

COMMUNITY FACILITIES: FIRE PROTECTION

8-3

Community fire protection risks are determined by development patterns, population density, building density, and special hazards. Acceptable fire protection risk is determined by the following factors: fire department response time; staffing and equipment availability; and building code requirements and inspections. In terms of community fire protection, residential development increases life hazards whereas commercial development increases workload.

HIGHLIGHTS

- ? Fire Department facilities include a headquarters, four substations and one training (burn building) facility.
- ? A 5th new fire station, 5,165 square feet in size, was completed in 2002 at Bennett Road to serve the southern area of Chapel Hill. With the addition of this station, the entire Chapel Hill Urban Services Area has complete coverage.
- ? In general, a maximum 1½ mile response radii from each fire station is the recommended maximum distance to ensure emergency response times under five minutes.
- ? The average response time for all service calls has remained very stable during the period 1995-2001 at approximately 3 minutes. This falls well below the five minute target response time. In

the first quarter of the 2001-02 fiscal year, the Fire Department responded to 95 percent of emergency fire calls within five minutes.

- ? The number of fire department emergency responses has increased about 4 percent a year over the past five years.
- ? The total value of fire loss decreased in 2001-02 to \$1.1 million, down from a relatively high \$2.9 million over the 1999-2000 fiscal year.
- ? Chapel Hill has maintained an Insurance Services Office (ISO) rating of 3 between 1995 and 2002. An ISO rating is a value from 1 to 10, based on a municipality's fire protection capabilities, to determine homeowner's insurance premiums. A rating of one is best and ten is worst. A rating of 1-4 is good, 5-8 is average, 9 is marginal, and 10 is unprotected.

Table 1: Chapel Hill Annual Fire Department Statistics 1995-96 to 2001-02

Type of Call	Year				Avg. Annual Change 1995-2001
	1995-96	1999-2000	2000-01	2001-02	
Emergency Responses	1,897	2,187	2,254	2,423	3.5%
Non-Emerg. Responses	135	49	138	152	1.7%
1st Responder Responses	962	1,214	1,287	1,350	4.8%
Total Responses	2,994	3,450	3,679	3,925	3.9%
Responses/Capita	0.07	0.08	0.08	0.08	2.1%
Response Time					
Avg. Response Time/Call (min.)	3.0	3.3	3.3	3.0	0.0%
Avg. Response Time/EMS Call (min.)	3.2	3.0	2.7	2.7	-2.4%
Inspections					
Primary Commercial Inspections	1,235	1,187	1,482	1,289	0.6%
Secondary Commercial Inspections	1,401	832	1,226	815	-7.7%
Plans Reviewed	386	188	157	200	-9.4%
Other Information					
Fire Loss	\$1,595,325	\$2,904,195	\$1,298,680	\$1,118,170	-5.1%
ISO Rating	3	3	3	3	NA

Source: Chapel Hill Fire Dept., Chapel Hill Planning Dept.

ISO Rating: Insurance Services Office sets municipal fire protection ratings between 1 and 10. 1-4 is considered good.

Table 2: Factors Related to Fire Department Level of Service 1990-91 to 2001-02

Factor	1990-91	2001-02	Annual % Change
Fire Dept. Service Calls	1,305	3,925	11.5%
Fire Companies	4	5	2.5%
Population	38,872	51,598	3.1%
Land Area (sq. mile)	18.3	21.1	1.6%
Persons/sq. mile	2,124	2,445	1.6%
Dwelling Units	14,866	19,652	2.7%
Dwelling Units/sq. mile	812	931	1.1%
University Student Population	23,852	26,028	1.0%
University Buildings (sq. ft.)	9,639,171	12,309,994	2.7%
Tax Base	\$1,655,208,423	\$4,021,127,152	9.9%

Source: Chapel Hill Planning Dept., Chapel Hill Fire Dept.

Table 3: Chapel Hill Fire Department Existing Personnel and Facilities 2001-02

Divisions	Personnel	Facilities	Facility Location
Administrative	4	Fire Station #1	Airport Rd. at N. Columbia St.
Emergency Operations	66	Fire Station #2	Hamilton Rd. at Prestwick Rd.
Life Safety	3	Fire Station #3	East Franklin St. at Elliot Rd.
Total Personnel	73	Fire Station #4	Airport Rd. at Weaver Dairy Rd.
		Fire Station #5	Bennett Rd. at US 15-501
		Training Facility	Adjacent to Station #4 (2 structures)

Source: Chapel Hill Fire Dept., Chapel Hill Planning Dept.

Table 4: Chapel Hill Fire Department Existing Apparatus and Equipment, 2002

Apparatus	Quantity	Equipment	Quantity
Fire Engines (On-Line Status)	4	Four-Wheel Drive Vehicles	4
Aerial Fire Trucks (On-Line Status)	1	Van	2
Rescue Truck (On-Line Status)	1	Sedan	1
Fire Engines (Reserve Status)	2	Supply Hose	16,200 ft.
		Attack Hose	12,200 ft.
		Protective Clothing	75
		Breathing Apparatus	57
		Portable Radios	43
		Thermal Imaging Devices	5
		Heat Detectors	5

Source: Chapel Hill Fire Dept.

Table 5: Fire Fighter Comparison in Selected Municipalities 1996-1997

City	Population	Area (square miles)	Firefighters	Residents / Firefighter	Student Population	Fire Calls
Chapel Hill, NC	43,977	19.9	48	916	24,000	1,896
Ann Arbor, MI	107,000	27	105	1,019	30,000	2,538
Burlington, NC	45,000	21	72	625	0	1,105
Charlottesville, VA	39,000	10	66	591	20,000	5,654
Hickory, NC	37,000	26	99	374	2,000	1,600
Manhattan, KN	48,000	45	45	1,067	17,000	950
Median	44,489	24	69	771	18,500	1,748

Source: Chapel Hill Fire Dept., Chapel Hill Planning Dept.

Figure 1: Residents / Firefighter in Selected Municipalities

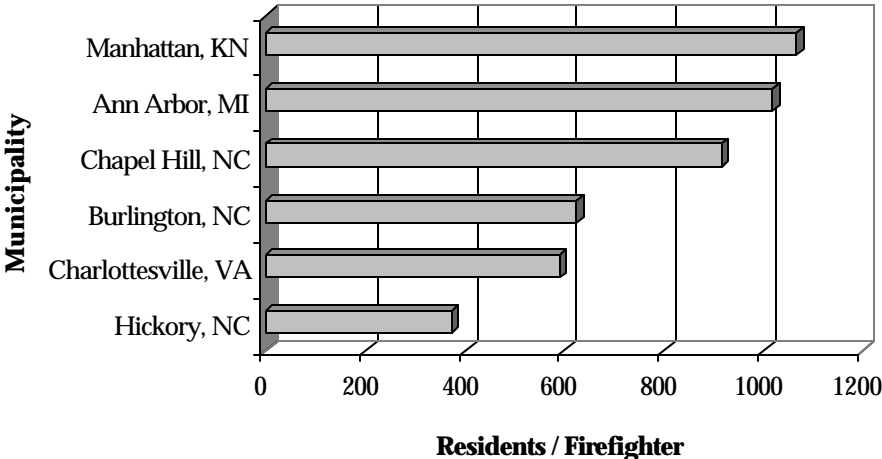


Figure 2: Calls / Resident in Selected Municipalities

