



**Worcester  
Municipal  
Research  
Bureau**

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**POLICE AND FIRE DEPARTMENT STAFFING:  
A SURVEY OF WORCESTER AND ELEVEN OTHER CITIES**

*Report No. 97-1  
March 17, 1997*



## **EXECUTIVE SUMMARY**

At the request of the City Manager, the Research Bureau has collected data on police and fire department manpower and staffing practices for Worcester and eleven other cities of similar size. Based on this survey, the Research Bureau makes the following observations:

- Compared to other the northeastern cities surveyed, the Worcester Fire Department ranks somewhere in the middle in staffing. It has the average number of sworn personnel per 1,000 residents (2.76).
- The northeastern cities are all much higher in their number of sworn personnel per 1,000 residents and per square mile than the western cities surveyed. These staffing differences can be attributed to at least two factors: significantly older housing stocks in the northeastern cities, and the difference in the number of hours worked (42-hour weeks in the northeast versus 56-hour weeks in western cities).
- Given that the Worcester Fire Department is requesting two additional classes, and that fire union officials have suggested that the size of crews on engines and ladder trucks needs to be increased to at least 5 men, the Research Bureau repeats its recommendation of last year (Report No. 96-3) that the City contract with an outside consult for a comprehensive examination of the fire department. Such an examination would include a study of the number of personnel necessary to provide adequate fire protection for Worcester; work-week and shifts; span of control; kinds of equipment for future purchase; and appropriate location for any new fire stations. Since the cost of each class is about \$750,000 per year, a one-time investment of \$100,000 in such a study makes sense.
- Compared to other northeastern cities surveyed, the Worcester Police Department ranks quite low in staffing. It has the lowest number of sworn personnel per 1,000 residents and the 2nd-lowest number of sworn personnel per square mile.
- The western cities surveyed each have much lower numbers of sworn personnel per 1,000 residents and per square mile than all of the northeastern cities.
- The Worcester Fire Department budget is about average for the northeastern cities, but significantly higher than the western cities. The Worcester Police Department budget is relatively low when compared to both the northeastern and the western cities.
- While the fire and police department budgets are the same in Worcester, in 9 of the 11 cities surveyed the police department receives substantially more funding than the fire department.

## **INTRODUCTION**

At the request of the City Manager, the Research Bureau has collected data on police and fire department manpower and staffing practices for Worcester and several other cities of similar size. Included in the survey are eight northeastern cities—Springfield,

MA, Providence, RI, Bridgeport, CT, Hartford, CT, New Haven, CT, Waterbury, CT, Rochester, NY, and Syracuse, NY—as well as three western cities—Modesto, CA, Scottsdale, AZ, and Lincoln, NE. The northeastern cities were selected on the basis of several criteria. First, they are generally comparable in population size to Worcester, ranging from 103,000 to 230,000 people. Second, cities had to have a relatively large land area to be included (although few of the cities considered came close to the size of Worcester). Third, for purposes of comparing fire departments, we attempted to select cities that were relatively close to Worcester in the age and composition of their housing stock. The three western cities were included in order to provide some contrast with the staffing levels and practices characteristic of the northeast. Scottsdale is unique among all the cities surveyed in that the City of Scottsdale contracts with a private company, Rural/Metro, for provision of fire protection services.

It is important to note that this survey can provide at best a rough comparison of staffing levels and practices across cities for two reasons. First, the survey contains police and fire department data only for a single year; a comprehensive comparison would require longitudinal data (that is, data across a number of years) for staffing and activity levels (number of responses, number of fires, number of crimes reported, etc.). Second, in comparing staffing across cities, the survey adjusts for differences in population and area, and includes data detailing differences in such factors as hours worked and, in the case of fire department comparisons, differences in characteristics and age of housing; but other factors affecting police and fire protection requirements, such as climate and the topographical character of a city, are not taken into account.

## I. POPULATION AND LAND AREA

Table 1 (see Appendix A) shows population, land area, and population density for the cities included. Syracuse and Modesto are closest to Worcester in population (based on the 1994 Census Bureau population estimates), while Rochester and Modesto are closest to Worcester in land area. In density, the measure that combines population and land area, Springfield, Waterbury, and Modesto come closest to the figure for Worcester.

