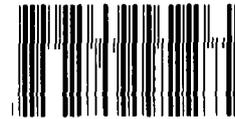United States General Accounting Office   /32903

GAO

Fact Sheet for the Chairman,
Subcommittee on Transportation and
Related Agencies, Committee on
Appropriations, United States Senate

May 1987

FAA STAFFING

Air Traffic Controllers' Work Load and Operational Performance

132903

Resources, Community, and
Economic Development Division

B-222217

May 6, 1987

The Honorable Frank R. Lautenberg
Chairman, Subcommittee on Transportation
  and Related Agencies
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

In accordance with your March 12, 1987, letter and
subsequent discussions with your office, we obtained
information on certain aspects of the air traffic control
work force and operational performance within the Federal
Aviation Administration (FAA), Department of Transportation.
In our February 27, 1987, testimony on Chicago's Air Route
Traffic Control Center and O'Hare Airport before the
Subcommittee on Government Activities and Transportation,
House Committee on Government Operations, we provided
information on, among other things, air traffic activity,
controller and traffic management unit staffing, and
operational performance.

Our February 27 testimony stated that because of shortages
of full performance level (FPL) controllers at the Chicago
facilities, controllers and their supervisors were concerned
about their ability to maintain system safety. Retirements,
training attrition, and increased air traffic had
contributed to an increased work load at these facilities.
Overtime usage was increasing in fiscal year 1987 to meet
the need for more on-the-job training. Operational errors
at the O'Hare tower had increased between 1985 and 1986.
Furthermore, because of inadequate flow control procedures
and minimum staffing of traffic management units at these
facilities, Chicago's existing traffic management system
relied on controllers' judgments as to how much traffic they
could safely handle. Thus, we supported the recommendation
of the National Transportation Safety Board that both
controller capabilities and airport capacity be considered
in determining appropriate levels of air traffic.

This fact sheet provides information on 15 other centers and
25 terminals. Specifically, sections 2 through 8 provide
data on air traffic activity; FPL controller staffing; first
line supervisor staffing; traffic management unit staffing;
overtime; field training attrition; and operational
performance.

Generally, the data indicate that while FPL controller staffing is below 1981 pre-strike levels, FAA is making progress in increasing its controller work force at these locations. However, staffing levels at nearly all facilities are below currently authorized levels. Including Chicago O'Hare, FAA projects that fiscal year 1987 overtime use will increase at 13 terminal facilities and 3 centers, and will decrease at 13 terminals and 13 centers, including Chicago center. Also, according to FAA data, 10 percent or more of the on-board controllers and supervisors at many centers are eligible to retire.

As agreed with your office, we did not analyze the effects of these conditions at these locations. These statistics by themselves should not be considered as the only factors that bear on the efficiency and safety of the air traffic system. Other variables can influence a location's efficiency and margin of air safety, such as weather, the amount of air traffic, and the level of expertise of the resident air traffic controller work force. We are currently examining the issue of controller capabilities as part of an evaluation of FAA's air traffic controller staffing standards.

As discussed in greater detail in section 1, we selected facilities using a judgmental sample, and therefore, these facilities may not be representative of all air traffic facilities nationwide. Specifically, we selected facilities primarily on the basis of (1) staffing of traffic management units at centers or (2) at least a 20 percent increase in air traffic activity from June 1981 to June 1986. Personnel data were collected from FAA's Personnel Management Information System and payroll systems, and from individual facilities through telephone interviews. Operational performance data were obtained from FAA's Offices of Air Traffic Evaluation and Analysis and Aviation Safety. The data presented in this fact sheet were provided by FAA. We have not independently verified them. We did our work during March and April 1987.

- - - -

We discussed the data in this fact sheet with FAA officials and their comments have been incorporated, as appropriate. As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this fact sheet until 30 days from the date of this letter.

2

B-222217

At that time, we will send copies to the Secretary of Transportation, FAA's Administrator, and other interested parties. If you have any questions about this fact sheet, please call Herbert R. McLure, Associate Director, on (202) 275-7783 or me at (202) 366-1743.

Major contributors to this fact sheet are listed in appendix I.

