

Chapter 12

Fire

FIRE: INTRODUCTION

The National Insurance Services Office (ISO) rates communities and their available resources for responding to and controlling fires. Typical rating factors include response time, staffing and equipment availability, building code requirements, and inspection procedures. Protection risks are mainly determined by a city's development patterns, population density, building density, and special hazards.

The ISO uses a scale of 1 (best rating) to 10 (no protection available) to evaluate communities. These ratings are used by the North Carolina rating bureau and other such agencies to establish fire insurance rates. The Greensboro Fire Department has maintained a Class 1 rating since 1991 and is the only fire department in North Carolina and one of only thirty in the nation to have a Class 1 designation.

The Greensboro Fire Department has three Divisions: Administrative Services, Emergency Services, and Resource Management. The Department operates 16 stations and there are a total of 395 staff members. The Department provides the following major services: inspections, fire and life safety education, fire suppression, medical, HAZMAT, and technical rescue. Capital Improvement Plans include replacing three stations and building five new stations. Seventy percent of Greensboro's population lives within 1.5 miles of a fire station. Each station has a distribution average of 6.9 square miles each.

Principal information in this chapter includes information on personnel, capital facilities, apparatus and equipment, selected factors related to level of service, annual departmental statistics, planned capital improvements, and selected comparison factors with other cities.

FIRE: SUMMARY HIGHLIGHTS

Personnel/ Equipment

The Greensboro Fire Department has three Divisions: Administrative Services, Emergency Services, and Resource Management. The department operates 16 stations, with 16 fire engines, and a total of 395 staff members.

Department Statistics

Between 1993 and 1999, total emergency responses increased by 65.1 percent.

From 1993-1999, average response time per call increased from 4.4 minutes to 5.29 minutes. During the same period, average response time for emergency medical calls (Emergency Medical Services, or EMS) decreased from 5.17 minutes to 5.11 minutes.

Between 1993 and 1998, the average response time for calls decreased by 15.9 percent. There was a dramatic increase of 43 percent between 1998 and 1999, due mainly to the required change in calculating response times. Starting in 1999, response times were calcu-

lated from the time the incident was reported to the time the fire apparatus was on the scene. Prior to 1999, response times were calculated from time of dispatch to on-scene. The same holds true for EMS calls.

Greensboro has retained its Class 1 Insurance Services Office (ISO) rating since earning it in 1991. Greensboro is the only city of both North Carolina and out-of-state comparison cities to maintain that rating, and one out of 30 in the nation. An ISO rating is a value from 1 to 10, based on a city's fire protection capabilities. A rating of 1-4 is good, 5-8 is average, 9 is marginal and 10 is unprotected.

Firefighter Comparison in Selected Municipalities

In 1999, Greensboro had the highest resident/ firefighter ratio of North Carolina cities, 826, while Greenville, SC had the lowest ratio of both North Carolina and out-of-state cities, 423.

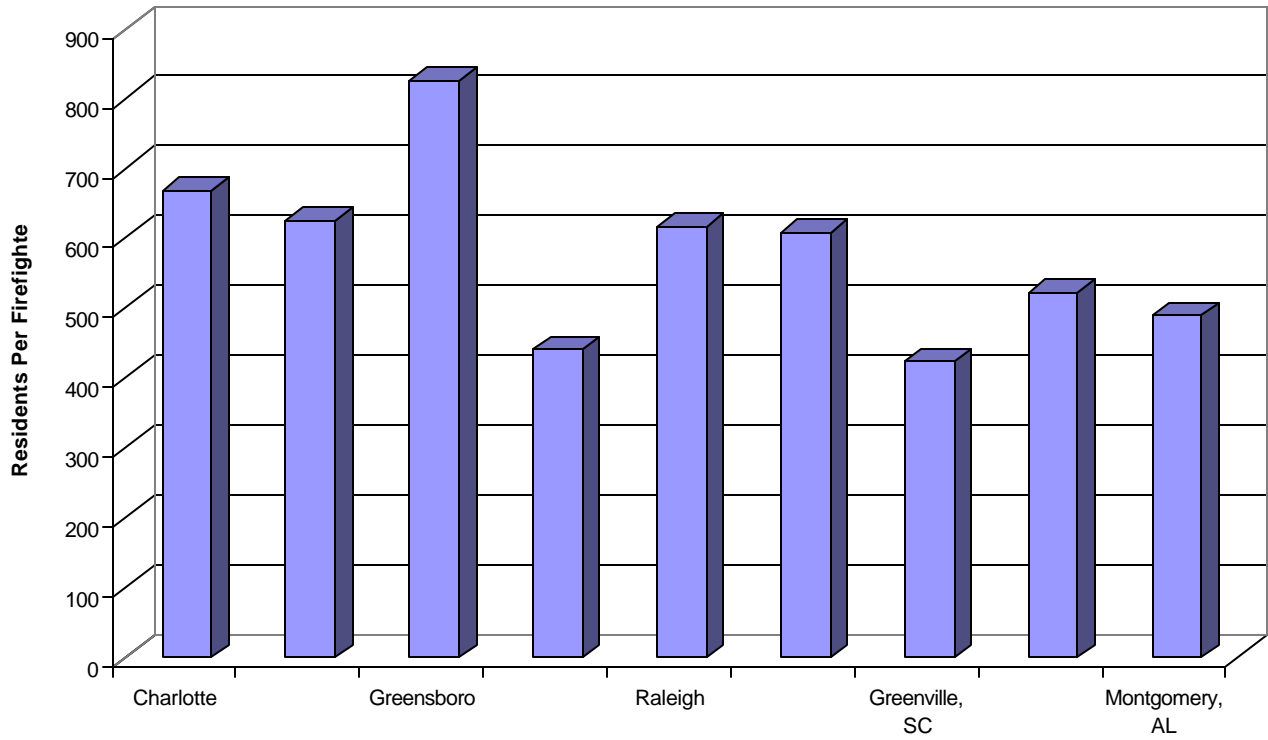
Greensboro has the highest resident-to-firefighter ratio of all the comparison cities. The average of fire calls per thousand population for all of the comparison cities was 79; Greensboro had 84.7.