## II. HOUSING

Table 2 (see Appendix A) shows the number of housing units, and the average number of housing units per square mile, for each city (housing data is from the 1990 Census). Table 3 shows the percentage of each type of housing unit by city (based on 1990 Census data); Table 4 outlines the age of the housing stock in each city (see Appendix A for both Tables 3 and 4). Both Table 3 and Table 4 indicate that the northeastern cities have relatively comparable housing stocks, especially when contrasted with the three western cities. Housing in the northeastern cities tends to be concentrated in single-unit detached structures and in 2- to 4-unit structures.<sup>1</sup> Scottsdale, Lincoln, and Modesto all have a higher proportion of single-unit detached structures than the northeastern cities, and significantly fewer 2- to 4-unit structures. Similarly, in regard to age of housing stock, Worcester falls roughly in the middle of the

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<sup>1</sup>Hartford and Springfield are somewhat atypical in their distributions compared to the other northeastern cities. Hartford has relatively few single-unit detached structures, and significantly more 5-9 unit, 10-19 unit, and 20-49 unit structures. Springfield has relatively few 2-4 unit structures.

northeastern cities; three cities (Providence, Rochester, Syracuse) have older housing by median age and by percentage built in 1949 or earlier, and five (New Haven, Bridgeport, Springfield, Hartford, and Waterbury) have somewhat newer housing. The largest proportion of housing in all of these cities (over 50% in all except Waterbury) was built in 1949 or earlier. By contrast, the median housing age in the three western cities is 20–30 years less than in the northeastern cities, and the largest proportion of their housing was built between 1970 and 1990.

### III. FIRE DEPARTMENT STATISTICS

The Research Bureau collected data from the twelve cities on current fire department staffing and budgets, number of companies, shift scheduling and hours worked, and number of responses and fires for 1996.

TABLE 5: NUMBER OF PERSONNEL

	Authorized Strength*	Total Personnel	Sworn Personnel	Civilian Personnel
Worcester	479 (u)	470	457	13
Bridgeport	356 (u); 15 (c)	371	356	15
Hartford	434 (u)	352	346	6
New Haven	409 (u & c)	369	356	13
Providence	539 (u)	492	481	11
Rochester	526 (u); 34 (c)	558	533	25
Springfield	450 (u)	362	356	6
Syracuse	421 (u)	431	421	10
Waterbury	337 (u); 6 (c)	337	323	6
Scottsdale, AZ	**	147	132†	15
Lincoln, NE	267 (u)	267	259	8
Modesto, CA	142 (u)	152	138	14

\*'u' = sworn; 'c' = civilian

\*\*By contract, Rural/Metro is required to staff 52 sworn personnel per day. It takes 2.51 employees to fill 1 position; therefore the department's minimum required strength is approximately 131.

†Rural/Metro supplements its full-time staff with a pool of approximately 40 reserves trained by the department, who respond to incidents and are paid on a per diem basis.

Table 5 outlines authorized positions, number of sworn personnel, number of civilian personnel, and total personnel (i.e., sworn and civilian). Worcester ranks third among the cities surveyed in number of sworn personnel. Each northeastern city employs significantly more sworn personnel than any of the western cities. There are no significant differences among the cities regarding the number of civilians employed.

TABLE 6: NUMBER OF COMPANIES AND SIZE OF CREWS

	Companies	Crew Size
Worcester	23	3-4 men engines and ladders
Bridgeport	15	4-5 men engines and ladders
Hartford	17	4-6 men engines and ladders
New Haven	19*	4 men engines and ladders
Providence	28	3-4 men engines and ladders
Rochester	18	4 men engines; 2 men mini-pumpers; 4 men Quints (combined pumper/ladder trucks)
Springfield	19	4 men engines; 3 men ladders
Syracuse	18	4 men engines; 2 men mini-pumpers; 4 men ladders; 6 men combined engine/ladder
Waterbury	13	3-4 men engines and ladders
Scottsdale, AZ	13	3 men engines and ladders
Lincoln, NE	19**	4 men engines and ladders
Modesto, CA	13	3 men engines; 4 men ladders

\*Includes 4 2-man non-transporting EMS units

\*\*Does not include 1 1-man airport crash/fire/rescue unit

Table 6 shows the number of companies in each fire department, and the size of crews on engines and ladder trucks. The Worcester Fire Department has more companies than any other city except Providence, and 5 of Providence's 28 companies are assigned to ambulance transport units (the Providence Fire Department provides EMS transport for the city). Most of the departments operate their trucks with 3-4 man crews.