Sincerely yours,

Kenneth M. Mead
Associate Director

3

Contents

ABBREVIATIONS

FAA	Federal Aviation Administration
FPL	full performance level (controller)
GAO	General Accounting Office
N/A	not applicable
PMIS	Personnel Management Information System
TRACON	Terminal Radar Approach Control facility

SECTION 1
OBJECTIVES, SCOPE, AND METHODOLOGY

On March, 12, 1987, the Chairman, Subcommittee on
Transportation and Related Agencies, Senate Committee on
Appropriations, requested that we survey major air traffic control
facilities for information on controller staffing, retirements,
work load, training, and other safety indicators. This request
followed our February 27, 1987, testimony on the Chicago Air Route
Traffic Control Center and the Chicago O'Hare airport before the
Subcommittee on Government Activities and Transportation, House
Committee on Government Operations. This fact sheet provides
similar information with some additional data for other major
facilities as we provided on these Chicago facilities.
Specifically,

-- Section 2 presents data on the growth in air traffic
   activity,

-- Section 3 presents data on Full Performance Level
   (FPL) controller staffing,

-- Section 4 presents data on first line supervisor
   staffing,

-- Section 5 presents data on traffic management unit
   staffing,

-- Section 6 presents data on overtime,

-- Section 7 presents data on attrition of new Federal
   Aviation Administration (FAA) Academy graduates received
   at each field facility, and

-- Section 8 presents operational performance data.

As requested by the Chairman's office, information from the
Chicago testimony is included in this fact sheet. With some
exceptions, we have updated the Chicago data and added information
for Chicago that was not presented in our February 27, 1987,
testimony.

We selected facilities on the basis of a judgmental sample,
and, therefore, these facilities may not be representative of all
facilities nationwide. Specifically, we used three criteria
related to traffic management unit staffing and increased air
traffic activity. First, we selected all air route traffic control

centers with 10 or less traffic management unit staff,[1] given that 10 was the average staffing for these units as of February 1987. Second, we selected all high activity (level 4 and 5)[2] terminal facilities and (level 3)[3] centers that have experienced at least a 20 percent increase in air traffic activity between the pre-controller strike period (January to June 1981)[4] and the comparable period January to June 1986. Third, we selected all high activity terminals and centers which were in the same metropolitan area as the facilities selected under the first two criteria. Facilities in New Jersey, New York, and Philadelphia were included at the Chairman's request.

For each facility we collected data on staffing levels for FPL controllers (fully certified to work all positions of traffic control in a defined area), first line supervisors, and traffic management units, including data on overtime, training of developmental controllers, and actual retirements (1986 and 1987) as well as the number of on-board staff who were eligible to retire. We also collected information on the percent of actual time currently being spent by supervisory and traffic management unit personnel directly controlling air traffic at each facility.[5] We also gathered information on safety indicators--operational

---

[1] Traffic management unit staffing was used as a selection criteria because FAA has identified these local units as a safeguard to preclude controllers from being overloaded. Traffic management units are responsible for monitoring traffic flow and ensuring that safe levels of air traffic are not exceeded. These coordinators are selected from the ranks of FPL controllers. Our data reflects staffing for coordinators and unit supervisors only.

[2] Terminal levels are determined based on a facility's hourly traffic density factor. A level 4 terminal has an hourly density factor of 60 or more limited radar approaches and 60 to 99.9 radar approaches. A level 5 terminal has an hourly density factor of 100 or more radar approaches.

[3] Level 3 centers are defined as those with an hourly density factor of 275 or more.

[4] The 6-month period January to June has been used as a basis for comparison because it reflects the last two complete quarters of FAA data prior to the August 1981 controllers' strike.

[5] FAA policy requires both traffic management coordinators and first line supervisors to spend at least 10 percent of their time working air traffic in order to retain currency and a full appreciation of the controllers' work environment.

7

errors[6] and runway (surface) incursions,[7] operational deviations,[8] and near mid-air collisions. We compiled this information during March and early April 1987.

Personnel data were collected from FAA's Personnel Management Information System (PMIS), payroll, and other systems, and from individual facilities through telephone interviews. Specifically, table 3.1 has been taken from FAA's PMIS data. All other tables have been constructed from telephone information or a combination of telephone data and official FAA data, and sources have been noted where appropriate. In table 3.2, we contrasted the data we received by telephone for FPL controller staffing with FAA's PMIS data. We specifically asked facilities how many controllers were fully certified to work all positions of traffic control in a defined area as of February 28, 1987. The PMIS data on the number of FPLs differs from our responses. The data also show an improvement in FPL staffing levels from June 1986 through February 1987.

