  LOCATION 15037                                                    6.644
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH   604                              LENGTH    27                                  LOCATION 15064                                                    6.619
 406 407 410 411 412 413 416 410 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH   605                              LENGTH    26                                  LOCATION 15091                                                    6.417
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH   606                              LENGTH    25                                  LOCATION 15117                                                    6.190
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH   607                              LENGTH    22                                  LOCATION 15142                                                    6.262
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH   608                              LENGTH    21                                  LOCATION 15164                                                    6.307
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH   609                              LENGTH    22                                  LOCATION 15185                                                    5.777
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH   610                              LENGTH    23                                  LOCATION 15207                                                    6.682
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH   611                              LENGTH    24                                  LOCATION 15230                                                    6.152
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH   612                              LENGTH    25                                  LOCATION 15254                                                    6.322
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH   613                              LENGTH    26                                  LOCATION 15279                                                    6.493
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH   614                              LENGTH    26                                  LOCATION 15305                                                    6.493
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
PATH   615                              LENGTH    27                                  LOCATION 15331                                                    6.720
 406 401 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 116 115 116 117  32
PATH   616                              LENGTH    26                                  LOCATION 15358                                                    6.493
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH   617                              LENGTH    25                                  LOCATION 15384                                                    6.322
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH   618                              LENGTH    24                                  LOCATION 15409                                                    6.152
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH   619                              LENGTH    23                                  LOCATION 15433                                                    6.682
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH   620                              LENGTH    22                                  LOCATION 15456                                                    6.477
 406 407 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH   621                              LENGTH    19                                  LOCATION 15478                                                    5.817
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH   622                              LENGTH    18                                  LOCATION 15497                                                    5.751
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118  39
PATH   623                              LENGTH    19                                  LOCATION 15515                                                    5.956
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH   624                              LENGTH    20                                  LOCATION 15534                                                    6.183
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH   625                              LENGTH    21                                  LOCATION 15554                                                    5.688
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH   626                              LENGTH    22                                  LOCATION 15575                                                    5.858
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH   627                              LENGTH    23                                  LOCATION 15597                                                    6.085
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH   628                              LENGTH    24                                  LOCATION 15620                                                    6.256
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
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FIGURE 4-12 (Cont.)

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PATH   629                                    LENGTH    23                                    LOCATION 15644      6.785
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  46
PATH   630                                    LENGTH    23                                    LOCATION 15667      6.085
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH   631                                    LENGTH    23                                    LOCATION 15690      6.085
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH   632                                    LENGTH    22                                    LOCATION 15713      5.858
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
PATH   633                                    LENGTH    21                                    LOCATION 15735      6.388
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH   634                                    LENGTH    20                                    LOCATION 15756      6.183
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH   635                                    LENGTH    19                                    LOCATION 15776      5.256
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH   636                                    LENGTH    18                                    LOCATION 15795      5.751
 406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118  53
PATH   637                                    LENGTH    15                                    LOCATION 15813      4.571
 406 407 410 411 412 413 427 428 426 425 424 499 498 125  54
PATH   638                                    LENGTH    16                                    LOCATION 15828      4.742
 406 407 410 411 412 413 427 428 426 425 424 499 498 125 126  55
PATH   639                                    LENGTH    14                                    LOCATION 15844      4.287
 406 407 410 411 412 413 427 428 426 425 424 499 498  56
PATH   640                                    LENGTH    14                                    LOCATION 15858      4.287
 406 407 410 411 412 413 427 428 426 425 424 499 498  57
PATH   641                                    LENGTH    14                                    LOCATION 15872      4.537
 406 407 410 411 412 413 427 428 426 425 424 499 127  58
PATH   642                                    LENGTH    15                                    LOCATION 15886      4.765
 406 407 410 411 412 413 427 428 426 425 424 499 127 128  59
PATH   643                                    LENGTH    15                                    LOCATION 15901      4.765
 406 407 410 411 412 413 427 428 426 425 424 499 127 128  60
PATH   644                                    LENGTH    15                                    LOCATION 15916      4.765
 406 407 410 411 412 413 427 428 426 425 424 499 127 128  61
PATH   645                                    LENGTH    14                                    LOCATION 15931      4.537
 406 407 410 411 412 413 427 428 426 425 424 499 127  62
PATH   646                                    LENGTH    13                                    LOCATION 15945      4.117
 406 407 410 411 412 413 427 428 426 425 424 499  63
PATH   647                                    LENGTH    12                                    LOCATION 15958      3.646
 406 407 410 411 412 413 427 428 426 425 424  64
PATH   648                                    LENGTH    10                                    LOCATION 15970      3.360
 406 407 410 411 412 413 427 428 502  65
PATH   649                                    LENGTH     9                                    LOCATION 15980      3.887
 406 407 432 433 431 430 504 129  66
PATH   650                                    LENGTH    10                                    LOCATION 15989      4.792
 406 407 432 433 431 430 504 129 130  67
PATH   651                                    LENGTH    11                                    LOCATION 15999      4.996
 406 407 432 433 431 430 504 129 130 131  68
PATH   652                                    LENGTH    12                                    LOCATION 16010      5.201
 406 407 432 433 431 430 504 129 130 131 132  69
PATH   653                                    LENGTH    13                                    LOCATION 16022      4.728
 406 407 432 433 431 430 504 129 130 131 132 133  70
PATH   654                                    LENGTH    13                                    LOCATION 16035      4.728
 406 407 432 433 431 430 504 129 130 131 132 133  71
PATH   655                                    LENGTH    13                                    LOCATION 16048      4.728
 406 407 432 433 431 430 504 129 130 131 132 133  72
PATH   656                                    LENGTH    14                                    LOCATION 16061      4.899
 406 407 432 433 431 430 504 129 130 131 132 133 134  73
PATH   657                                    LENGTH    13                                    LOCATION 16075      4.728
 406 407 432 433 431 430 504 129 130 131 132 133  74
PATH   658                                    LENGTH    12                                    LOCATION 16088      4.501
 406 407 432 433 431 430 504 129 130 131 132  75
```

FIGURE 4-12 (Cont.)

```
PATH   659                                        LENGTH    11
 406 407 432 433 431 430 504 129 130 131  76
PATH   660                                        LENGTH    10
 406 407 432 433 431 430 504 129 130  77
PATH   661                                        LENGTH     9
 406 407 432 433 431 430 504 129  78
PATH   662                                        LENGTH     8
 406 407 432 433 431 430 504  79
PATH   663                                        LENGTH     6
 406 407 432 433 507  80
PATH   664                                        LENGTH     8
 406 407 432 433 507 508 135  81
PATH   665                                        LENGTH     9
 406 407 432 433 507 508 135 136  82
PATH   666                                        LENGTH    10
 406 407 432 433 507 508 135 136 137  83
PATH   667                                        LENGTH    10
 406 407 432 433 507 508 135 136 137  84
PATH   668                                        LENGTH    11
 406 407 432 433 507 508 135 136 137 138  85
PATH   669                                        LENGTH    11
 406 407 432 433 507 508 135 136 137 138  86
PATH   670                                        LENGTH    11
 406 407 432 433 507 508 135 136 137 138  87
PATH   671                                        LENGTH    11
 406 407 432 433 507 508 135 136 137 138  88
PATH   672                                        LENGTH    10
 406 407 432 433 507 508 135 136 137  89
PATH   673                                        LENGTH     9
 406 407 432 433 507 508 135 136  90
PATH   674                                        LENGTH     8
 406 407 432 433 507 508 135  91
PATH   675                                        LENGTH     8
 406 407 432 433 507 508 509  92
PATH   676                                        LENGTH    10
 406 407 432 433 507 508 509 510 511  93
PATH   677                                        LENGTH    11
 406 407 432 433 507 508 509 510 511 139  94
PATH   678                                        LENGTH    12
 406 407 432 433 507 508 509 510 511 139 140  95
PATH   679                                        LENGTH    12
 406 407 432 433 507 508 509 510 511 139 140  96
PATH   680                                        LENGTH    13
 406 407 432 433 507 508 509 510 511 139 140 141  97
PATH   681                                        LENGTH    11
 406 407 432 433 507 508 509 510 511 513  98
PATH   682                                        LENGTH     3
 406 407 150
PATH   683                                        LENGTH     3
 406 407 151
PATH   684                                        LENGTH     3
 406 407 152
PATH   685                                        LENGTH     3
 406 407 153
PATH   686                                        LENGTH     3
 406 407 154
PATH   687                                        LENGTH     6
 401 402 403 404 405 150
PATH   688                                        LENGTH     6
 401 402 403 404 405 151
```