Table 12-1: Firefighter Comparison in Selected Municipalities, 1999

NC Municipalities	Population	Area (Square Mile)	Firefighters	Residents/Firefighter	Stations	Fire Calls	Fire Calls Per 1000 Population	ISO Rating
Charlotte	540,000	240	807	669	33	77,000	142.6	3
Durham	172,000	92	275	625	12	14,545	84.6	3
Greensboro	208,887	109	253	826	16	17,696	84.7	1
High Point	79,394	50	180	441	11	7,525	94.8	2
Raleigh	284,000	118	460	617	22	20,573	72.4	3
Winston-Salem	173,530	108	285	609	17	10,425	60.1	3
Out-of-State Municipalities								
Greenville, SC	60,000	28	142	423	6	2,800	46.7	2
Knoxville, TN	175,000	100	335	522	18	2,120	12.1	3
Montgomery, AL	213,000	160	435	490	15	24,050	112.9	2

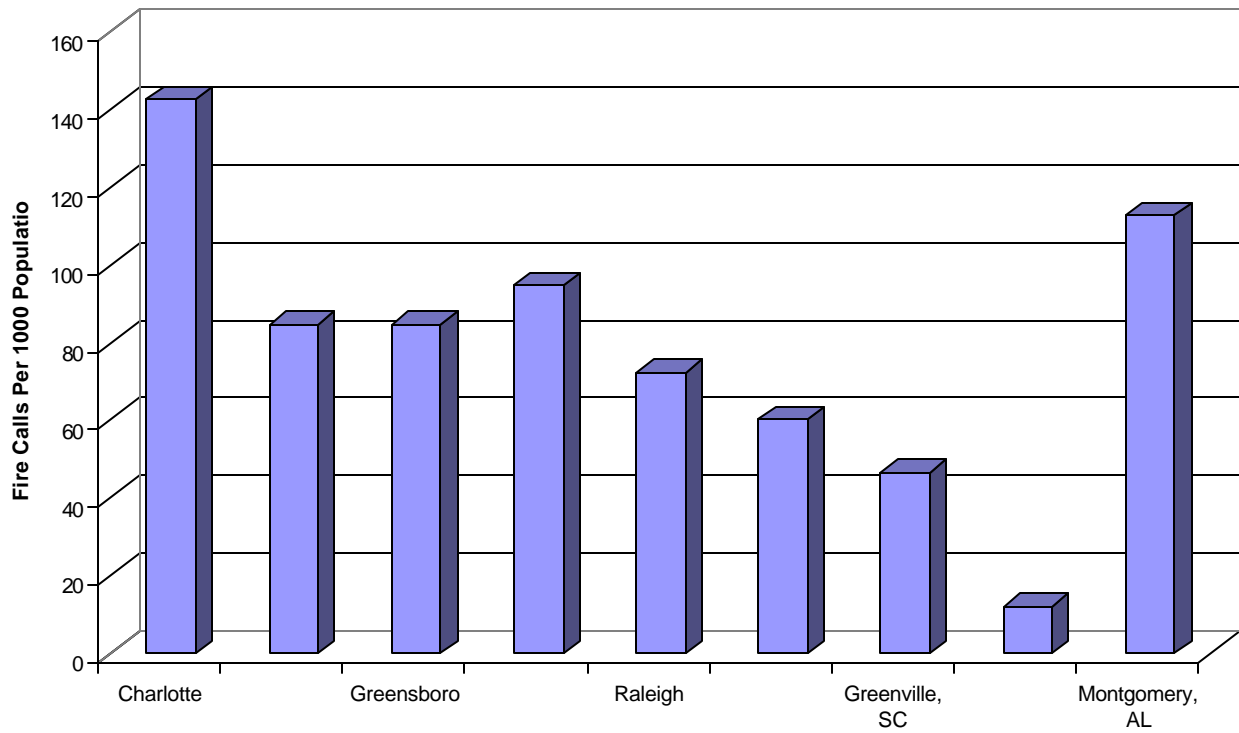
Source: Greensboro Fire Dept., 2000.