The operational performance data in section 8 were obtained from FAA's Offices of Air Traffic Evaluation and Analysis and of Aviation Safety as of February 28, 1987. Near mid-air collision data are essentially voluntarily reported by a pilot or flight crew member. For reporting purposes, FAA allocates (codes) near mid-air collisions to the closest FAA airport facility regardless of whether the facility was involved in the incident. Table 8.3, therefore, presents these data by FAA facility. However it is important to note that these incidents may not (1) be the responsibility of that particular facility, (2) be the responsibility of any FAA facility, and (3) include all incidents within each facility's airspace. Only those near mid-air collisions classified as "critical" or "potential"[9] have been

---

[6]An operational error is defined as an occurence attributable to an element of the air traffic control system which results in less than the applicable separation minima between two or more aircraft or between an aircraft and terrain or other obstructions.

[7]Runway or surface incursions are errors occurring on the ground.

[8]An operational deviation is defined as an occurence where applicable separation minima was maintained but less than the applicable separation minima exists or when an aircraft or controlled vehicle penetrates airspace or a landing area that is delegated to another aircraft without prior approval.

[9]Critical: A situation where collision avoidance was due to chance rather than an act on the part of the pilot. Less than 100 feet separation would be considered critical. Potential: An incident that would probably have resulted in a collision if no action had been taken by either pilot. Proximity of less than 500 feet would usually be required in this case.

presented. FAA officials noted that this data should not be considered a reflection of the safety of the air traffic control system because non-controlled aircraft can be involved in these incidents.

We discussed the data in this fact sheet with FAA headquarters officials. These officials were concerned that data provided by telephone from the field facilities may not be comparable either because questions were asked differently or individual managers could interpret our questions differently. To control and standardize the data collection effort, all telephone discussions were done by two GAO staff. In addition, FAA headquarters provided the questions in writing to the field prior to our telephone interviews. We believe these procedures minimized problems in interpreting our requests. We recognize, however, that the data presented in this fact sheet have not been verified.

SECTION 2
AIR TRAFFIC ACTIVITY

Table 2.1: Growth in Air Traffic Activity
(January to June 1981 to January to June 1986)

Centers	Percent change
Albuquerque	15
Atlanta	28
Boston	16
Chicago	7
Cleveland	17
Fort Worth	-11
Houston	- 8
Indianapolis	10
Jacksonville	11
Kansas City	21
Los Angeles	14
Miami	12
Minneapolis	23
New York	20
Oakland	12
Washington	24

Terminal facilities	
Atlanta	19
Baltimore-Washington	46
Boston	9
Burbank TRACON	40
Charlotte	39
Chicago	50
Cleveland	1
Dallas-Fort Worth	22
Detroit Tower	31
Edwards Air Force Base	16
Houston	-10
Indianapolis	1
Jacksonville	11
Kennedy	3
Kansas City	7
La Guardia	8
Los Angeles Tower	7
Los Angeles TRACON	7
Miami	1
Minneapolis	37
Newark	58
New York TRACON	44
Oakland TRACON	21
Philadelphia	2
San Francisco	25
St. Louis	30
Washington National	- 4

SECTION 3
FPL CONTROLLER STAFFING

Table 3.1: Pre- and Post-Strike FPL Controller Staffing[a]

Centers	Staffing levels		
	7/31/81	6/30/86	Percent change
Albuquerque	215	173	-20
Atlanta	340	263	-23
Boston	260	132	-49
Chicago	337	169	-50
Cleveland	422	210	-50
Fort Worth	317	205	-35
Houston	281	195	-31
Indianapolis	282	128	-55
Jacksonville	287	194	-32
Kansas City	273	187	-32
Los Angeles	217	167	-23
Miami	194	120	-38
Minneapolis	230	132	-43
New York	344	176	-49
Oakland	195	121	-38
Washington	352	233	-34
Terminal facilities			
Atlanta	104	77	-26
Baltimore-Washington	44	27	-39
Boston	64	27	-58
Burbank TRACON	41	20	-51
Charlotte	45	42	- 7
Chicago	81	74	- 9
Cleveland	49	22	-55
Dallas-Fort Worth	93	77	-17
Detroit	63	49	-22
Edwards Air Force Base	28	17	-39
Houston	67	52	-22
Indianapolis	51	26	-49
Jacksonville	53	23	-57
Kansas City	49	28	-43
Kennedy	29	20	-31
La Guardia	30	14	-53
Los Angeles Tower	31	21	-32
Los Angeles TRACON	48	32	-33
Miami	82	50	-39
Minneapolis	57	38	-33
Newark	21	19	-10
New York TRACON	124	91	-27
Oakland TRACON	65	44	-32
Philadelphia	66	38	-42
San Francisco	26	20	-23
St. Louis	51	28	-45
Washington National	70	33	-53

[a]Period selected to compare change in air traffic activity
  (table 2.1) to staffing levels for the same time frame.
Source: PMIS