```
LOCATION 16100    4.996
LOCATION 16111    4.092
LOCATION 16121    4.587
LOCATION 16130    4.133
LOCATION 16138    3.856
LOCATION 16144    3.781
LOCATION 16152    4.708
LOCATION 16161    4.958
LOCATION 16171    4.258
LOCATION 16181    4.485
LOCATION 16192    4.485
LOCATION 16203    4.485
LOCATION 16214    5.185
LOCATION 16225    4.958
LOCATION 16235    4.708
LOCATION 16244    4.481
LOCATION 16252    4.197
LOCATION 16260    4.539
LOCATION 16270    4.992
LOCATION 16281    5.220
LOCATION 16293    5.220
LOCATION 16305    5.481
LOCATION 16318    1.681
LOCATION 16329    0.382
LOCATION 16332    0.382
LOCATION 16335    0.382
LOCATION 16338    0.382
LOCATION 16341    0.382
LOCATION 16344    0.886
LOCATION 16350    0.886
```

FIGURE 4-12 (Cont.)

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PATH   689                                    LENGTH     6                    LOCATION 16356                              0.886
 401 402 403 404 405 152
PATH   690                                    LENGTH     6                    LOCATION 16362                              0.886
 401 402 403 404 405 153
PATH   691                                    LENGTH     6                    LOCATION 16368                              0.886
 401 402 403 404 405 154
PATH   692                                    LENGTH    12                    LOCATION 16374                              1.874
 391 392 393 394 395 398 399 400 403 404 405 150
PATH   693                                    LENGTH    12                    LOCATION 16386                              1.874
 391 392 393 394 395 398 399 400 403 404 405 151
PATH   694                                    LENGTH    12                    LOCATION 16398                              1.874
 391 392 393 394 395 398 399 400 403 404 405 152
PATH   695                                    LENGTH    12                    LOCATION 16410                              1.874
 391 392 393 394 395 398 399 400 403 404 405 153
PATH   696                                    LENGTH    12                    LOCATION 16422                              1.874
 391 392 393 394 395 398 399 400 403 404 405 154
PATH   697                                    LENGTH    13                    LOCATION 16434                              2.044
 538 537 536 535 515 438 437 436 435 434 433 432 150
PATH   698                                    LENGTH    13                    LOCATION 16447                              2.044
 538 537 536 535 515 438 437 436 435 434 433 432 151
PATH   699                                    LENGTH    13                    LOCATION 16460                              2.044
 538 537 536 535 515 438 437 436 435 434 433 432 152
PATH   700                                    LENGTH    13                    LOCATION 16473                              2.044
 538 537 536 535 515 438 437 436 435 434 433 432 153
PATH   701                                    LENGTH    13                    LOCATION 16486                              2.044
 538 537 536 535 515 438 437 436 435 434 433 432 154
PATH   702                                    LENGTH    12                    LOCATION 16499                              1.866
 519 517 516 515 438 437 436 435 434 433 432 150
PATH   703                                    LENGTH    12                    LOCATION 16511                              1.866
 519 517 516 515 438 437 436 435 434 433 432 151
PATH   704                                    LENGTH    12                    LOCATION 16523                              1.866
 519 517 516 515 438 437 436 435 434 433 432 152
PATH   705                                    LENGTH    12                    LOCATION 16535                              1.866
 519 517 516 515 438 437 436 435 434 433 432 153
PATH   706                                    LENGTH    12                    LOCATION 16547                              1.866
 519 517 516 515 438 437 436 435 434 433 432 154
PATH   707                                    LENGTH    13                    LOCATION 16559                              1.876
 530 531 517 516 515 438 437 436 435 434 433 432 150
PATH   708                                    LENGTH    13                    LOCATION 16572                              1.876
 530 531 517 516 515 438 437 436 435 434 433 432 151
PATH   709                                    LENGTH    13                    LOCATION 16585                              1.876
 530 531 517 516 515 438 437 436 435 434 433 432 152
PATH   710                                    LENGTH    13                    LOCATION 16598                              1.876
 530 531 517 516 515 438 437 436 435 434 433 432 153
PATH   711                                    LENGTH    13                    LOCATION 16611                              1.876
 530 531 517 516 515 438 437 436 435 434 433 432 154
PATH   712                                    LENGTH    33                    LOCATION 16624                              7.618
 150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 262
 261 260   2
PATH   713                                    LENGTH    30                    LOCATION 16657                              6.961
 150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 179 263   3
PATH   714                                    LENGTH    27                    LOCATION 16687                              6.719
 150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281   4
PATH   715                                    LENGTH    23                    LOCATION 16714                              6.126
 150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH   716                                    LENGTH    20                    LOCATION 16737                              5.666
 150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH   717                                    LENGTH    30                    LOCATION 16757                              7.180
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH   718                                    LENGTH    29                    LOCATION 16787                              7.010
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106   8
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FIGURE 4-12 (Cont.)

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PATH   719                                LENGTH    28                                LOCATION 16816                                    6.839
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105   9
PATH   720                                LENGTH    27                                LOCATION 16844                                    7.335
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104  10
PATH   721                                LENGTH    26                                LOCATION 16871                                    6.430
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103  11
PATH   722                                LENGTH    25                                LOCATION 16897                                    6.903
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
PATH   723                                LENGTH    24                                LOCATION 16922                                    5.976
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH   724                                LENGTH    23                                LOCATION 16946                                    6.449
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH   725                                LENGTH    21                                LOCATION 16969                                    6.090
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH   726                                LENGTH    20                                LOCATION 16990                                    5.908
 150 416 416 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH   727                                LENGTH    20                                LOCATION 17010                                    5.242
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH   728                                LENGTH    22                                LOCATION 17030                                    6.570
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH   729                                LENGTH    22                                LOCATION 17052                                    5.870
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH   730                                LENGTH    22                                LOCATION 17074                                    5.870
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH   731                                LENGTH    22                                LOCATION 17096                                    5.870
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH   732                                LENGTH    21                                LOCATION 17118                                    5.642
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH   733                                LENGTH    20                                LOCATION 17139                                    5.415
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH   734                                LENGTH    17                                LOCATION 17159                                    5.488
 150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH   735                                LENGTH    16                                LOCATION 17176                                    5.532
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH   736                                LENGTH    17                                LOCATION 17192                                    5.002
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH   737                                LENGTH    18                                LOCATION 17209                                    5.907
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH   738                                LENGTH    19                                LOCATION 17227                                    5.377
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH   739                                LENGTH    20                                LOCATION 17246                                    5.548
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH   740                                LENGTH    21                                LOCATION 17266                                    5.718
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH   741                                LENGTH    21                                LOCATION 17287                                    5.718
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
PATH   742                                LENGTH    22                                LOCATION 17308                                    5.946
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117  32
PATH   743                                LENGTH    21                                LOCATION 17330                                    5.718
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH   744                                LENGTH    20                                LOCATION 17351                                    5.548
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH   745                                LENGTH    19                                LOCATION 17371                                    5.377
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH   746                                LENGTH    18                                LOCATION 17390                                    5.907
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH   747                                LENGTH    17                                LOCATION 17408                                    5.702
 150 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH   748                                LENGTH    14                                LOCATION 17425                                    5.043
 150 416 419 420 421 327 326 325 328 329 324 323 492  38
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FIGURE 4-12 (Cont.)

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PATH   749                                   LENGTH    13
 150 416 419 420 421 327 326 325 328 329 495 118  39
PATH   750                                   LENGTH    14
 150 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH   751                                   LENGTH    15
 150 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH   752                                   LENGTH    16
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH   753                                   LENGTH    17
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH   754                                   LENGTH    18
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH   755                                   LENGTH    19
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
PATH   756                                   LENGTH    18
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  46
PATH   757                                   LENGTH    18
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH   758                                   LENGTH    18
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH   759                                   LENGTH    17
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
PATH   760                                   LENGTH    16
 150 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH   761                                   LENGTH    15
 150 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH   762                                   LENGTH    14
 150 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH   763                                   LENGTH    13
 150 416 419 420 421 327 326 325 328 329 495 118  53
PATH   764                                   LENGTH    10
 150 427 428 426 425 424 499 498 125  54
PATH   765                                   LENGTH    11
 150 427 428 426 425 424 499 498 125 126  55
PATH   766                                   LENGTH     9
 150 427 428 426 425 424 499 498  56
PATH   767                                   LENGTH     9
 150 427 428 426 425 424 499 498  57
PATH   768                                   LENGTH     9
 150 427 428 426 425 424 499 127  58
PATH   769                                   LENGTH    10
 150 427 428 426 425 424 499 127 128  59
PATH   770                                   LENGTH    10
 150 427 428 426 425 424 499 127 128  60
PATH   771                                   LENGTH    10
 150 427 428 426 425 424 499 127 128  61
PATH   772                                   LENGTH     9
 150 427 428 426 425 424 499 127  62
PATH   773                                   LENGTH     8
 150 427 428 426 425 424 499  63
PATH   774                                   LENGTH     7
 150 427 428 426 425 424  64
PATH   775                                   LENGTH     5
 150 427 428 502  65
PATH   776                                   LENGTH     7
 150 427 428 502 503 129  66
PATH   777                                   LENGTH     8
 150 427 428 502 503 129 130  67
PATH   778                                   LENGTH     9
 150 427 428 502 503 129 130 131  68
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LOCATION 17439    4.977
LOCATION 17452    5.181
LOCATION 17466    5.408
LOCATION 17481    4.913
LOCATION 17497    5.083
LOCATION 17514    5.311
LOCATION 17532    5.481
LOCATION 17551    6.011
LOCATION 17569    5.311
LOCATION 17587    5.311
LOCATION 17605    5.083
LOCATION 17622    5.613
LOCATION 17638    5.408
LOCATION 17653    4.481
LOCATION 17667    4.977
LOCATION 17680    3.797
LOCATION 17690    3.967
LOCATION 17701    3.513
LOCATION 17710    3.513
LOCATION 17719    3.763
LOCATION 17728    3.990
LOCATION 17738    3.990
LOCATION 17748    3.990
LOCATION 17758    3.763
LOCATION 17767    3.342
LOCATION 17775    2.872
LOCATION 17782    2.585
LOCATION 17787    3.483
LOCATION 17794    4.388
LOCATION 17802    4.592
```

FIGURE 4-12 (Cont.)

PATH 779	LENGTH 10	LOCATION 17811 4.797
150 427 428 502 503 129 130 131 132 69		
PATH 780	LENGTH 11	LOCATION 17821 4.324
150 427 428 502 503 129 130 131 132 133 70		
PATH 781	LENGTH 11	LOCATION 17832 4.324
150 427 428 502 503 129 130 131 132 133 71		
PATH 782	LENGTH 11	LOCATION 17843 4.324
150 427 428 502 503 129 130 131 132 133 72		
PATH 783	LENGTH 12	LOCATION 17854 4.495
150 427 428 502 503 129 130 131 132 133 134 73		
PATH 784	LENGTH 11	LOCATION 17866 4.324
150 427 428 502 503 129 130 131 132 133 74		
PATH 785	LENGTH 10	LOCATION 17877 4.097
150 427 428 502 503 129 130 131 132 75		
PATH 786	LENGTH 9	LOCATION 17887 4.592
150 427 428 502 503 129 130 131 76		
PATH 787	LENGTH 8	LOCATION 17896 3.688
150 427 428 502 503 129 130 77		
PATH 788	LENGTH 7	LOCATION 17904 4.183
150 427 428 502 503 129 78		
PATH 789	LENGTH 6	LOCATION 17911 3.729
150 427 428 502 503 79		
PATH 790	LENGTH 5	LOCATION 17917 3.674
150 432 433 507 80		
PATH 791	LENGTH 7	LOCATION 17922 3.599
150 432 433 507 508 135 81		
PATH 792	LENGTH 8	LOCATION 17929 4.527
150 432 433 507 508 135 136 82		
PATH 793	LENGTH 9	LOCATION 17937 4.777
150 432 433 507 508 135 136 137 83		
PATH 794	LENGTH 9	LOCATION 17946 4.077
150 432 433 507 508 135 136 137 84		
PATH 795	LENGTH 10	LOCATION 17955 4.304
150 432 433 507 508 135 136 137 138 85		
PATH 796	LENGTH 10	LOCATION 17965 4.304
150 432 433 507 508 135 136 137 138 86		
PATH 797	LENGTH 10	LOCATION 17975 4.304
150 432 433 507 508 135 136 137 138 87		
PATH 798	LENGTH 10	LOCATION 17985 5.004
150 432 433 507 508 135 136 137 138 88		
PATH 799	LENGTH 9	LOCATION 17995 4.777
150 432 433 507 508 135 136 137 89		
PATH 800	LENGTH 8	LOCATION 18004 4.527
150 432 433 507 508 135 136 90		
PATH 801	LENGTH 7	LOCATION 18012 4.299
150 432 433 507 508 135 91		
PATH 802	LENGTH 7	LOCATION 18019 4.015
150 432 433 507 508 509 92		
PATH 803	LENGTH 9	LOCATION 18026 4.356
150 432 433 507 508 509 510 511 93		
PATH 804	LENGTH 10	LOCATION 18035 4.811
150 432 433 507 508 509 510 511 139 94		
PATH 805	LENGTH 11	LOCATION 18045 5.038
150 432 433 507 508 509 510 511 139 140 95		
PATH 806	LENGTH 11	LOCATION 18056 5.038
150 432 433 507 508 509 510 511 139 140 96		
PATH 807	LENGTH 12	LOCATION 18067 5.299
150 432 433 507 508 509 510 511 139 140 141 97		
PATH 808	LENGTH 10	LOCATION 18079 1.499
150 432 433 507 508 509 510 511 513 98		

FIGURE 4-12 (Cont.)

```
PATH   809                              LENGTH    33                                  LOCATION 18089                                                  7.618
 151 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 262
 261 260   2
PATH   810                              LENGTH    30                                  LOCATION 18122                                                  7.089
 151 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263   3
PATH   811                              LENGTH    27                                  LOCATION 18152                                                  6.719
 151 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281   4
PATH   812                              LENGTH    23                                  LOCATION 18179                                                  6.125
 151 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH   813                              LENGTH    20                                  LOCATION 18202                                                  5.666
 151 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH   814                              LENGTH    30                                  LOCATION 18222                                                  7.180
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH   815                              LENGTH    29                                  LOCATION 18252                                                  7.010
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106   8
PATH   816                              LENGTH    28                                  LOCATION 18281                                                  6.839
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105   9
PATH   817                              LENGTH    27                                  LOCATION 18309                                                  7.335
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104  10
PATH   818                              LENGTH    26                                  LOCATION 18336                                                  6.430
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103  11
PATH   819                              LENGTH    25                                  LOCATION 18362                                                  6.903
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
PATH   820                              LENGTH    24                                  LOCATION 18387                                                  5.975
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH   821                              LENGTH    23                                  LOCATION 18411                                                  6.449
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH   822                              LENGTH    21                                  LOCATION 18434                                                  6.090
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH   823                              LENGTH    20                                  LOCATION 18455                                                  5.942
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH   824                              LENGTH    20                                  LOCATION 18475                                                  5.242
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH   825                              LENGTH    22                                  LOCATION 18495                                                  6.570
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH   826                              LENGTH    22                                  LOCATION 18517                                                  5.870
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH   827                              LENGTH    22                                  LOCATION 18539                                                  5.870
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH   828                              LENGTH    22                                  LOCATION 18561                                                  5.870
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH   829                              LENGTH    21                                  LOCATION 18583                                                  5.642
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH   830                              LENGTH    20                                  LOCATION 18604                                                  5.415
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH   831                              LENGTH    17                                  LOCATION 18624                                                  5.489
 151 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH   832                              LENGTH    16                                  LOCATION 18641                                                  5.532
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH   833                              LENGTH    17                                  LOCATION 18657                                                  5.002
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH   834                              LENGTH    18                                  LOCATION 18674                                                  5.907
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH   835                              LENGTH    19                                  LOCATION 18692                                                  5.377
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH   836                              LENGTH    20                                  LOCATION 18711                                                  5.548
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH   837                              LENGTH    21                                  LOCATION 18731                                                  5.718
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH   838                              LENGTH    21                                  LOCATION 18752                                                  5.718
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
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FIGURE 4-12 (Cont.)