TABLE 7: NUMBER OF SUPERVISORY PERSONNEL

	Chief	1st Deputy	Deputy Chief	Asst/Dist/ Battalion Chief	Capt	Lieut	Total Sup'y	Fire-fighters
Worcester	1	0	5	10	25	77	118	339
Bridgeport	1	0	3	9	18	57	88	268
Hartford	1	0	2	5	17	54	79	267
New Haven	1	0	4	8	25	45	83	273
Providence	1	0	5	11	24	70	111	370
Rochester	1	1	6	17	23	78	126	407
Springfield	1	0	2	9	20	67	99	257
Syracuse	1	1	6	17	26	74	125	296
Waterbury	1	0	4	8	13	39	65	258
Scottsdale, AZ	1	0	2	4	22	11	40	92
Lincoln, NE	1	0	9	0	57	0	67	192
Modesto, CA	1	0	2	5	44	0	52	86

**TABLE 8: RATIO OF FIREFIGHTERS TO SUPERVISORS**

Worcester	2.87
Bridgeport	3.05
Hartford	3.38
New Haven	3.29
Providence	3.33
Rochester	3.23
Springfield	2.60
Syracuse	2.37
Waterbury	3.97
Scottsdale, AZ	2.30
Lincoln, NE	2.87
Modesto, CA	1.65

Table 7 gives a breakdown of supervisory personnel by rank for each department. Table 8 indicates each department's span of control, or the ratio of firefighters to supervisors. With 1 supervisory position for every 2.87 firefighters, Worcester ranks 3rd among the northeastern cities (that is, all but two of these cities have more firefighters per supervisor than Worcester), and 5th overall.

**TABLE 9: SHIFTS, SCHEDULES, HOURS/WEEK**

	No. Shifts	Shift hours	Hrs/week	Schedule
Worcester	4	10hr day/14hr night	42	2 days/2 nights/4 off
Bridgeport	4	10hr day/14hr night	42	3 days/3 off/3 nights/3 off
Hartford	4	10hr day/14hr night	42	3 days/3 off/3 nights/3 off
New Haven	4	10hr day/14hr night	42	3 days/3 off/3 nights/3 off
Providence	4	10hr day/14hr night	42	2 days/2 nights/4 off
Rochester	4	10hr day/14hr night	42*	3 days/2 off/3 nights/4 off
Springfield	4	10hr day/14hr night	42	2 days/2 nights/4 off
Syracuse	4	10hr day/14hr night	42*	2 days/2 nights/3 off
Waterbury	4	9.5hr day/14.5 hr night	42	3 days/3 off/3 nights/3 off
Scottsdale, AZ	2	24 hour	67	1 on/1 off-x6/ + 2off**
Lincoln, NE	3	24 hour	56	1 on/1 off/1 on/1 off/1 on/1 off/ 1 on/8 off
Modesto, CA	3	24 hour	56	1 on/1 off/1 on/1 off/1 on/4 off

\*By New York state law, firefighters can work a maximum of 40 hours/week. In Rochester and Syracuse, firefighters work 42 hours/week and are paid compensatory time for 2 hours.

\*\*During a shift rotation, each firefighter works 6 shifts, and has an average of 8 days off.

As Table 9 shows, schedules and hours worked per week are virtually identical in the fire departments in the northeast, whereas personnel in the western departments work different shift lengths and more hours per week.

Table 10: Responses and Fire Incidents, 1996

	Total Responses	Structure Fires	Non-Structure Fires	EMS Responses	Type of EMS Provided
Worcester	24,464	551	1,897	10,000 <sup>o</sup>	1st response
Bridgeport	11,061	534	99	4,253	1st response
Hartford	8,822	396	1,082	926	1st response
New Haven	22,177	347 <sup>†</sup>	1,365 <sup>†</sup>	16,799 <sup>†</sup>	ALS/BLS** (no transport); 1st response
Providence	35,886	465	336*	26,143	1st response; ALS transport
Rochester	18,334	929	1,025	5,521	BLS 1st response
Springfield	7,239	683	657	0	None
Syracuse	19,022	905	1,429	9,291	BLS 1st response
Waterbury <sup>‡</sup>	4,121	267	542	0	None
Scottsdale, AZ	15,590	240	745	8,846	ALS 1st response; ALS transport
Lincoln, NE	11,055	172	518	7,219	ALS 1st response
Modesto, CA	12,907	353	970	7122	1st response

\*Providence tracks structure and vehicle fires only

<sup>o</sup>Approximate figure

<sup>†</sup>1995 figures

<sup>‡</sup>FY1996 figures

\*\*ALS=Advanced Life Support-level emergency medical response; BLS=Basic Life Support-level emergency medical response

Table 10 outlines total and EMS responses, and structure and non-structure fires, for each department. It also indicates what kind of EMS, if any, is provided by each department. Most departments surveyed provide EMS first response; Providence and Scottsdale also provide ambulance transport (which means that, comparatively speaking, they will have more EMS responses than departments providing only first response), while Springfield and Waterbury provide no EMS of any kind.