Table 3.2: 1987 FPL Controller Staffing

Centers	FY 1987 authorized	As of 2/28/87 PMIS	As of 2/28/87 GAO
Albuquerque	266	183	178
Atlanta	410	298	273
Boston	307	165	134
Chicago	394	185[a]	118[a]
Cleveland	395	221	212
Fort Worth	320	228	220
Houston	289	202	196
Indianapolis	283	139	123
Jacksonville	285	195	201
Kansas City	300	210	199
Los Angeles	287	175	167
Miami	237	140	131
Minneapolis	235	142	138
New York	288	169	174
Oakland	264	137	138
Washington	409	235	232

Terminal facilities

	FY 1987 authorized	As of 2/28/87 PMIS	As of 2/28/87 GAO
Atlanta	85	77	66
Baltimore-Washington	55	35	29
Boston	52	33	35
Burbank TRACON	39	23	18
Charlotte	55	43	33
Chicago	102	81[a]	61[a]
Cleveland	38	23	24
Dallas-Fort Worth	94	83	78
Detroit	66	50	48
Edwards Air Force Base	28	20	17
Houston	59	53	49
Indianapolis	36	35	26
Jacksonville	44	30	24
Kansas City	34	30	24
Kennedy	15	15	15
La Guardia	15	15	15
Los Angeles Tower	27	18	14
Los Angeles TRACON	45	33	29
Miami	75	62	45
Minneapolis	52	40	37
Newark	26	23	19
New York TRACON	143	99	91
Oakland	64	49	44
Philadelphia	56	41	34
San Francisco	26	24	20
St. Louis	56	29	27
Washington National	55	39	36

[a]As of January 31, 1987.

Table 3.3: FPL Controller Retirements

Centers	FY 1986	FY 1987[a]	Currently Eligible[b]
Albuquerque	2	0	9
Atlanta	4	6	25
Boston	7	5	19
Chicago	9	3[c]	10
Cleveland	7	5	22
Fort Worth	5	0	18
Houston	2	1	18
Indianapolis	18	0	7
Jacksonville	6	4	18
Kansas City	5	2	15
Los Angeles	1	0	11
Miami	1	2	6
Minneapolis	0	1	4
New York	12	6	12
Oakland	4	1	11
Washington	20	3	15

Terminal Facilities

	FY 1986	FY 1987[a]	Currently Eligible[b]
Atlanta	2	2	6
Baltimore-Washington	0	0	--[d]
Boston	0	0	3
Burbank TRACON	0	2	--
Charlotte	1	0	--
Chicago	0	0[c]	2
Cleveland	0	0	0
Dallas-Ft. Worth	1	0	5
Detroit	2	0	1
Edwards Air Force Base	0	0	--
Houston	1	0	4
Indianapolis	0	0	--
Jacksonville	1	0	--
Kansas City	1	0	3
Kennedy	0	0	0
La Guardia	0	0	0
Los Angeles Tower	0	0	0
Los Angeles TRACON	0	0	1
Miami	1	0	2
Minneapolis	0	0	0
Newark	1	0	1
New York TRACON	2	0	3
Oakland TRACON	0	0	2
Philadelphia	1	0	2
San Francisco	0	0	1
St. Louis	1	0	3
Washington National	1	0	0

[a]As of February 28, 1987.
[b]Represents the total of those eligible under all FAA retirement programs as of February 28, 1987.
[c]As of January 31, 1987.
[d]Data not available because FAA tracks retirement eligibility data only for major, pacing airports.

FIRST LINE SUPERVISOR STAFFING

Table 4.1: First Line Supervisor Staffing

Centers	Staffing levels	
	FY 1987 authorized	As of 2/28/87
Albuquerque	35	32
Atlanta	49	49
Boston	35	23
Chicago	42	35[a]
Cleveland	42	37
Fort Worth	35	28[a]
Houston	35	35
Indianapolis	28	28
Jacksonville	35	33
Kansas City	35	36
Los Angeles	35	34
Miami	28	22
Minneapolis	30	24
New York	35	34
Oakland	35	36
Washington	42	30[b]

Terminal facilities

Atlanta	12	11
Baltimore-Washington	9	9
Boston	9	9
Burbank TRACON	7	6
Charlotte	7	7
Chicago	18	11
Cleveland	7	6
Dallas-Fort Worth	13	13
Detroit	11	9
Edwards Air Force Base	5	3
Houston	11	10
Indianapolis	7	6
Jacksonville	8	7
Kansas City	7	7
Kennedy	5	5
La Guardia	5	5
Los Angeles Tower	5	5
Los Angeles TRACON	7	7
Miami	12	12
Minneapolis	10	10
Newark	5	5
New York TRACON	29	22
Oakland TRACON	9	9
Philadelphia	9	8
San Francisco	5	4
St. Louis	9	9
Washington National	9	9

[a]Excludes one supervisor temporarily promoted.
[b]Excludes eight supervisors temporarily promoted.