```
PATH   839                                    LENGTH    22                                    LOCATION 18773   5.946
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117  32
PATH   840                                    LENGTH    21                                    LOCATION 18795   5.718
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH   841                                    LENGTH    20                                    LOCATION 18816   5.548
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH   842                                    LENGTH    19                                    LOCATION 18836   5.377
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH   843                                    LENGTH    18                                    LOCATION 18855   5.907
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH   844                                    LENGTH    17                                    LOCATION 18873   5.702
 151 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH   845                                    LENGTH    14                                    LOCATION 18890   5.043
 151 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH   846                                    LENGTH    13                                    LOCATION 18904   4.977
 151 416 419 420 421 327 326 325 328 329 495 118  39
PATH   847                                    LENGTH    14                                    LOCATION 18917   5.181
 151 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH   848                                    LENGTH    15                                    LOCATION 18931   5.408
 151 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH   849                                    LENGTH    16                                    LOCATION 18946   4.913
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH   850                                    LENGTH    17                                    LOCATION 18962   5.083
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH   851                                    LENGTH    18                                    LOCATION 18979   5.311
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH   852                                    LENGTH    19                                    LOCATION 18997   5.481
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
PATH   853                                    LENGTH    18                                    LOCATION 19016   6.011
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  46
PATH   854                                    LENGTH    18                                    LOCATION 19034   5.311
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH   855                                    LENGTH    18                                    LOCATION 19052   5.311
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH   856                                    LENGTH    17                                    LOCATION 19070   5.083
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
PATH   857                                    LENGTH    16                                    LOCATION 19087   5.613
 151 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH   858                                    LENGTH    15                                    LOCATION 19103   5.408
 151 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH   859                                    LENGTH    14                                    LOCATION 19118   4.481
 151 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH   860                                    LENGTH    13                                    LOCATION 19132   4.977
 151 416 419 420 421 327 326 325 328 329 495 118  53
PATH   861                                    LENGTH    10                                    LOCATION 19145   3.797
 151 427 428 426 425 424 499 498 125  54
PATH   862                                    LENGTH    11                                    LOCATION 19155   3.967
 151 427 428 426 425 424 499 498 125 126  55
PATH   863                                    LENGTH    18                                    LOCATION 19166   9.349
 152 427 428 502 503 129 130 131 132 69 495 118 119 120 121 122 123  46
PATH   864                                    LENGTH     9                                    LOCATION 19184   3.513
 151 427 428 426 425 424 499 498  56
PATH   865                                    LENGTH     9                                    LOCATION 19193   3.513
 151 427 428 426 425 424 499 498  57
PATH   866                                    LENGTH     9                                    LOCATION 19202   3.763
 151 427 428 426 425 424 499 127  58
PATH   867                                    LENGTH    10                                    LOCATION 19211   3.990
 151 427 428 426 425 424 499 127 128  59
PATH   868                                    LENGTH    10                                    LOCATION 19221   3.990
 151 427 428 426 425 424 499 127 128  60
```

FIGURE 4-12 (Cont.)

PATH 869 151 427 428 426 425 424 499 127 128 61	LENGTH 10	LOCATION 19231	3.990
PATH 870 151 427 428 426 425 424 499 127 62	LENGTH 9	LOCATION 19241	3.763
PATH 871 151 427 428 426 425 424 499 63	LENGTH 8	LOCATION 19250	3.342
PATH 872 151 427 428 426 425 424 64	LENGTH 7	LOCATION 19258	2.872
PATH 873 151 427 428 502 65	LENGTH 5	LOCATION 19265	2.585
PATH 874 151 427 428 502 503 129 66	LENGTH 7	LOCATION 19270	3.483
PATH 875 151 427 428 502 503 129 130 67	LENGTH 8	LOCATION 19277	4.388
PATH 876 151 427 428 502 503 129 130 131 68	LENGTH 9	LOCATION 19285	4.592
PATH 877 151 427 428 502 503 129 130 131 132 69	LENGTH 10	LOCATION 19294	4.797
PATH 878 151 427 428 502 503 129 130 131 132 133 70	LENGTH 11	LOCATION 19304	4.324
PATH 879 151 427 428 502 503 129 130 131 132 133 71	LENGTH 11	LOCATION 19315	4.324
PATH 880 151 427 428 502 503 129 130 131 132 133 72	LENGTH 11	LOCATION 19326	4.324
PATH 881 151 427 428 502 503 129 130 131 132 133 134 73	LENGTH 12	LOCATION 19337	4.495
PATH 882 151 427 428 502 503 129 130 131 132 133 74	LENGTH 11	LOCATION 19349	4.324
PATH 883 151 427 428 502 503 129 130 131 132 75	LENGTH 10	LOCATION 19360	4.097
PATH 884 151 427 428 502 503 129 130 131 76	LENGTH 9	LOCATION 19370	4.592
PATH 885 151 427 428 502 503 129 130 77	LENGTH 8	LOCATION 19379	3.698
PATH 886 151 427 428 502 503 129 78	LENGTH 7	LOCATION 19387	4.183
PATH 887 151 427 428 502 503 79	LENGTH 6	LOCATION 19394	3.729
PATH 888 151 432 433 507 80	LENGTH 5	LOCATION 19400	3.674
PATH 889 151 432 433 507 508 135 81	LENGTH 7	LOCATION 19405	3.599
PATH 890 151 432 433 507 508 135 136 82	LENGTH 8	LOCATION 19412	4.527
PATH 891 151 432 433 507 508 135 136 137 83	LENGTH 9	LOCATION 19420	4.777
PATH 892 151 432 433 507 508 135 136 137 84	LENGTH 9	LOCATION 19429	4.077
PATH 893 151 432 433 507 508 135 136 137 138 85	LENGTH 10	LOCATION 19438	4.304
PATH 894 151 432 433 507 508 135 136 137 138 86	LENGTH 10	LOCATION 19448	4.304
PATH 895 151 432 433 507 508 135 136 137 138 87	LENGTH 10	LOCATION 19458	4.304
PATH 896 151 432 433 507 508 135 136 137 138 88	LENGTH 10	LOCATION 19468	5.004
PATH 897 151 432 433 507 508 135 136 137 89	LENGTH 9	LOCATION 19478	4.777
PATH 898 151 432 433 507 508 135 136 90	LENGTH 8	LOCATION 19487	4.527

FIGURE 4-12 (Cont.)

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PATH   899                                LENGTH     7                          LOCATION 19495                                                  4.299
 151 432 433 507 508 135  91
PATH   900                                LENGTH     7                          LOCATION 19502                                                  4.015
 151 432 433 507 508 509  92
PATH   901                                LENGTH     9                          LOCATION 19509                                                  4.356
 151 432 433 507 508 509 510 511  93
PATH   902                                LENGTH    10                          LOCATION 19518                                                  4.811
 151 432 433 507 508 509 510 511 139  94
PATH   903                                LENGTH    11                          LOCATION 19528                                                  5.038
 151 432 433 507 508 509 510 511 139 140  95
PATH   904                                LENGTH    11                          LOCATION 19539                                                  5.038
 151 432 433 507 508 509 510 511 139 140  96
PATH   905                                LENGTH    12                          LOCATION 19550                                                  5.299
 151 432 433 507 508 509 510 511 139 140 141  97
PATH   906                                LENGTH    10                          LOCATION 19562                                                  1.499
 151 432 433 507 508 509 510 511 513  98
PATH   907                                LENGTH    33                          LOCATION 19572                                                  7.618
 152 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 252
 261 260   2
PATH   908                                LENGTH    30                          LOCATION 19605                                                  7.089
 152 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263   3
PATH   909                                LENGTH    27                          LOCATION 19635                                                  7.335
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104  10
PATH   910                                LENGTH    29                          LOCATION 19662                                                  7.010
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106   8
PATH   911                                LENGTH    28                          LOCATION 19691                                                  6.839
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105   9
PATH   912                                LENGTH    27                          LOCATION 19719                                                  6.719
 152 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281   4
PATH   913                                LENGTH    23                          LOCATION 19746                                                  6.126
 152 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH   914                                LENGTH    20                          LOCATION 19769                                                  5.666
 152 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH   915                                LENGTH    30                          LOCATION 19789                                                  7.180
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH   916                                LENGTH    26                          LOCATION 19819                                                  6.430
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103  11
PATH   917                                LENGTH    25                          LOCATION 19845                                                  6.903
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
PATH   918                                LENGTH    24                          LOCATION 19870                                                  5.976
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH   919                                LENGTH    23                          LOCATION 19894                                                  6.449
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH   920                                LENGTH    21                          LOCATION 19917                                                  6.090
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH   921                                LENGTH    20                          LOCATION 19938                                                  5.942
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH   922                                LENGTH    20                          LOCATION 19958                                                  5.242
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH   923                                LENGTH    22                          LOCATION 19978                                                  6.570
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH   924                                LENGTH    22                          LOCATION 20000                                                  5.870
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH   925                                LENGTH    22                          LOCATION 20022                                                  5.870
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH   926                                LENGTH    22                          LOCATION 20044                                                  5.870
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH   927                                LENGTH    21                          LOCATION 20066                                                  5.642
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH   928                                LENGTH    20                          LOCATION 20087                                                  5.415
 152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
```

FIGURE 4-12 (Cont.)