Although figures for responses and fire incidents were obtained from each department, the extent to which these figures are comparable is uncertain. Different departments define fires of varying types and extent as structure fires and as non-structure fires. With regard to total responses, the Research Bureau attempted to obtain a figure that was a reasonably accurate indicator of the number of times fire department personnel were dispatched in response to a request for some sort of emergency service, but here too, departments may include a range of types of requests for service in their figure for total responses.

Table 11 (below, p. 7) compares staffing for the twelve cities by adjusting current sworn strength for differences in population, area, number of responses, and number of fire incidents. Worcester ranks 5th overall in number of sworn personnel per 1,000 residents, and 6th in number of sworn personnel per square mile. It ranks 5th in the number of responses per sworn employee, 4th in number of total fire incidents per sworn employee, and 7th in number of structure fires per sworn employee.



TABLE 11: STAFFING COMPARISONS

	Uniform/ 1,000 res	Uniform/ sq mi	Responses per uniform	Total Fires per uniform	Structure Fires per uniform
Worcester	2.76	12.17	54	5.36	1.21
Bridgeport	2.68	22.25	31	4.30	1.50
Hartford	2.79	20.00	25	4.27	1.14
New Haven	2.98	18.84	62	4.81	0.97
Providence	3.19	26.00	75	1.67	0.97
Rochester	2.31	14.89	34	3.67	1.74
Springfield	2.39	11.09	20	3.76	1.92
Syracuse	2.63	16.77	45	5.54	2.15
Waterbury	3.12	11.29	13	2.50	0.83
<b>AVG (Northeast)</b>	<b>2.76</b>	<b>17.03</b>	<b>40</b>	<b>3.99</b>	<b>1.38</b>
Scottsdale, AZ	0.87	2.10	118	7.46	1.82
Lincoln, NE	1.28	3.75	43	2.66	0.66
Modesto, CA	0.78	4.08	94	9.59	2.56

Compared to the other northeastern cities, Worcester ranks somewhere in the middle in terms of staffing. Providence and New Haven, which rank above Worcester in number of sworn personnel per 1,000 residents, both perform EMS functions that Worcester does not; on the other hand, Waterbury, which also ranks above Worcester on this count, does not perform any EMS function. Worcester is 3rd-lowest in its number of sworn personnel per square mile, 3rd-highest in the number of responses per sworn employee, 2nd-highest in total fire incidents per sworn employee, and in the middle in number of structure fires per sworn employee. For the northeastern cities, Worcester has the average number of sworn personnel per 1,000 residents (2.76). The city is below average in regard to number of sworn personnel per square mile, number of total fires per sworn personnel, and number of structure fires per sworn personnel, and is above average in regard to the number of responses per sworn personnel.

What is perhaps more striking about these figures, however, as well as the figures for the number of uniformed fire personnel contained in Table 5, is the difference between the western and the northeastern cities. The northeastern cities are all much higher in their number of sworn personnel per 1,000 residents and sworn personnel per square mile. With regard to responses and fire incidents per sworn employee the picture is more mixed, but in general, Scottsdale and Modesto have higher numbers of responses per employee and of fire incidents per employee than their northeastern counterparts, while Lincoln has lower numbers on both counts than most of the northeastern cities.

These differences between the northeastern and western cities are undoubtedly accounted for in part by the differences in housing stock: housing in the northeast is significantly older, and the materials and type of construction typical of such housing stocks presumably present a greater fire protection problem than those in the western cities. Another factor with significant bearing on the staffing difference is the hours

worked by sworn personnel: fire personnel in every city in the northeast work 42-hour weeks, while those in Modesto and Lincoln work 56 hours, and in Scottsdale, 67 hours (according to fire officials the Research Bureau spoke to, a 56-hour week is typical of departments in western cities). The Research Bureau did not investigate whether these considerations are sufficient to account for the disparity in staffing levels between the western cities and Worcester and the other northeastern cities; such an investigation is beyond the scope of this report.