Table 4.2: First Line Supervisor Retirements

Centers	FY 1986	FY 1987[a]	Currently Eligible[b]
Albuquerque	2	0	11
Atlanta	5	2	13
Boston	2	2	14
Chicago	2	1[c]	22
Cleveland	7	2	21
Fort Worth	8	0	18
Houston	2	1	14
Indianapolis	9	4	8
Jacksonville	2	2	12
Kansas City	0	3	10
Los Angeles	4	0	10
Miami	1	1	13
Minneapolis	0	2	5
New York	5	5	25
Oakland	1	1	10
Washington	14	3	10

Terminal facilities

	FY 1986	FY 1987[a]	Currently Eligible[b]
Atlanta	0	3	7
Baltimore-Washington	0	0	--
Boston	1	0	0
Burbank TRACON	1	0	--
Charlotte	0	0	--
Chicago	2	0[c]	2
Cleveland	1	0	2
Dallas-Fort Worth	0	0	6
Detroit	1	0	4
Edwards Air Force Base	1	0	--
Houston	0	0	1
Indianapolis	1	1	--
Jacksonville	1	1	--
Kansas City	1	0	1
Kennedy	0	0	1
La Guardia	0	0	0
Los Angeles Tower	0	0	1
Los Angeles TRACON	0	0	0
Miami	0	0	1
Minneapolis	0	0	4
Newark	2	1	1
New York TRACON	3	0	7
Oakland TRACON	1	0	3
Philadelphia	0	0	2
San Francisco	0	0	2
St. Louis	0	0	1
Washington National	1	0	3

[a]As of February 28, 1987.
[b]Represents the total of those eligible under all FAA retirement programs as of February 28, 1987.
[c]As of January 31, 1987.

Table 4.3: First Line Supervisor Control of Air Traffic

Centers	Percent of time (average)	Period and/or traffic level (average)
Albuquerque	18	moderate traffic
Atlanta	10	random basis
Boston	30	light to moderate traffic
Chicago	30	light to heavy traffic
Cleveland	20	all conditions
Fort Worth	10	moderate or less traffic
Houston	10	moderate to heavy traffic
Indianapolis	19	moderate traffic
Jacksonville	10	moderate to light traffic
Kansas City	60	moderate traffic
Los Angeles	60	all conditions
Miami	10	light to moderate traffic
Minneapolis	20	all conditions
New York	40	heavy traffic
Oakland	20	moderate traffic
Washington	10	light to moderate traffic

Terminal Facilities		
Atlanta	20	moderate to heavy traffic
Baltimore-Washington	10	light to moderate traffic
Boston	17	light to moderate traffic
Burbank TRACON	15	moderate traffic
Charlotte	13	light traffic
Chicago	25[a]	all conditions
Cleveland	10	light traffic
Dallas-Fort Worth	20	light to moderate traffic
Detroit	12	light to heavy traffic
Edwards Air Force Base	13	moderate traffic
Houston	20	all conditions
Indianapolis	11	50% light/50% heavy traffic
Jacksonville	13	all conditions
Kansas City	18	all conditions
Kennedy	13	all conditions
La Guardia	12	heavy traffic
Los Angeles Tower	10	all conditions
Los Angeles TRACON	31	heavy traffic
Miami	10	light to moderate traffic
Minneapolis	20	light to moderate traffic
Newark	13	light to moderate traffic
New York TRACON	50	all conditions
Oakland TRACON	25	all conditions
Philadelphia	12	light to moderate traffic
San Francisco	12	moderate traffic
St. Louis	35	all conditions
Washington National	20	all conditions

[a]Range from 10 to 20 percent at O'Hare tower and 30 to 40 percent at O'Hare TRACON.

SECTION 5
TRAFFIC MANAGEMENT UNIT STAFFING

Table 5.1: Traffic Management Unit Staffing--Centers

Centers	Staffing levels		
	As of 2/28/87	FY 1987 authorization	FY 1987 staffing standard
Albuquerque	10	10	21
Atlanta	12	17	21
Boston	9	11	21
Chicago	4[a]	12	21
Cleveland	10	13	21
Fort Worth	11	12	21
Houston	10	11	21
Indianapolis	6	6	21
Jacksonville	9	13	21
Kansas City	9	12	21
Los Angeles	9	15	21
Miami	10	11	21
Minneapolis	11	11	21
New York	17	17	21
Oakland	8	9	21
Washington	17	17	21

[a]Excludes seven temporary details and one part-time reemployed annuitant.