PATH 929	LENGTH 17	LOCATION 20107	5.488
152 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488 24			
PATH 930	LENGTH 16	LOCATION 20124	5.532
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 25			
PATH 931	LENGTH 17	LOCATION 20140	5.002
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 26			
PATH 932	LENGTH 18	LOCATION 20157	5.907
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 27			
PATH 933	LENGTH 19	LOCATION 20175	5.377
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 28			
PATH 934	LENGTH 20	LOCATION 20194	5.548
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 29			
PATH 935	LENGTH 21	LOCATION 20214	5.718
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 30			
PATH 936	LENGTH 21	LOCATION 20235	5.718
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 31			
PATH 937	LENGTH 22	LOCATION 20256	5.946
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117 32			
PATH 938	LENGTH 21	LOCATION 20278	5.718
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 33			
PATH 939	LENGTH 20	LOCATION 20299	5.548
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 34			
PATH 940	LENGTH 19	LOCATION 20319	5.377
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 35			
PATH 941	LENGTH 18	LOCATION 20338	5.907
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 36			
PATH 942	LENGTH 17	LOCATION 20356	5.702
152 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 37			
PATH 943	LENGTH 14	LOCATION 20373	5.043
152 416 419 420 421 327 326 325 328 329 324 323 492 38			
PATH 944	LENGTH 13	LOCATION 20387	4.977
152 416 419 420 421 327 326 325 328 329 495 118 39			
PATH 945	LENGTH 14	LOCATION 20400	5.181
152 416 419 420 421 327 326 325 328 329 495 118 119 40			
PATH 946	LENGTH 15	LOCATION 20414	5.408
152 416 419 420 421 327 326 325 328 329 495 118 119 120 41			
PATH 947	LENGTH 16	LOCATION 20429	4.913
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 42			
PATH 948	LENGTH 17	LOCATION 20445	5.083
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 43			
PATH 949	LENGTH 18	LOCATION 20462	5.311
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 44			
PATH 950	LENGTH 19	LOCATION 20480	5.481
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124 45			
PATH 951	LENGTH 18	LOCATION 20499	6.011
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 46			
PATH 952	LENGTH 18	LOCATION 20517	5.311
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 47			
PATH 953	LENGTH 18	LOCATION 20535	5.311
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 48			
PATH 954	LENGTH 17	LOCATION 20553	5.083
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 49			
PATH 955	LENGTH 16	LOCATION 20570	5.613
152 416 419 420 421 327 326 325 328 329 495 118 119 120 121 50			
PATH 956	LENGTH 15	LOCATION 20586	5.408
152 416 419 420 421 327 326 325 328 329 495 118 119 120 51			
PATH 957	LENGTH 14	LOCATION 20601	4.481
152 416 419 420 421 327 326 325 328 329 495 118 119 52			
PATH 958	LENGTH 13	LOCATION 20615	4.977
152 416 419 420 421 327 326 325 328 329 495 118 53			

FIGURE 4-12 (Cont.)

PATH 959	LENGTH 10	LOCATION 20628	3.797
152 427 428 426 425 424 499 498 125 54			
PATH 960	LENGTH 11	LOCATION 20638	3.967
152 427 428 426 425 424 499 498 125 126 55			
PATH 961	LENGTH 9	LOCATION 20649	3.513
152 427 428 426 425 424 499 498 56			
PATH 962	LENGTH 9	LOCATION 20658	3.513
152 427 428 426 425 424 499 498 57			
PATH 963	LENGTH 9	LOCATION 20667	3.763
152 427 428 426 425 424 499 127 58			
PATH 964	LENGTH 10	LOCATION 20676	3.990
152 427 428 426 425 424 499 127 128 59			
PATH 965	LENGTH 10	LOCATION 20686	3.990
152 427 428 426 425 424 499 127 128 60			
PATH 966	LENGTH 10	LOCATION 20696	3.990
152 427 428 426 425 424 499 127 128 61			
PATH 967	LENGTH 9	LOCATION 20706	3.763
152 427 428 426 425 424 499 127 62			
PATH 968	LENGTH 8	LOCATION 20715	3.342
152 427 428 426 425 424 499 63			
PATH 969	LENGTH 7	LOCATION 20723	2.872
152 427 428 426 425 424 64			
PATH 970	LENGTH 5	LOCATION 20730	2.585
152 427 428 502 65			
PATH 971	LENGTH 10	LOCATION 20735	1.459
153 416 419 420 421 327 326 325 328 329			
PATH 972	LENGTH 7	LOCATION 20745	3.483
152 427 428 502 503 129 66			
PATH 973	LENGTH 8	LOCATION 20752	4.388
152 427 428 502 503 129 130 67			
PATH 974	LENGTH 9	LOCATION 20760	4.592
152 427 428 502 503 129 130 131 68			
PATH 975	LENGTH 11	LOCATION 20769	4.324
152 427 428 502 503 129 130 131 132 133 70			
PATH 976	LENGTH 11	LOCATION 20780	4.324
152 427 428 502 503 129 130 131 132 133 71			
PATH 977	LENGTH 11	LOCATION 20791	4.324
152 427 428 502 503 129 130 131 132 133 72			
PATH 978	LENGTH 12	LOCATION 20802	4.495
152 427 428 502 503 129 130 131 132 133 134 73			
PATH 979	LENGTH 11	LOCATION 20814	4.324
152 427 428 502 503 129 130 131 132 133 74			
PATH 980	LENGTH 10	LOCATION 20825	4.097
152 427 428 502 503 129 130 131 132 75			
PATH 981	LENGTH 9	LOCATION 20835	4.592
152 427 428 502 503 129 130 131 76			
PATH 982	LENGTH 8	LOCATION 20844	3.688
152 427 428 502 503 129 130 77			
PATH 983	LENGTH 7	LOCATION 20852	4.193
152 427 428 502 503 129 78			
PATH 984	LENGTH 6	LOCATION 20859	3.729
152 427 428 502 503 79			
PATH 985	LENGTH 5	LOCATION 20865	3.674
152 432 433 507 80			
PATH 986	LENGTH 7	LOCATION 20870	3.599
152 432 433 507 508 135 81			
PATH 987	LENGTH 8	LOCATION 20877	4.527
152 432 433 507 508 135 136 82			
PATH 988	LENGTH 9	LOCATION 20885	4.777
152 432 433 507 508 135 136 137 83			

FIGURE 4-12 (Cont.)

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PATH   989                                  LENGTH     9                        LOCATION 20894                                    4.077
 152 432 433 507 508 135 136 137  84
PATH   990                                  LENGTH    10                        LOCATION 20903                                    4.304
 152 432 433 507 508 135 136 137 138  85
PATH   991                                  LENGTH    10                        LOCATION 20913                                    4.304
 152 432 433 507 508 135 136 137 138  86
PATH   992                                  LENGTH    10                        LOCATION 20923                                    4.304
 152 432 433 507 508 135 136 137 138  87
PATH   993                                  LENGTH    10                        LOCATION 20933                                    5.004
 152 432 433 507 508 135 136 137 138  88
PATH   994                                  LENGTH     9                        LOCATION 20943                                    4.777
 152 432 433 507 508 135 136 137  89
PATH   995                                  LENGTH     8                        LOCATION 20952                                    4.527
 152 432 433 507 508 135 136  90
PATH   996                                  LENGTH     7                        LOCATION 20960                                    4.299
 152 432 433 507 508 135  91
PATH   997                                  LENGTH     7                        LOCATION 20967                                    4.015
 152 432 433 507 508 509  92
PATH   998                                  LENGTH     9                        LOCATION 20974                                    4.356
 152 432 433 507 508 509 510 511  93
PATH   999                                  LENGTH    10                        LOCATION 20983                                    4.811
 152 432 433 507 508 509 510 511 139  94
PATH  1000                                  LENGTH    11                        LOCATION 20993                                    5.038
 152 432 433 507 508 509 510 511 139 140  95
PATH  1001                                  LENGTH    11                        LOCATION 21004                                    5.038
 152 432 433 507 508 509 510 511 139 140  96
PATH  1002                                  LENGTH    12                        LOCATION 21015                                    5.299
 152 432 433 507 508 509 510 511 139 140 141  97
PATH  1003                                  LENGTH    10                        LOCATION 21027                                    1.499
 152 432 433 507 508 509 510 511 513  98
PATH  1004                                  LENGTH    33                        LOCATION 21037                                    7.618
 153 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 262
 261 260   2
PATH  1005                                  LENGTH    30                        LOCATION 21070                                    7.089
 153 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263   3
PATH  1006                                  LENGTH    27                        LOCATION 21100                                    6.719
 153 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281   4
PATH  1007                                  LENGTH    23                        LOCATION 21127                                    6.126
 153 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH  1008                                  LENGTH    20                        LOCATION 21150                                    5.666
 153 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH  1009                                  LENGTH    30                        LOCATION 21170                                    7.180
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH  1010                                  LENGTH    29                        LOCATION 21200                                    7.010
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106   8
PATH  1011                                  LENGTH    28                        LOCATION 21229                                    6.839
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105   9
PATH  1012                                  LENGTH    27                        LOCATION 21257                                    7.335
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104  10
PATH  1013                                  LENGTH    26                        LOCATION 21284                                    6.430
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103  11
PATH  1014                                  LENGTH    25                        LOCATION 21310                                    6.903
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
PATH  1015                                  LENGTH    24                        LOCATION 21335                                    5.976
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH  1016                                  LENGTH    23                        LOCATION 21359                                    6.449
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH  1017                                  LENGTH    21                        LOCATION 21382                                    6.090
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH  1018                                  LENGTH    20                        LOCATION 21403                                    5.942
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
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FIGURE 4-12 (Cont.)

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PATH  1019                                LENGTH    20                                LOCATION 21423   5.242
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  17
PATH  1020                                LENGTH    22                                LOCATION 21443   6.570
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH  1021                                LENGTH    22                                LOCATION 21465   5.870
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH  1022                                LENGTH    22                                LOCATION 21487   5.870
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH  1023                                LENGTH    22                                LOCATION 21509   5.870
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH  1024                                LENGTH    21                                LOCATION 21531   5.642
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH  1025                                LENGTH    20                                LOCATION 21552   5.415
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH  1026                                LENGTH    17                                LOCATION 21572   5.488
 153 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH  1027                                LENGTH    16                                LOCATION 21589   5.532
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH  1028                                LENGTH    17                                LOCATION 21605   5.002
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH  1029                                LENGTH    18                                LOCATION 21622   5.907
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH  1030                                LENGTH    19                                LOCATION 21640   5.377
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH  1031                                LENGTH    20                                LOCATION 21659   5.548
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH  1032                                LENGTH    21.                               LOCATION 21679   5.718
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH  1033                                LENGTH    21                                LOCATION 21700   5.718
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
PATH  1034                                LENGTH    22                                LOCATION 21721   5.946
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117  32
PATH  1035                                LENGTH    21                                LOCATION 21743   5.718
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH  1036                                LENGTH    20                                LOCATION 21764   5.548
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH  1037                                LENGTH    19                                LOCATION 21784   5.377
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH  1038                                LENGTH    18                                LOCATION 21803   5.907
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH  1039                                LENGTH    17                                LOCATION 21821   5.702
 153 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH  1040                                LENGTH    14                                LOCATION 21838   5.043
 153 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH  1041                                LENGTH    13                                LOCATION 21852   4.977
 153 416 419 420 421 327 326 325 328 329 495 118  39
PATH  1042                                LENGTH    14                                LOCATION 21865   5.181
 153 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH  1043                                LENGTH    15                                LOCATION 21879   5.408
 153 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH  1044                                LENGTH    16                                LOCATION 21894   4.913
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
PATH  1045                                LENGTH    17                                LOCATION 21910   5.083
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH  1046                                LENGTH    18                                LOCATION 21927   5.311
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH  1047                                LENGTH    19                                LOCATION 21945   5.481
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
PATH  1048                                LENGTH    17                                LOCATION 21964   5.083
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
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FIGURE 4-12 (Cont.)