TABLE 12: FIRE DEPARTMENT FY97 BUDGETS

	FY97 Budget	\$ per resident	\$ per sq mi	\$ per uniform
<b>Worcester</b>	22,218,698	134	591,552	40,324
<b>Bridgeport</b>	21,061,984	158	1,316,374	39,442
<b>Hartford</b>	22,220,400	179	1,284,416	56,112
<b>New Haven</b>	21,341,811	178	1,129,196	61,504
<b>Providence</b>	25,415,549	169	1,373,813	54,657
<b>Rochester</b>	28,629,000	124	799,693	30,817
<b>Springfield</b>	17,445,043	117	543,459	25,542
<b>Syracuse</b>	19,474,045	122	775,858	21,518
<b>Waterbury</b>	20,777,860	201	726,499	77,820
<b>AVG (Northeast)</b>	<b>22,064,932</b>	<b>154</b>	<b>948,985</b>	<b>45,304</b>
<b>Scottsdale, AZ</b>	10,604,348	70	168,323	44,185
<b>Lincoln, NE</b>	12,397,235	61	179,670	72,077
<b>Modesto, CA</b>	14,481,684	82	428,452	41,025

Table 12 presents current budgets and comparative measures for the twelve fire departments. In its gross budget figure, Worcester is about average when compared to the other northeastern cities. It is spending less per resident and per square mile than most of the northeastern cities, and roughly average amounts per sworn employee. However, the three western cities are spending substantially less than all of their northeastern counterparts in their current budgets and when their spending is adjusted. Worcester is spending approximately 63% more than Modesto, which spends the most per resident of the western cities. Given that the majority of fire department budgets is spent on personnel costs, this difference between the two sets of cities is not surprising.

One year ago, the Research Bureau issued a report (No. 96-3) suggesting that the City contract with an outside consultant for a comprehensive examination of the Worcester Fire Department. The report argued that changes occurring in both the city itself and the fire protection profession warranted a study of a variety of issues, including the number of personnel necessary to provide adequate fire protection for Worcester; work-week and shifts; span of control; kinds of equipment for future purchase; and appropriate locations for any new fire stations. The report estimated the cost of such a study at approximately \$100,000. Recently, there have been calls from

Worcester Fire Department officials for an addition of two firefighter classes over the next year, which would increase the number of sworn personnel to about 488 after taking attrition into account;<sup>2</sup> fire union officials have also suggested that the size of crews on engines and ladder trucks needs to be increased to at least 5 men. These developments, combined with the questions raised above concerning staffing differences, lead the Research Bureau to believe that the City administration should contract for such a study before hiring additional classes. Since the cost of each additional class is about \$750,000 per year, a one-time investment of \$100,000 in such a study makes sense.

#### IV. POLICE DEPARTMENT STATISTICS

The Research Bureau collected data from the twelve cities on current police department staffing and budgets, shift scheduling and hours worked, total responses for 1996, and FBI Uniform Crime Report statistics for 1995.

TABLE 13: NUMBER OF PERSONNEL

	Auth. Strength*	Total Personnel	Sworn	Civilian
Worcester	480 (u)	518	459	59
Bridgeport	400 (u)	489	385	104
Hartford	515 (u)	587	480	107
New Haven	466 (u)	592	421	171
Providence	454 (u)	505	432	73
Rochester	683 (u); 139 (c)	848	687	161
Springfield	632 (u)	610	525	85
Syracuse	499 (u)	653	499	154
Waterbury	369 (u)	355	330	25
Scottsdale, AZ	277 (u); 158 (c)	420	271	149
Lincoln, NE	276 (u)	379	287	92
Modesto, CA	246 (u)	326	230	96

\*'u' = sworn; 'c' = civilian

Table 13 outlines authorized positions, number of sworn personnel, number of civilian personnel, and total personnel (i.e., sworn and civilian). Worcester ranks fifth among the cities surveyed in number of sworn personnel. Each northeastern city employs significantly more sworn personnel than any of the western cities. The number of civilian personnel varies widely among the cities; Worcester ranks 11th in the number of civilians employed. When sworn and civilian personnel are combined, Worcester

<sup>2</sup>If the fire department's complement of sworn personnel was increased to 488, it would have the following effect on the categories in Table 11: uniform/1,000 residents, 2.95; uniform/square mile, 12.99; responses/uniform, 50.13; total fires/uniform, 3.85; structure fires/uniform, 1.13.

ranks fifth. With the exception of Waterbury, the western cities each employ fewer total personnel than any of their northeastern counterparts.