Table 5.2:   Traffic Management Unit Staffing--Terminals

	Staffing levels	
Terminal facilities	As of 2/28/87	FY 1987 authorized
Atlanta	N/A	
Baltimore-Washington	3	3
Boston	0	3
Burbank	N/A	
Charlotte	N/A	
Chicago	N/A	
Cleveland	N/A	
Dallas-Fort Worth	N/A	
Detroit	N/A	
Edwards Air Force Base	N/A	
Houston	N/A	
Indianapolis	N/A	
Jacksonville	N/A	
Kansas City	N/A	
Kennedy	0	2
La Guardia	0	3
Los Angeles Tower	0	2
Los Angeles Tracon	2	6
Miami	N/A	
Minneapolis	N/A	
Newark	N/A	
New York Tracon	7	11
Oakland TRACON	2	3
Philadelphia[a]	N/A	
San Francisco	2	2
St. Louis	0	3
Washington National	3	3

[a]Three staff have been requested but are not yet authorized.

Table 5.3: Traffic Management Staff Control of Air Traffic

Centers	Percent of time (average)	Period and/or traffic level (average)
Albuquerque	2	moderate or greater traffic
Atlanta	10	random basis
Boston	10	light to moderate traffic
Chicago	1	light to heavy traffic
Cleveland[a]	0	
Fort Worth	10	moderate or less traffic
Houston	10	various times
Indianapolis	5	moderate traffic
Jacksonville	10	moderate to light traffic
Kansas City	8	moderate to heavy traffic
Los Angeles	10	light to moderate traffic
Miami	13	moderate to heavy traffic
Minneapolis	10	various times
New York	10	heavy traffic
Oakland	20	moderate traffic
Washington	9	moderate traffic

Terminal Facilities

Atlanta	N/A	
Baltimore-Washington	70	all conditions
Boston	N/A	
Burbank TRACON	N/A	
Charlotte	N/A	
Chicago	N/A	
Cleveland	N/A	
Dallas-Fort Worth	N/A	
Detroit	N/A	
Edwards Air Force Base	N/A	
Houston	N/A	
Indianapolis	N/A	
Jacksonville	N/A	
Kansas City	N/A	
Kennedy	N/A	
La Guardia	N/A	
Los Angeles Tower	N/A	
Los Angeles TRACON	0	
Miami	N/A	
Minneapolis	N/A	
Newark	N/A	
New York TRACON	13	light to moderate traffic
Oakland TRACON	25	all conditions
Philadelphia	N/A	
San Francisco	12	moderate traffic
St. Louis	N/A	
Washington National	40	all conditions

[a]Traffic management staff will be assigned to traffic control for 10 percent of their time during moderate activity.

CONTROLLER AND SUPERVISOR OVERTIME

Table 6.1: Overtime Hours, Fiscal Years 1984-87

Centers	FY 1984	FY 1985	FY 1986	Estimated FY 1987[a]
Albuquerque	15,321	13,851	6,704	1,100
Atlanta	44,136	48,882	33,232	26,653
Boston	4,781	5,162	13,684	41,515
Chicago	48,955	70,274	46,583	31,131[b]
Cleveland	46,955	56,614	40,925	42,500
Fort Worth	38,005	30,072	9,413	913
Houston	24,450	12,491	5,645	1,350
Indianapolis	26,596	36,976	24,728	17,000
Jacksonville	23,193	16,800	12,484	13,797
Kansas City	45,737	34,148	25,682	20,838
Los Angeles	35,528	25,515	25,034	22,500
Miami	12,446	8,994	7,686	4,079
Minneapolis	27,118	26,549	19,947	8,682
New York	60,430	54,202	36,934	27,650
Oakland	33,320	24,949	21,127	9,000
Washington	50,188	41,725	39,889	20,000
Terminal facilities				
Atlanta	5,554	8,444	4,410	11,524
Baltimore-Washington	4,154	2,524	1,816	300
Boston	5,962	5,168	6,245	6,700
Burbank TRACON	4,493	4,060	4,505	8,880
Charlotte	3,878	2,030	1,894	402
Chicago	27,866	21,077	12,795	24,897[b]
Cleveland	1,744	1,413	1,632	750
Dallas-Fort Worth	6,417	6,852	2,164	369
Detroit	6,965	5,400	4,419	5,158
Edwards Air Force Base	455	326	277	276
Houston	4,507	2,641	1,544	348
Indianapolis	2,019	2,019	1,621	415
Jacksonville	7,197	3,398	3,282	3,000
Kansas City	2,663	3,027	1,921	1,047
Kennedy	3,246	2,948	1,469	1,500
La Guardia	4,763	1,916	954	1,271
Los Angeles Tower and TRACON	9,527	7,780	7,694	8,339
Miami	6,185	5,178	3,803	2,300
Minneapolis	3,621	4,015	3,572	2,000
Newark	1,694	1,658	1,025	1,100
New York TRACON	12,524	12,107	11,144	37,281
Oakland TRACON	8,151	3,849	2,197	3,147
Philadelphia	3,090	1,619	1,957	3,500
San Francisco	1,752	1,272	1,340	600
St. Louis	5,504	5,459	5,393	4,612
Washington National	520	271	140	400