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PATH  1049                                    LENGTH    16
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH  1050                                    LENGTH    15
 153 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH  1051                                    LENGTH    14
 153 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH  1052                                    LENGTH    13
 153 416 419 420 421 327 326 325 328 329 495 118  53
PATH  1053                                    LENGTH    10
 153 427 428 426 425 424 499 498 125  54
PATH  1054                                    LENGTH    11
 153 427 428 426 425 424 499 498 125 126  55
PATH  1055                                    LENGTH     9
 153 427 428 426 425 424 499 498  56
PATH  1056                                    LENGTH     9
 153 427 428 426 425 424 499 498  57
PATH  1057                                    LENGTH     9
 153 427 428 426 425 424 499 127  58
PATH  1058                                    LENGTH    10
 153 427 428 426 425 424 499 127 128  59
PATH  1059                                    LENGTH    10
 153 427 428 426 425 424 499 127 128  60
PATH  1060                                    LENGTH    10
 153 427 428 426 425 424 499 127 128  61
PATH  1061                                    LENGTH     9
 153 427 428 426 425 424 499 127  62
PATH  1062                                    LENGTH     8
 153 427 428 426 425 424 499  63
PATH  1063                                    LENGTH     7
 153 427 428 426 425 424  64
PATH  1064                                    LENGTH     5
 153 427 428 502  65
PATH  1065                                    LENGTH     9
 153 427 428 502 503 129 130 131  76
PATH  1066                                    LENGTH     8
 153 427 428 502 503 129 130  77
PATH  1067                                    LENGTH     7
 153 427 428 502 503 129  66
PATH  1068                                    LENGTH     8
 153 427 428 502 503 129 130  67
PATH  1069                                    LENGTH     9
 153 427 428 502 503 129 130 131  68
PATH  1070                                    LENGTH    10
 153 427 428 502 503 129 130 131 132  69
PATH  1071                                    LENGTH    11
 153 427 428 502 503 129 130 131 132 133  70
PATH  1072                                    LENGTH    11
 153 427 428 502 503 129 130 131 132 133  71
PATH  1073                                    LENGTH    11
 153 427 428 502 503 129 130 131 132 133  72
PATH  1074                                    LENGTH    12
 153 427 428 502 503 129 130 131 132 133 134  73
PATH  1075                                    LENGTH    11
 153 427 428 502 503 129 130 131 132 133  74
PATH  1076                                    LENGTH    10
 153 427 428 502 503 129 130 131 132  75
PATH  1077                                    LENGTH     7
 153 427 428 502 503 129  78
PATH  1078                                    LENGTH     6
 153 427 428 502 503  79
```

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LOCATION 21981    5.613
LOCATION 21997    5.408
LOCATION 22012    4.481
LOCATION 22026    4.977
LOCATION 22039    3.797
LOCATION 22049    3.967
LOCATION 22060    3.513
LOCATION 22069    3.513
LOCATION 22078    3.763
LOCATION 22087    3.990
LOCATION 22097    3.990
LOCATION 22107    3.990
LOCATION 22117    3.763
LOCATION 22126    3.342
LOCATION 22134    2.872
LOCATION 22141    2.585
LOCATION 22146    4.592
LOCATION 22155    3.688
LOCATION 22163    3.483
LOCATION 22170    4.388
LOCATION 22178    4.592
LOCATION 22187    4.797
LOCATION 22197    4.324
LOCATION 22208    4.324
LOCATION 22219    4.324
LOCATION 22230    4.495
LOCATION 22242    4.324
LOCATION 22253    4.097
LOCATION 22263    4.183
LOCATION 22270    3.729
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FIGURE 4-12 (Cont.)

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PATH  1079                                LENGTH     5                          LOCATION 22276                                3.674
 153 432 433 507  80
PATH  1080                                LENGTH     7                          LOCATION 22281                                3.599
 153 432 433 507 508 135  81
PATH  1081                                LENGTH     8                          LOCATION 22288                                4.527
 153 432 433 507 508 135 136  82
PATH  1082                                LENGTH     9                          LOCATION 22296                                4.777
 153 432 433 507 508 135 136 137  83
PATH  1083                                LENGTH     9                          LOCATION 22305                                4.077
 153 432 433 507 508 135 136 137  84
PATH  1084                                LENGTH    10                          LOCATION 22314                                4.304
 153 432 433 507 508 135 136 137 138  85
PATH  1085                                LENGTH    10                          LOCATION 22324                                4.304
 153 432 433 507 508 135 136 137 138  86
PATH  1086                                LENGTH    10                          LOCATION 22334                                4.304
 153 432 433 507 508 135 136 137 138  87
PATH  1087                                LENGTH    10                          LOCATION 22344                                5.004
 153 432 433 507 508 135 136 137 138  88
PATH  1088                                LENGTH     9                          LOCATION 22354                                4.777
 153 432 433 507 508 135 136 137  89
PATH  1089                                LENGTH     8                          LOCATION 22363                                4.527
 153 432 433 507 508 135 136  90
PATH  1090                                LENGTH     7                          LOCATION 22371                                4.299
 153 432 433 507 508 135  91
PATH  1091                                LENGTH     7                          LOCATION 22378                                4.015
 153 432 433 507 508 509  92
PATH  1092                                LENGTH     9                          LOCATION 22385                                4.356
 153 432 433 507 508 509 510 511  93
PATH  1093                                LENGTH    10                          LOCATION 22394                                4.811
 153 432 433 507 508 509 510 511 139  94
PATH  1094                                LENGTH    11                          LOCATION 22404                                5.038
 153 432 433 507 508 509 510 511 139 140  95
PATH  1095                                LENGTH    11                          LOCATION 22415                                5.038
 153 432 433 507 508 509 510 511 139 140  96
PATH  1096                                LENGTH    12                          LOCATION 22426                                5.299
 153 432 433 507 508 509 510 511 139 140 141  97
PATH  1097                                LENGTH    10                          LOCATION 22438                                1.499
 153 432 433 507 508 509 510 511 513  98
PATH  1098                                LENGTH    33                          LOCATION 22448                                7.618
 154 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 262
 261 260   2
PATH  1099                                LENGTH    30                          LOCATION 22481                                7.089
 154 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263   3
PATH  1100                                LENGTH    27                          LOCATION 22511                                6.719
 154 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281   4
PATH  1101                                LENGTH    23                          LOCATION 22538                                6.126
 154 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285   5
PATH  1102                                LENGTH    20                          LOCATION 22561                                5.666
 154 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288   6
PATH  1103                                LENGTH    30                          LOCATION 22581                                7.180
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107   7
PATH  1104                                LENGTH    29                          LOCATION 22611                                7.010
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106   8
PATH  1105                                LENGTH    28                          LOCATION 22640                                6.839
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105   9
PATH  1106                                LENGTH    27                          LOCATION 22668                                7.335
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104  10
PATH  1107                                LENGTH    26                          LOCATION 22695                                6.430
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103  11
PATH  1108                                LENGTH    25                          LOCATION 22721                                6.903
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102  12
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FIGURE 4-12 (Cont.)

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PATH  1109                              LENGTH    24                                  LOCATION 22746   5.976
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101  13
PATH  1110                              LENGTH    23                                  LOCATION 22770   6.449
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100  14
PATH  1111                              LENGTH    21                                  LOCATION 22793   6.090
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483  15
PATH  1112                              LENGTH    20                                  LOCATION 22814   5.942
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484  16
PATH  1113                              LENGTH    20                                  LOCATION 22834   5.230
 154 416 419 420 421 327 326 325 314 313 312 254 253 321 320 319 318 481 484  17
PATH  1114                              LENGTH    22                                  LOCATION 22854   6.570
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  18
PATH  1115                              LENGTH    22                                  LOCATION 22876   5.870
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  19
PATH  1116                              LENGTH    22                                  LOCATION 22898   5.870
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  20
PATH  1117                              LENGTH    22                                  LOCATION 22920   5.870
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110  21
PATH  1118                              LENGTH    21                                  LOCATION 22942   5.642
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109  22
PATH  1119                              LENGTH    20                                  LOCATION 22963   5.415
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108  23
PATH  1120                              LENGTH    17                                  LOCATION 22983   5.488
 154 416 419 420 421 327 326 325 314 313 312 254 255 321 320 488  24
PATH  1121                              LENGTH    16                                  LOCATION 23000   5.532
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111  25
PATH  1122                              LENGTH    17                                  LOCATION 23016   5.002
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  26
PATH  1123                              LENGTH    18                                  LOCATION 23033   5.907
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  27
PATH  1124                              LENGTH    19                                  LOCATION 23051   5.377
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  28
PATH  1125                              LENGTH    20                                  LOCATION 23070   5.548
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  29
PATH  1126                              LENGTH    21                                  LOCATION 23090   5.718
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  30
PATH  1127                              LENGTH    21                                  LOCATION 23111   5.718
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  31
PATH  1128                              LENGTH    22                                  LOCATION 23132   5.946
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116 117  32
PATH  1129                              LENGTH    21                                  LOCATION 23154   5.718
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115 116  33
PATH  1130                              LENGTH    20                                  LOCATION 23175   5.548
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114 115  34
PATH  1131                              LENGTH    19                                  LOCATION 23195   5.377
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113 114  35
PATH  1132                              LENGTH    18                                  LOCATION 23214   5.907
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112 113  36
PATH  1133                              LENGTH    17                                  LOCATION 23232   5.702
 154 416 419 420 421 327 326 325 314 313 312 254 255 256 111 112  37
PATH  1134                              LENGTH    14                                  LOCATION 23249   5.043
 154 416 419 420 421 327 326 325 328 329 324 323 492  38
PATH  1135                              LENGTH    13                                  LOCATION 23263   4.977
 154 416 419 420 421 327 326 325 328 329 495 118  39
PATH  1136                              LENGTH    14                                  LOCATION 23276   5.181
 154 416 419 420 421 327 326 325 328 329 495 118 119  40
PATH  1137                              LENGTH    15                                  LOCATION 23290   5.408
 154 416 419 420 421 327 326 325 328 329 495 118 119 120  41
PATH  1138                              LENGTH    16                                  LOCATION 23305   4.913
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121  42
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FIGURE 4-12 (Cont.)

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PATH  1139                                    LENGTH    17
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  43
PATH  1140                                    LENGTH    18
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  44
PATH  1141                                    LENGTH    19
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124  45
PATH  1142                                    LENGTH    18
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  46
PATH  1143                                    LENGTH    18
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH  1144                                    LENGTH    18
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH  1145                                    LENGTH    17
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122  49
PATH  1146                                    LENGTH    16
 154 416 419 420 421 327 326 325 328 329 495 118 119 120 121  50
PATH  1147                                    LENGTH    15
 154 416 419 420 421 327 326 325 328 329 495 118 119 120  51
PATH  1148                                    LENGTH    14
 154 416 419 420 421 327 326 325 328 329 495 118 119  52
PATH  1149                                    LENGTH    13
 154 416 419 420 421 327 326 325 328 329 495 118  53
PATH  1150                                    LENGTH    10
 154 427 428 426 425 424 499 498 125  54
PATH  1151                                    LENGTH    11
 154 427 428 426 425 424 499 498 125 126  55
PATH  1152                                    LENGTH     9
 154 427 428 426 425 424 499 498  56
PATH  1153                                    LENGTH     9
 154 427 428 426 425 424 499 498  57
PATH  1154                                    LENGTH     9
 154 427 428 426 425 424 499 127  58
PATH  1155                                    LENGTH    10
 154 427 428 426 425 424 499 127 128  59
PATH  1156                                    LENGTH    10
 154 427 428 426 425 424 499 127 128  60
PATH  1157                                    LENGTH    10
 154 427 428 426 425 424 499 127 128  61
PATH  1158                                    LENGTH     9
 154 427 428 426 425 424 499 127  62
PATH  1159                                    LENGTH     8
 154 427 428 426 425 424 499  63
PATH  1160                                    LENGTH     7
 154 427 428 426 425 424  64
PATH  1161                                    LENGTH     5
 154 427 428 502  65
PATH  1162                                    LENGTH     7
 154 427 428 502 503 129  66
PATH  1163                                    LENGTH     8
 154 427 428 502 503 129 130  67
PATH  1164                                    LENGTH     9
 154 427 428 502 503 129 130 131  68
PATH  1165                                    LENGTH    10
 154 427 428 502 503 129 130 131 132  69
PATH  1166                                    LENGTH    11
 154 427 428 502 503 129 130 131 132 133  70
PATH  1167                                    LENGTH    11
 154 427 428 502 503 129 130 131 132 133  71
PATH  1168                                    LENGTH    11
 154 427 428 502 503 129 130 131 132 133  72
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LOCATION 23321    5.083
LOCATION 23338    5.311
LOCATION 23356    5.481
LOCATION 23375    6.011
LOCATION 23393    5.311
LOCATION 23411    5.311
LOCATION 23429    5.083
LOCATION 23446    5.613
LOCATION 23462    5.408
LOCATION 23477    4.481
LOCATION 23491    4.977
LOCATION 23504    3.797
LOCATION 23514    3.967
LOCATION 23525    3.513
LOCATION 23534    3.513
LOCATION 23543    3.763
LOCATION 23552    3.990
LOCATION 23562    3.990
LOCATION 23572    3.990
LOCATION 23582    3.763
LOCATION 23591    3.342
LOCATION 23599    2.872
LOCATION 23606    2.585
LOCATION 23611    3.483
LOCATION 23618    4.388
LOCATION 23626    4.592
LOCATION 23635    4.797
LOCATION 23645    4.324
LOCATION 23656    4.324
LOCATION 23667    4.324
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FIGURE 4-12 (Cont.)

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PATH  1169                                    LENGTH    12          LOCATION 23678                    4.495
 154 427 428 502 503 129 130 131 132 133 134  73
PATH  1170                                    LENGTH    11          LOCATION 23690                    4.324
 154 427 428 502 503 129 130 131 132 133  74
PATH  1171                                    LENGTH    10          LOCATION 23701                    4.097
 154 427 428 502 503 129 130 131 132  75
PATH  1172                                    LENGTH     9          LOCATION 23711                    4.592
 154 427 428 502 503 129 130 131  76
PATH  1173                                    LENGTH     8          LOCATION 23720                    3.688
 154 427 428 502 503 129 130  77
PATH  1174                                    LENGTH     7          LOCATION 23728                    4.183
 154 427 428 502 503 129  78
PATH  1175                                    LENGTH     6          LOCATION 23735                    3.729
 154 427 428 502 503  79
PATH  1176                                    LENGTH     5          LOCATION 23741                    3.674
 154 432 433 507  80
PATH  1177                                    LENGTH     7          LOCATION 23746                    3.599
 154 432 433 507 508 135  81
PATH  1178                                    LENGTH     8          LOCATION 23753                    6.764
 154 432  43 507 508 135 136  82
PATH  1179                                    LENGTH     9          LOCATION 23761                    4.777
 154 432 433 507 508 135 136 137  83
PATH  1180                                    LENGTH     9          LOCATION 23770                    4.077
 154 432 433 507 508 135 136 137  84
PATH  1181                                    LENGTH    10          LOCATION 23779                    4.304
 154 432 433 507 508 135 136 137 138  85
PATH  1182                                    LENGTH    10          LOCATION 23789                    4.304
 154 432 433 507 508 135 136 137 138  86
PATH  1183                                    LENGTH    10          LOCATION 23799                    4.304
 154 432 433 507 508 135 136 137 138  87
PATH  1184                                    LENGTH    10          LOCATION 23809                    5.004
 154 432 433 507 508 135 136 137 138  88
PATH  1185                                    LENGTH     9          LOCATION 23819                    4.777
 154 432 433 507 508 135 136 137  89
PATH  1186                                    LENGTH     8          LOCATION 23828                    4.527
 154 432 433 507 508 135 136  90
PATH  1187                                    LENGTH     7          LOCATION 23836                    4.299
 154 432 433 507 508 135  91
PATH  1188                                    LENGTH     7          LOCATION 23843                    4.015
 154 432 433 507 508 509  92
PATH  1189                                    LENGTH     9          LOCATION 23850                    4.356
 154 432 433 507 508 509 510 511  93
PATH  1190                                    LENGTH    10          LOCATION 23859                    4.811
 154 432 433 507 508 509 510 511 139  94
PATH  1191                                    LENGTH    11          LOCATION 23869                    5.039
 154 432 433 507 508 509 510 511 139 140  95
PATH  1192                                    LENGTH    11          LOCATION 23880                    5.038
 154 432 433 507 508 509 510 511 139 140  96
PATH  1193                                    LENGTH    12          LOCATION 23891                    5.299
 154 432 433 507 508 509 510 511 139 140 141  97
PATH  1194                                    LENGTH    10          LOCATION 23903                    1.499
 154 432 433 507 508 509 510 511 513  98
PATH  1195                                    LENGTH    30          LOCATION 23913                    8.263
   2 260 261 262 263 279 280 281 282 283 284 285 286 287 315 316 317 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1196                                    LENGTH    27          LOCATION 23943                    7.734
   3 263 279 280 281 282 283 284 285 286 287 315 316 317 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1197                                    LENGTH    24          LOCATION 23970                    7.364
   4 281 282 283 284 285 286 287 315 316 317 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1198                                    LENGTH    20          LOCATION 23994                    6.771
   5 285 286 287 315 316 317 481 480 479 473 472 471 470 469 468 467 466 465 464
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FIGURE 4-12.(Cont.)

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PATH  1199                                LENGTH    12                                LOCATION 24014                                5.521
  6 474 473 472 471 470 469 468 467 466 465 464
PATH  1200                                LENGTH    20                                LOCATION 24026                                6.423
  7 107 106 105 104 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1201                                LENGTH    20                                LOCATION 24046                                6.423
  8 107 106 105 104 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1202                                LENGTH    19                                LOCATION 24066                                6.253
  9 106 105 104 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1203                                LENGTH    18                                LOCATION 24085                                6.782
  10 105 104 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1204                                LENGTH    17                                LOCATION 24103                                5.878
  11 104 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1205                                LENGTH    16                                LOCATION 24120                                6.373
  12 103 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1206                                LENGTH    15                                LOCATION 24136                                5.446
  13 102 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1207                                LENGTH    14                                LOCATION 24151                                5.919
  14 101 100 478 473 472 471 470 469 468 467 466 465 464
PATH  1208                                LENGTH    16                                LOCATION 24165                                6.153
  15 482 483 484 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1209                                LENGTH    15                                LOCATION 24181                                6.005
  16 483 484 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1210                                LENGTH    15                                LOCATION 24196                                5.305
  17 483 484 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1211                                LENGTH    18                                LOCATION 24211                                6.890
  18 110 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1212                                LENGTH    18                                LOCATION 24229                                6.190
  19 110 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1213                                LENGTH    18                                LOCATION 24247                                6.190
  20 110 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1214                                LENGTH    18                                LOCATION 24265                                6.190
  21 110 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1215                                LENGTH    18                                LOCATION 24283                                6.190
  22 110 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1216                                LENGTH    17                                LOCATION 24301                                5.962
  23 109 108 486 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1217                                LENGTH    18                                LOCATION 24318                                6.460
  24 489 488 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1218                                LENGTH    21                                LOCATION 24336                                7.119
  25 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1219                                LENGTH    22                                LOCATION 24357                                6.624
  26 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1220                                LENGTH    23                                LOCATION 24379                                7.494
  27 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1221                                LENGTH    24                                LOCATION 24402                                6.965
  28 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1222                                LENGTH    25                                LOCATION 24426                                7.135
  29 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1223                                LENGTH    26                                LOCATION 24451                                7.362
  30 117 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1224                                LENGTH    26                                LOCATION 24477                                7.362
  31 117 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1225                                LENGTH    26                                LOCATION 24503                                7.362
  32 117 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1226                                LENGTH    26                                LOCATION 24529                                7.362
  33 117 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1227                                LENGTH    25                                LOCATION 24555                                7.135
  34 116 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1228                                LENGTH    24                                LOCATION 24580                                6.965
  35 115 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
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FIGURE 4-12 (Cont.)

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PATH  1229                                LENGTH    23                                LOCATION 24604                                    7.494
  36 114 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1230                                LENGTH    22                                LOCATION 24627                                    7.324
  37 113 112 111 256 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1231                                LENGTH    21                                LOCATION 24649                                    6.892
  38 493 492 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1232                                LENGTH    24                                LOCATION 24670                                    7.566
  39 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1233                                LENGTH    25                                LOCATION 24694                                    7.794
  40 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1234                                LENGTH    26                                LOCATION 24719                                    7.998
  41 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1235                                LENGTH    27                                LOCATION 24745                                    7.469
  42 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1236                                LENGTH    28                                LOCATION 24772                                    7.696
  43 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1237                                LENGTH    29                                LOCATION 24800                                    7.866
  44 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1238                                LENGTH    29                                LOCATION 24829                                    7.866
  45 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1239                                LENGTH    29                                LOCATION 24858                                    8.566
  46 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1240                                LENGTH    29                                LOCATION 24887                                    7.866
  47 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1241                                LENGTH    29                                LOCATION 24916                                    7.866
  48 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1242                                LENGTH    28                                LOCATION 24945                                    7.696
  49 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1243                                LENGTH    27                                LOCATION 24973                                    8.169
  50 122 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1244                                LENGTH    26                                LOCATION 25000                                    7.998
  51 121 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1245                                LENGTH    25                                LOCATION 25026                                    7.094
  52 120 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1246                                LENGTH    24                                LOCATION 25051                                    7.566
  53 119 118 422 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1247                                LENGTH    26                                LOCATION 25075                                    7.158
  54 126 125 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1248                                LENGTH    26                                LOCATION 25101                                    7.158
  55 126 125 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1249                                LENGTH    25                                LOCATION 25127                                    6.866
  57 497 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1250                                LENGTH    25                                LOCATION 25152                                    6.866
  56 497 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1251                                LENGTH    27                                LOCATION 25177                                    7.522
  58 128 127 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1252                                LENGTH    27                                LOCATION 25204                                    7.522
  59 128 127 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1253                                LENGTH    27                                LOCATION 25231                                    7.522
  60 128 127 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1254                                LENGTH    27                                LOCATION 25258                                    7.522
  61 128 127 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1255                                LENGTH    27                                LOCATION 25285                                    7.522
  62 128 127 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1256                                LENGTH    26                                LOCATION 25312                                    7.044
  63 499 498 423 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1257                                LENGTH    28                                LOCATION 25338                                    6.902
  64 500 424 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
PATH  1258                                LENGTH    30                                LOCATION 25366                                    7.204
  65 503 502 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466 465 464
```