Figure 12-1: Residents to Firefighter Comparison Among Selected Municipalities, 1999



Source: Greensboro Fire Dept., 2000.

Figure 12-2: Firefighter Comparison in Selected Municipalities, 1999



Source: Greensboro Fire Dept., 2000.

Type of Calls	1993	1994	1995	1996	1997	1998	1999	Average Annual Change, 1993-1999
Total Emergency Responses	10,720	12,932	12,544	15,277	16,136	17,680	17,696	9.1%
Population	187,050	188,228	192,330	194,020	202,321	205,132	208,887	
Response Per 1000 Population	60	70	70	80	80	90	80	*NA
Response Time								
Average Response Time/Call (min)	4.4 From dispatch to onscene	4.32 From dispatch to onscene	4.19 From dispatch to onscene	3.84 From dispatch to onscene	3.70 From dispatch to onscene	3.70 From dispatch to onscene	5.29 From reported to onscene**	3.1%
Annual Change	NA	-2%	-3%	-8%	-4%	0%	**NA	3.1%
Average Response Time/EMS Call (min)	5.17 From dispatch to onscene	4.12 From dispatch to onscene	3.90 From dispatch to onscene	3.84 From dispatch to onscene	3.82 From dispatch to onscene	3.82 From dispatch to onscene	5.11 From reported to onscene**	-0.2%
Annual Change	NA	-20%	-5%	-2%	-1%	0%	**NA	-0.2%
Inspections								
Primary Commercial Inspections	19,989	13,992	15,464	15,987	14,049	13,287	11,923	-8.3%
Re-Inspections	7,996	5,597	6,186	6,395	5,620	5,315	4,769	-8.3%
Plans Reviewed	1,054	1,093	987	1,179	1,276	1,450	1,521	6.3%
Other Information								
Fire Loss	\$3,732,330	\$4,249,160	\$3,785,180	\$2,878,983	\$3,699,566	\$4,255,116	\$4,038,815	1.3%
Yearly Change	NA	14%	-14%	-24%	***29%	15%	-5%	***15%
Hydrants	8,759	9,537	9,690	6,728	9,922	8,957	9,273	1.0%
Hydrants/Sq. Mile	94	101	99	62	92	82	84	-1.9%

Source: Greensboro Fire Dept., 2000. *calculation is a ratio. **Reporting Standards were changed from "Dispatch Time" to "Reported Time". ***Increase is due to Tax ReEvaluation by the County in 1996.

Factor	1990-1991	1998-1999	Percent Change
Fire Companies	27	29	7.4%
Population*	185,789	208,887	12.4%
Land Area (Sq. Miles)	92.9	108.6	16.9%
Persons/Sq. Mile	1999.8	1923	-3.8%
Property Valuation	\$9,598,458,470	\$14,842,657,004	54.6%

Source: Greensboro Fire Dept., 2000. *Greensboro Planning Dept. estimates.

Apparatus	Quantity
On-Line Status	
Fire Engines	16
Quints	7
Rescue Units	2
Air Units	2
HazMat Units	2
Reserve Status	
Fire Engines	4
Trucks	2
Rescue Units	2
Total Personnel	395

Source: Greensboro Fire Dept., 2000.

Table 12-5: Greensboro Fire Department Proposed Replacement/New Stations, 2001-2007						
Station Number	Address	Built/ Renovation Dates	Present Condition	Replace or New	Estimated Dates for Construction	Estimated Cost*
71064	Gatewood Ave.	1958	Poor	Replace	2005-2006	\$2,060,000
104208	High Point Rd.	1958	Poor	Replace	2005-2006	\$2,560,000
112605	S. Elm-Eugene St.	1960	Only Fair	Replace	2003-2004	\$2,250,000
NA	Reedy Fork Area	NA	NA	New	2003-2006	\$3,095,000
NA	East Greensboro Area	NA	NA	New	2002-2006	\$2,840,000
NA	Grandover Area	NA	NA	New	2003-2004	\$2,500,000
NA	Horsepen Creek Area	NA	NA	New	2002-2005	\$2,300,000
NA	Lake Jeanette Area	NA	NA	New	2001-2002	\$2,500,000
Total Replacement/ Renovation Costs						\$20,105,000

Source: Greensboro Fire Dept., 2000. * Building cost only.