[a]FY 1987 data was obtained by telephone rather than from FAA's personnel and payroll systems. 1987 overtime use was estimated based on actual usage as of February 28, 1987.
[b]Estimated as of January 31, 1987.

SECTION 7
FIELD TRAINING ATTRITION

Table 7.1: Attrition of FAA Academy Graduates
(FY 1984 to February 28, 1987)

Centers	Received	Number failed	Number withdrew
Albuquerque	64	19	4
Atlanta	170	42	9
Boston	45	1	1
Chicago[a]	154	19	7
Cleveland	148	8	1
Fort Worth	116	41	0
Houston	148	22[b]	N/A
Indianapolis	154	46[b]	N/A
Jacksonville[c]	111	17	0
Kansas City	217	41[b]	N/A
Los Angeles	187	41	51
Miami	117	13	8
Minneapolis	191	68[b]	N/A
New York	106	28[b]	N/A
Oakland	153	25[b]	N/A
Washington	74	41[b]	N/A

Terminal facilities

	Received	Number failed	Number withdrew
Atlanta	1	0	0
Baltimore-Washington	1	0	7
Boston	0	0	0
Burbank TRACON	0	0	0
Charlotte	0	0	0
Chicago[d]	4	0	4
Cleveland	6	0	4
Dallas-Fort Worth	0	0	0
Detroit	1	0	0
Edwards Air Force Base	0	0	0
Houston	0	0	0
Indianapolis	5	0	2
Jacksonville	0	2	0
Kansas City	4	3	1
Kennedy	6	0	2
La Guardia	2	0	0
Los Angeles Tower	0	0	0
Los Angeles TRACON	3	1	1
Miami	0	0	8
Minneapolis	0	0	0
Newark	0	0	0
New York TRACON	14	2	0
Oakland TRACON	0	0	0
Philadelphia	0	0	0
San Francisco	0	0	0
St. Louis	12	0	4
Washington National	0	0	5

[a]As of January 31, 1987; does not include FY 1984 data.
[b]Facility counts all losses as failures.
[c]FY 1984 data not available.
[d]As of January 31, 1987.

SECTION 8
OPERATIONAL PERFORMANCE DATA

Table 8.1: Operational Performance Indicators--Centers

Centers	Operational errors	Operational deviations
Albuquerque		
1985	20	0
1986	17	3
1987a	3	0
Atlanta		
1985	71	7
1986	62	5
1987a	8	0
Boston		
1985	48	5
1986	56	15
1987a	6	1
Chicago		
1985	104	1
1986	78	2
1987a	13	0
Cleveland		
1985	51	0
1986	47	1
1987a	4	0
Fort Worth		
1985	60	3
1986	24	1
1987a	3	0
Houston		
1985	45	3
1986	24	3
1987a	9	0
Indianapolis		
1985	62	3
1986	70	1
1987a	11	1
Jacksonville		
1985	46	1
1986	31	7
1987a	6	0

22

Table 8.1: Operational Performance Indicators--Centers

Centers	Operational errors	Operational deviations
Kansas City		
1985	44	6
1986	30	0
1987a	4	0
Los Angeles		
1985	45	0
1986	56	7
1987a	21	6
Miami		
1985	15	3
1986	16	1
1987a	6	0
Minneapolis		
1985	18	1
1986	27	5
1987a	1	0
New York		
1985	105	5
1986	53	1
1987a	15	1
Oakland		
1985	37	1
1986	41	0
1987a	8	0
Washington		
1985	124	4
1986	84	5
1987a	12	3

aAs of February 28, 1987.