FIGURE 4-12 (Cont.)

```
PATH  1259                              LENGTH    32                              LOCATION 25396                                                  8.183
  66 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467 466
 465 464
PATH  1260                              LENGTH    33                              LOCATION 25428                                                  9.087
  67 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468 467
 466 465 464
PATH  1261                              LENGTH    34                              LOCATION 25461                                                  9.292
  68 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469 468
 467 466 465 464
PATH  1262                              LENGTH    35                              LOCATION 25495                                                  9.519
  69 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470 469
 468 467 466 465 464
PATH  1263                              LENGTH    36                              LOCATION 25530                                                  8.989
  70 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470
 469 468 467 466 465 464
PATH  1264                              LENGTH    36                              LOCATION 25566                                                  8.989
  71 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470
 469 468 467 466 465 464
PATH  1265                              LENGTH    36                              LOCATION 25602                                                  8.989
  72 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470
 469 468 467 466 465 464
PATH  1266                              LENGTH    36                              LOCATION 25638                                                  8.989
  73 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 473 472 471 470
 469 468 467 466 465 464
PATH  1267                              LENGTH    32                              LOCATION 25674                                                  8.387
  74 134 133 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560
 465 464
PATH  1268                              LENGTH    31                              LOCATION 25706                                                  8.217
  75 133 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465
 464
PATH  1269                              LENGTH    30                              LOCATION 25737                                                  8.690
  76 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1270                              LENGTH    29                              LOCATION 25767                                                  7.785
  77 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1271                              LENGTH    28                              LOCATION 25796                                                  8.280
  78 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1272                              LENGTH    27                              LOCATION 25824                                                  7.765
  79 503 505 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1273                              LENGTH    25                              LOCATION 25851                                                  7.498
  80 506 508 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1274                              LENGTH    25                              LOCATION 25876                                                  7.186
  81 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1275                              LENGTH    26                              LOCATION 25901                                                  8.136
  82 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1276                              LENGTH    27                              LOCATION 25927                                                  8.363
  83 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1277                              LENGTH    27                              LOCATION 25954                                                  7.663
  84 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1278                              LENGTH    27                              LOCATION 25981                                                  7.663
  85 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
```