Table 8.2: Operational Performance Indicators—Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Atlanta			
1985	18	1	1
1986	8	0	1
1987a	3	0	1
Baltimore-Washington			
1985	4	0	0
1986	6	0	0
1987a	1	1	0
Boston			
1985	6	2	0
1986	4	2	3
1987a	2	1	0
Burbank TRACON			
1985	6	3	0
1986	4	2	1
1987a	3	0	0
Charlotte			
1985	8	4	1
1986	7	2	2
1987a	0	0	0
Chicago			
1985	13	3	1
1986	22	5	0
1987a	2	0	0
Cleveland			
1985	5	0	0
1986	5	1	0
1987a	0	0	0
Dallas-Fort Worth			
1985	8	2	2
1986	7	2	1
1987a	1	0	0
Detroit			
1985	8	3	0
1986	6	1	5
1987a	0	0	1

24

Table 8.2: Operational Performance Indicators--Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Edwards Air Force Base			
1985	2	0	2
1986	2	0	1
1987a	0	0	0
Houston			
1985	2	0	1
1986	2	0	0
1987a	1	0	1
Indianapolis			
1985	2	1	1
1986	3	0	1
1987a	0	0	0
Jacksonville			
1985	2	0	0
1986	1	0	0
1987a	1	0	2
Kansas City			
1985	5	1	0
1986	0	0	0
1987a	1	0	0
Kennedy			
1985	0	0	0
1986	0	0	0
1987a	0	0	0
La Guardia			
1985	0	0	1
1986	2	1	0
1987a	0	0	0
Los Angeles Tower			
1985	10	2	4
1986	7	5	0
1987a	1	1	0
Los Angeles TRACON			
1985	15	0	0
1986	4	0	1
1987a	0	0	0

Table 8.2: Operational Performance Indicators—Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Miami			
1985	3	0	0
1986	8	1	3
1987a	1	0	2
Minneapolis			
1985	9	3	0
1986	6	2	0
1987a	0	0	0
Newark			
1985	1	1	0
1986	2	1	1
1987a	0	0	0
New York TRACON			
1985	12	0	1
1986	9	0	2
1987a	3	0	1
Oakland			
1985	4	0	0
1986	3	0	0
1987a	0	0	0
Philadelphia			
1985	9	2	0
1986	8	2	2
1987a	4	3	0
San Francisco			
1985	2	2	0
1986	3	3	0
1987a	0	0	0
St. Louis			
1985	6	2	0
1986	4	3	0
1987a	0	0	0
Washington National			
1985	3	1	2
1986	1	0	0
1987a	1	0	0

aAs of February 28, 1987.

Table 8.3: Near Mid-Air Collisions[a]

Terminal facilities	1985	1986	1987[b]
Atlanta	7	8	0
Baltimore-Washington	2	0	0
Boston	0	1	0
Burbank TRACON	1	2	0
Charlotte	0	2	0
Chicago	2	5	0
Cleveland	0	0	0
Dallas-Fort Worth	2	3	1
Detroit	0	0	0
Edwards Air Force Base	0	1	0
Houston	0	3	0
Indianapolis	0	1	0
Jacksonville	0	4	0
Kansas City	1	0	0
Kennedy	0	1	0
La Guardia	1	2	0
Los Angeles Tower	9	8	0
Los Angeles TRACON	N/A	N/A	N/A
Miami	0	4	0
Minneapolis	1	0	0
Newark	0	3	2
New York TRACON	N/A	N/A	N/A
Oakland TRACON[c]	6	10	0
Philadelphia	1	0	0
San Francisco	0	1	0
St. Louis	1	2	0
Washington National	0	1	0

[a]Near-mid air collision data is coded by FAA to nearest FAA airport
facility. These data are not coded to either centers or TRACONs.
FAA officials stated that these data do not necessarily reflect
either the safety or performance of the air traffic control
system. This table excludes incidents classified as no hazard.
[b]As of February 28, 1987.
[c]Incidents as reported for Oakland tower.

MAJOR CONTRIBUTORS TO THIS FACT SHEET

Resources, Community, and Economic Development Division, Washington, D.C.

Kenneth M. Mead, Associate Director (202) 366-1743
Herbert R. McLure, Associate Director
Thomas J. Barchi, Group Director
Mary K. Cheston, Assignment Manager
Judy F. Shields, Evaluator-in-Charge
Carol Herrnstadt Shulman, Writer-Editor

Philadelphia Regional Office

Joseph Kredatus, Regional Assignment Manager
Brian McCauley, Evaluator
Rosamund E. Downing, Student Co-op

(341136)