FIGURE 4-12 (Cont.)

```
PATH  1279                                LENGTH    27                                LOCATION 26008                                7.663
  86 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1280                                LENGTH    27                                LOCATION 26035                                7.663
  87 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1281                                LENGTH    27                                LOCATION 26062                                8.363
  88 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1282                                LENGTH    27                                LOCATION 26089                                8.363
  89 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1283                                LENGTH    26                                LOCATION 26116                                8.136
  90 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1284                                LENGTH    25                                LOCATION 26142                                7.886
  91 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1285                                LENGTH    23                                LOCATION 26167                                7.204
  92 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1286                                LENGTH    21                                LOCATION 26190                                6.863
  93 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1287                                LENGTH    22                                LOCATION 26211                                7.374
  94 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1288                                LENGTH    23                                LOCATION 26233                                7.636
  95 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1289                                LENGTH    23                                LOCATION 26256                                7.636
  96 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1290                                LENGTH    23                                LOCATION 26279                                7.636
  97 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
PATH  1291                                LENGTH    18                                LOCATION 26302                                5.311
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  47
PATH  1292                                LENGTH    18                                LOCATION 26320                                5.311
 153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123  48
PATH  1293                                LENGTH    19                                LOCATION 26338                                3.549
  98 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464
THIS AIRPORT USES THE FOLLOWING:
LINKS:    546          PATHS:    1293          PATH SEGMENTS:   26356
AVERAGE PATH LENGTH IS 20.38  SEGMENTS
```

FIGURE 4-12 (Cont.)

```
TAXIWAY ONE-WAY PATHS
LINKS  9
     478     100     101     102     103     104     105     106     107
LINKS  4
     486     108     109     110
LINKS  8
     256     111     112     113     114     115     116     117
LINKS  7
     118     119     120     121     122     123     124
LINKS  2
     127     128
LINKS  7
     504     129     130     131     132     133     134
LINKS  6
     507     508     135     136     137     138
LINKS  4
     512     139     140     141
LINKS  2
     484     483
LINKS  2
     483     484
LINKS  2
     288     289
LINKS  2
     289     288
LINKS 14
     317     316     315     287     286     285     284     283     281     280
     279     263     262     261
LINKS  2
     125     126
LINKS  4
     135     136     137     138
LINKS  3
     139     140     141
LINKS  6
     129     130     131     132     133     134
LINKS  7
     111     112     113     114     115     116     117
LINKS  8
     100     101     102     103     104     105     106     107

NUMBER OF AIRLINES
      14

AIRLINE CODES
     AA      AL      NC      UA1     TW      EA      DL      OZ      AC      CO
      I      NW      BR      UA2
```

FIGURE 4-12 (Cont.)

```
AIRLINE GATES
    AA
      7       8       9       11      13      17      30      31      10      12
     14      15      16      18
    AL
     19
    NC
     20      21      22      28      29
    UA1
     45      47      48      49      52      56      57      58      59      60
     61      62      63      66      70      71      72      73
    TW
     33      34      35      42      43      44      36      37      38      39
     40      41
    EA
     74      75      77      76      78
    DL
     23      26      24      25      27
    OZ
     54      55
    AC
     32
    CO
     79
    I
     87      88      89      90      91      92      93      94      95      96
     97      98
    NW
     81      84      80      82      83
    BR
     85      86
    UA2
     46      50      51      53      64      65      67      68      69

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)
    0.0

A/C SEPARATIONS
128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / ARRIVAL, DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 - D CLASS
                           2 - C CLASS
                           3 - B CLASS
                           4 - A CLASS
THE ORDER OF SETS OF (X,Y) IS -
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)
```

FIGURE 4-12 (Cont.)

LEAD A/C RUNWAY 1 TRAIL A/C RUNWAY 1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)

4.00	0.50	5.00	0.50	6.00	0.50	6.00	0.50
3.60	0.50	3.00	0.50	4.00	0.30	4.00	0.30
4.30	0.30	3.70	0.20	3.00	0.10	3.00	0.10
6.60	0.10	5.80	0.10	5.20	0.10	3.00	0.10
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.50	0.20	2.00	0.25	2.00	0.25	2.00	0.25
1.00	0.10	1.00	0.10	1.00	0.10	1.00	0.10
1.00	0.10	1.00	0.10	1.00	0.10	1.00	0.10
1.00	0.10	1.00	0.10	1.00	0.10	1.00	0.10
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LEAD A/C RUNWAY 3 TRAIL A/C RUNWAY 1
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.70	0.10	4.30	0.10	4.00	0.10	3.20	0.10
2.50	0.10	2.50	0.10	2.50	0.10	2.50	0.10
2.50	0.10	2.50	0.10	2.50	0.10	2.50	0.10
2.50	0.10	2.50	0.10	2.50	0.10	2.50	0.10
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LEAD A/C RUNWAY 1 TRAIL A/C RUNWAY 3
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00	0.0	2.00	0.0	2.00	0.0	2.00	0.0
0.10	0.0	0.10	0.0	0.10	0.0	0.10	0.0
0.10	0.0	0.10	0.0	0.10	0.0	0.10	0.0
0.10	0.0	0.10	0.0	0.10	0.0	0.10	0.0

FIGURE 4-12 (Cont.)

```
LEAD A/C RUNWAY    4        TRAIL A/C RUNWAY    2
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    2.00      0.0     2.00      0.0     2.00      0.0     2.00      0.0
    2.00      0.0     2.00      0.0     2.00      0.0     2.00      0.0
    2.00      0.0     2.00      0.0     2.00      0.0     2.00      0.0
    2.00      0.0     2.00      0.0     2.00      0.0     2.00      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0

LEAD A/C RUNWAY    2        TRAIL A/C RUNWAY    4
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
    0.10      0.0     0.10      0.0     0.10      0.0     0.10      0.0
    0.10      0.0     0.10      0.0     0.10      0.0     0.10      0.0
    0.10      0.0     0.10      0.0     0.10      0.0     0.10      0.0
    0.10      0.0     0.10      0.0     0.10      0.0     0.10      0.0
```

FIGURE 4-12 (Cont.)

A/C SCHEDULE DATA

A/C NO.	AIRLINE	GATE	FLT.TYPE	CLASS	ARRIVE	DEPART	SERV.TIME	ARR.RWY	DEP.RWY
1	UA1	45	4	2	1: 0	2:10	29.00	2	3
2	TW	34	4	2	1: 0	2: 0	34.82	1	3
3	AA	7	4	2	1: 2	1:40	29.98	2	3
4	DL	26	4	2	1: 2	1:45	36.36	2	4
5	CO	79	4	2	1: 3	1:40	31.90	1	4
6	UA1	48	4	2	1: 3	2: 0	35.44	2	4
7	UA2	46	4	1	1: 5	2: 5	47.65	2	3
8	UA1	52	4	2	1: 5	2: 0	37.12	1	3
9	UA1	59	4	2	1: 6	2:10	40.29	2	3
10	NC	28	4	2	1: 7	1:45	40.48	2	3
11	UA1	60	4	2	1: 9	2: 5	35.88	2	3
12	DL	23	4	3	1:10	1:45	16.38	1	3
13	NW	84	4	2	1:10	2: 0	38.49	2	3
14	UA1	61	4	2	1:12	2: 0	33.45	2	4
15	UA1	62	4	2	1:13	2: 5	35.17	2	3
16	I	98	4	3	1:15	1:45	18.80	1	4
17	BR	85	4	1	1:17	2: 5	46.98	1	3
18	AL	19	4	3	1:18	1:45	23.24	2	4
19	UA1	65	4	2	1:19	2:10	34.00	1	3
20	UA1	70	4	2	1:20	2: 5	31.50	2	3
21	UA1	49	4	2	1:20	2:10	40.29	1	4
22	UA2	51	4	1	1:20	2:15	47.19	2	3
23	UA2	53	4	1	1:20	2:15	46.90	2	4
24	NW	80	4	2	1:20	2:25	34.99	1	3
25	UA2	64	4	1	1:23	2:25	47.89	2	4
26	UA2	68	4	1	1:25	3:30	51.95	2	3
27	DL	25	4	1	1:25	2:25	49.34	1	3
28	NW	81	4	3	1:25	1:50	18.76	2	4
29	AC	32	4	2	1:29	2:35	31.31	2	4
30	NC	21	4	3	1:30	1:40	17.76	1	4
31	UA1	56	4	3	1:30	2:15	17.23	2	4
32	EA	75	4	2	1:30	2:30	33.49	2	4
33	EA	76	4	2	1:35	3:25	40.02	1	4
34	I	96	4	3	1:35	2:25	21.84	2	4
35	UA1	57	4	3	1:35	2:30	21.27	1	3
36	NC	20	4	3	1:35	2:30	23.68	2	4
37	TW	43	4	2	1:36	2:15	29.54	1	4
38	UA1	71	4	2	1:39	2:45	34.81	2	4
39	NC	29	4	2	1:40	2:30	29.01	2	3
40	TW	41	4	2	1:42	2:30	37.72	2	4
41	AA	7	4	2	1:44	2:15	31.37	1	4
42	AA	10	4	2	1:45	2:45	39.29	2	4
43	I	88	4	2	1:45	2:45	38.68	1	3
44	CO	79	4	1	1:45	2:15	51.60	2	4
45	NW	82	4	2	1:45	2:25	35.00	2	4
46	NC	21	4	3	1:45	2:30	17.80	1	3
47	AA	9	4	3	1:48	2:25	21.60	1	4
48	I	87	4	2	1:49	3: 5	38.66	2	4
49	AL	19	4	2	1:50	2:30	32.94	2	3
50	UA2	63	4	2	1:53	2:25	37.54	1	4
51	I	92	4	2	1:55	3:25	32.68	2	3
52	I	90	4	1	1:55	2:55	42.00	1	4
53	NC	29	4	2	1:55	2:50	29.68	1	4
54	I	94	4	1	1:55	2:50	47.31	2	4
55	DL	27	4	2	1:55	2:45	35.01	2	3
56	AA	14	4	2	1:55	2:40	36.33	2	3

FIGURE 4-12 (Cont.)

57	EA	78	4	2	1:56	2:55	32.72	2	4
58	TW	36	4	2	1:58	2:30	41.00	2	3
59	TW	37	4	3	1:58	2:34	23.26	2	4
60	UA1	73	4	3	1:59	2:21	17.29	2	4
61	I	95	4	3	1:59	2:45	23.72	1	4
62	AA	18	4	1	2: 0	2:35	52.64	2	4
63	AA	11	4	2	2: 3	2:50	36.83	1	4
64	AA	13	4	2	2: 4	3:30	39.71	1	4
65	NW	81	4	2	2: 4	2:45	33.73	2	3
66	NC	22	4	3	2: 5	2:55	16.80	1	4
67	NW	84	4	2	2:10	2:35	36.33	2	4
68	OZ	54	4	3	2:10	3: 0	21.45	1	4
69	TW	34	4	2	2:12	2:45	34.69	1	4
70	DL	23	4	2	2:15	2:55	29.69	2	3
71	TW	35	4	2	2:19	3:10	36.87	2	3
72	DL	26	4	2	2:19	3:34	36.81	1	4
73	AA	30	4	2	2:20	3:10	29.95	2	4
74	TW	43	4	2	2:25	3:30	33.61	2	3
75	I	91	4	1	2:25	4:10	46.98	2	3
76	UA1	56	4	3	2:25	3:15	21.42	2	4
77	CO	79	4	1	2:25	3:30	49.02	2	4
78	UA1	73	4	2	2:26	3:15	37.45	1	3
79	UA1	45	4	2	2:27	3:15	35.14	2	4
80	OZ	55	4	2	2:30	3:20	36.63	1	4
81	UA1	60	4	2	2:32	3:15	36.39	1	3
82	TW	44	4	2	2:32	3: 5	33.73	2	3
83	NW	82	4	2	2:33	3:10	29.85	1	4
84	TW	36	4	1	2:35	3:10	43.81	1	4
85	UA1	62	4	2	2:36	3:25	38.57	2	4
86	UA1	48	4	2	2:36	3:35	35.94	1	3
87	UA1	49	4	2	2:37	3:30	37.62	2	4
88	UA1	52	4	2	2:39	3:35	30.17	1	4
89	UA2	46	4	1	2:40	3:35	48.05	2	4
90	DL	25	4	2	2:40	3:30	33.58	1	4
91	AA	13	4	3	2:45	3:15	20.63	2	3
92	TW	41	4	2	2:45	3:20	39.21	1	4
93	TW	39	4	2	2:45	3:20	39.34	1	4
94	UA1	59	4	2	2:45	3:30	40.14	1	4
95	UA2	50	4	1	2:50	3:50	51.32	2	3
96	AA	7	4	2	2:52	3:40	38.43	1	4
97	UA1	61	4	2	2:55	3:45	29.00	2	4
98	DL	27	4	1	3: 3	4: 5	49.14	2	4
99	AA	31	4	2	3: 5	4:15	31.25	2	3
100	NW	84	4	2	3: 5	3:45	41.00	2	4
101	EA	77	4	2	3: 5	4: 0	35.33	1	4
102	UA1	71	4	2	3:12	4:45	29.06	2	4
103	UA2	64	4	1	3:12	0: 0	50.23	1	4
104	BR	86	4	2	3:15	4:10	31.41	2	3
105	DL	25	4	1	3:17	4:35	46.03	1	4
106	TW	30	4	2	3:18	4:35	32.42	1	3
107	DL	23	4	3	3:20	4:40	17.18	1	3
108	AA	17	4	2	3:22	4:40	34.17	1	4
109	NW	82	4	2	3:23	3:55	38.54	2	4
110	NC	28	4	2	3:25	4:15	38.71	1	4
111	TW	44	4	2	3:28	4:30	37.37	2	3
112	AA	13	4	2	3:30	4:15	39.10	1	3
113	UA1	57	4	2	3:35	0: 0	35.35	1	4
114	UA1	52	4	2	3:40	0: 0	40.42	2	4
115	I	89	4	2	3:40	4:50	31.52	1	4
116	UA1	62	4	2	3:40	4:40	35.72	2	4
117	UA1	63	4	2	3:40	4:35	29.00	1	3

AIRCRAFT READ IN: 117

FIGURE 4-12 (Cont.)

EXAMPLE 2

* * * AVERAGE FLOW RATES * * *

TIME - FROM 1. 0. 0 TO 2. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A.	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	22	0.14	0.55	0.32	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	34	0.21	0.65	0.15	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
3	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	2	0.0	0.50	0.50	0.0
4	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	2	0.0	0.50	0.50	0.0
TOTAL	56	0.18	0.61	0.21	0.0	0	0.0	0.0	0.0	0.0	4	0.0	0.50	0.50	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	10	36	14	0	60

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	51	0.18	0.61	0.22	0.0	11	0.0	0.64	0.36	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	51	0.18	0.61	0.22	0.0	11	0.0	0.64	0.36	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	56	0.18	0.61	0.21	0.0	11	0.0	0.64	0.36	0.0

MODEL OUTPUT FOR EXAMPLE 1
FIGURE 4-13

EXAMPLE 2

AVERAGE DELAY SUMMARY

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.74	0.0
2	2.95	0.0
3	0.0	1.07
4	0.0	3.38
WEIGHTED AVERAGE	2.08	2.23

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
0.00	0.44	0.0	0.12	0.0	0.03

ARRIVAL AIRFIELD DELAY = 2.21 DEPARTURE AIRFIELD DELAY = 2.70

AVERAGE TRAVEL TIME SUMMARY

TIME - FROM 1. 0. 0 TO 2. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	4.28	0.0
2	4.47	0.0
3	0.0	6.75
4	0.0	8.54
WEIGHTED AVERAGE	4.40	7.64

FIGURE 4-13 (Cont.)

EXAMPLE 2

AVERAGE FLOW RATES

TIME - FROM 2. 0. 0 TO 3. 0. 0

		ARRIVAL					TOUCH-AND-GO					DEPARTURE				
RWY NO.	TOTAL	D	C	B	A.		TOTAL	D	C	B	A	TOTAL	D	C	B	A
1	18	0.06	0.83	0.11	0.0		0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	23	0.22	0.61	0.17	0.0		0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
3	0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	22	0.18	0.73	0.09	0.0
4	0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	26	0.12	0.54	0.35	0.0
TOTAL	41	0.15	0.71	0.15	0.0		0	0.0	0.0	0.0	0.0	48	0.15	0.63	0.23	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	13	59	17	0	89

	ON GATE					OFF GATE				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	44	0.14	0.70	0.16	0.0	50	0.18	0.60	0.22	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	44	0.14	0.70	0.16	0.0	50	0.18	0.60	0.22	0.0

	TAXI-IN					TAXI-OUT				
	TOTAL	D	C	B	A	TOTAL	D	C	B	A
	41	0.15	0.71	0.15	0.0	50	0.18	0.60	0.22	0.0

FIGURE 4-13 (Cont.)

EXAMPLE 2

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.52	0.0
2	2.69	0.0
3	0.0	2.67
4	0.0	4.56
WEIGHTED AVERAGE	1.74	3.70

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
0.29	0.76	0.0	0.69	0.0	0.10

ARRIVAL AIRFIELD DELAY = 2.72 DEPARTURE AIRFIELD DELAY = 4.56

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	5.34	0.0
2	5.55	0.0
3	0.0	9.41
4	0.0	12.00
WEIGHTED AVERAGE	5.46	10.81

FIGURE 4-13 (Cont.)

EXAMPLE 2

* * * A V E R A G E F L O W R A T E S * * *

TIME - FROM 3. 0. 0 TO 4. 0. 0

RWY NO.	ARRIVAL TOTAL	D	C	B	A	TOUCH-AND-GO TOTAL	D	C	B	A	DEPARTURE TOTAL	D	C	B	A
1	11	0.18	0.73	0.09	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	9	0.11	0.89	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
3	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	11	0.18	0.73	0.09	0.0
4	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	28	0.18	0.71	0.11	0.0
TOTAL	20	0.15	0.80	0.05	0.0	0	0.0	0.0	0.0	0.0	39	0.18	0.72	0.10	0.0

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	10	44	5	0	59

	ON GATE TOTAL	D	C	B	A	OFF GATE TOTAL	D	C	B	A
	20	0.15	0.80	0.05	0.0	34	0.18	0.76	0.06	0.0
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	20	0.15	0.80	0.05	0.0	34	0.18	0.76	0.06	0.0

	TAXI-IN TOTAL	D	C	B	A	TAXI-OUT TOTAL	D	C	B	A
	20	0.15	0.80	0.05	0.0	34	0.18	0.76	0.06	0.0

FIGURE 4-13 (Cont.)

EXAMPLE 2

* * * A V E R A G E D E L A Y S U M M A R Y * * *

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.58	0.0
2	0.46	0.0
3	0.0	2.01
4	0.0	1.78
WEIGHTED AVERAGE	0.52	1.85

AVERAGE GATE DELAY		AVERAGE TAXI-IN DELAY		AVERAGE TAXI-OUT DELAY	
ARRIVAL	DEPARTURE	RUNWAY CROSSING	ARRIVAL TAXI-IN	RUNWAY CROSSING	DEPARTURE TAXI-OUT
0.0	0.83	0.0	0.73	0.0	0.02

ARRIVAL AIRFIELD DELAY = 1.26 DEPARTURE AIRFIELD DELAY = 2.69

* * * A V E R A G E T R A V E L T I M E S U M M A R Y * * *

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	4.61	0.0
2	5.97	0.0
3	0.0	8.78
4	0.0	9.30
WEIGHTED AVERAGE	5.22	9.15

FIGURE 4-13 (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
9	0.0	0.3221
11	0.0	0.3369
14	0.0	1.2099
18	0.0	0.1075
19	0.0	2.8863
22	0.0	2.6373
23	0.0	3.4527
25	0.0	5.0552
26	0.0	1.3331
27	0.0	1.8123
28	0.0	0.1292
29	0.0	0.0155
30	0.0	1.7732
32	0.0	0.2660
33	0.0	0.5490
35	0.0	2.3600
36	0.0	0.5393
37	0.0	1.1432
39	0.0	2.8602
41	0.0	2.6951
44	0.0	1.8582
45	0.0	0.6331
46	0.0	1.9491
47	0.0	2.8067
49	0.0	4.9175
51	0.0	0.7578
52	0.0	9.7723
53	0.0	3.6668
59	0.0	0.2745
61	0.0	1.8620
62	0.0	2.6373
66	0.0	2.2922
70	0.0	2.1524
81	0.0	3.5607
82	0.0	1.0381
84	0.0	0.7525
90	0.0	0.7202
100	0.0114	0.0
108	0.0	0.0286
109	0.0	0.0495
112	0.0	0.0036
139	0.0	0.0109
254	0.2886	0.0
255	9.8507	0.0
256	0.2565	0.0085
318	2.2747	0.1812
319	0.4451	0.0543

FIGURE 4-13 (Cont.)

320	0.0	0.1699
321	0.0	0.0640
322	1.9823	0.1176
323	0.0100	0.7221
324	0.0	0.1178
329	0.0519	0.0
330	1.1633	0.1358
332	0.0179	0.0626
400	0.0282	0.0
402	0.0095	0.0
405	0.0382	0.0
407	0.0103	0.0
416	0.0049	0.0
422	0.0	0.3100
424	0.6594	0.0
425	0.3521	0.0
428	0.0239	0.0
429	0.0232	0.0023
430	3.8885	0.0155
431	2.4815	0.0074
432	0.0126	0.0
433	2.3534	0.0
434	1.6364	0.0
435	0.3811	0.0
445	0.0143	0.0
466	0.0	0.0357
467	0.0	0.0024
468	0.0	0.1218
469	0.0	0.0289
470	0.0	0.0062
471	0.0	0.0024
472	0.0	0.0024
478	0.4130	0.0431
479	3.2091	0.1540
480	0.0158	1.9542
481	0.0	0.4226
485	0.0	0.0057
486	0.0	0.0136
491	3.1099	0.0
492	0.0	0.0059
495	12.6875	0.0
497	0.0	0.0093
504	0.0461	0.0092
507	0.2564	1.1638
508	1.7470	0.0143
513	0.0	0.0015
515	0.0226	0.0
543	0.0	0.0074
553	0.0	0.0370
560	0.0	0.0667
561	0.0	0.0080

FIGURE 4-13 (Cont.)

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