**TABLE 14: NUMBER OF SUPERVISORY PERSONNEL**

	Chief	Deputy Chief	Major/ Cmdr	Capt.	Lieut.	Sgt.	Other Ranks	P.O./ Other*
<b>Worcester</b>	1	3	0	10	29	55	0	361
<b>Bridgeport</b>	1	3	0	8	18	52	0	303
<b>Hartford</b>	1	6	0	5	30	48	1	389
<b>New Haven</b>	1	1	0	5	21	56	0	337
<b>Providence</b>	1	0	2	8	16	55	0	350
<b>Rochester</b>	1	2	3	14	28	82	0	557
<b>Springfield</b>	1	2	0	9	22	50	0	441
<b>Syracuse</b>	1	4	1	12	21	81	1	378
<b>Waterbury</b>	1	1	2	6	20	30	0	270
<b>Scottsdale, AZ</b>	1	2	0	4	12	34	1	217
<b>Lincoln, NE</b>	1	2	0	16	0	50	0	218
<b>Modesto, CA</b>	1	0	0	2	11	26	6	184

\*Includes plain-clothed sworn personnel and detectives equivalent in rank to patrol officers.

**TABLE 15: RATIO OF PATROL OFFICERS TO SUPERVISORS**

<b>Worcester</b>	3.68
<b>Bridgeport</b>	3.70
<b>Hartford</b>	4.27
<b>New Haven</b>	4.01
<b>Providence</b>	4.27
<b>Rochester</b>	4.28
<b>Springfield</b>	5.25
<b>Syracuse</b>	3.12
<b>Waterbury</b>	4.50
<b>Scottsdale, AZ</b>	4.02
<b>Lincoln, NE</b>	3.16
<b>Modesto, CA</b>	4.00

Table 14 gives a breakdown of supervisory personnel by rank for each department. Table 15 indicates each department's span of control, or the ratio of supervisors to patrol or line officers. With 1 supervisory position for every 3.68 officers, Worcester ranks 3rd-highest in its number of supervisors relative to patrol officers among the cities surveyed.

TABLE 16: SHIFTS, SCHEDULES, HOURS WORKED PER WEEK

	No. of Shifts	Schedule*	Hours/week
<b>Worcester</b>	3	4 on/2 off	37.5
<b>Bridgeport</b>	3	5 on/3 off	35
<b>Hartford</b>	3	5 on/2 off/5 on/3 off	37.5
<b>New Haven</b>	3	5 on/2 off/5 on/3 off	37.5
<b>Providence</b>	3	4 on/2 off	37.5 (patrol)
<b>Rochester</b>	4	4 on/2 off	37.5
<b>Springfield</b>	3	4 on/2 off	37.5
<b>Syracuse</b>	3	4 on/2 off	37.5
<b>Waterbury</b>	3	5 on/2 off/5 on/2 off/5 on/3 off	38.25
<b>Scottsdale, AZ</b>	7	4 on (10 hours)/3 off	40
<b>Lincoln, NE</b>	3	5 on/2 off; 4 on (10 hrs)/3 off	40
<b>Modesto, CA</b>	4	6 on/3 off (patrol)	37.5 (patrol)

\* 8-hour shifts except as noted

As Table 16 indicates, personnel in all departments surveyed work similar hours per week, with some variations in schedules and the number of shifts operated.

TABLE 17: RESPONSES, 1996, AND FBI UCR STATISTICS, 1995

	Total Responses	1995 UCR Statistics:		
		Total	Violent	Property
<b>Worcester</b>	86,418	11,228	1,732	9,496
<b>Bridgeport</b>	112,138	10,386	1,585	8,801
<b>Hartford</b>	327,000	16,573	2,599	13,974
<b>New Haven</b>	130,000	15,174	2,229	12,945
<b>Providence</b>	195,000	13,998	1,222	12,776
<b>Rochester</b>	438,506	22,729	2,554	20,175
<b>Springfield</b>	127,537*	11,165	2,307	8,858
<b>Syracuse</b>	177,304	11,339	1,466	9,873
<b>Waterbury</b>	118,000	8,799	526	8,273
<b>Scottsdale, AZ</b>	163,962	10,816	458	10,358
<b>Lincoln, NE</b>	146,137	14,433	1,331	13,102
<b>Modesto, CA</b>	120,038	15,425	1,364	14,057

\*Springfield total responses include EMS 1st response, which is provided by the Springfield Police Department.

Table 17 attempts to give some indication of the demand load experienced by each police department by providing response data and FBI standardized crime report data. Similar problems as noted above with regard to fire department total response data apply here: police departments gather a varying range of responses to incidents and requests for service under this heading, and have different ways of defining what constitutes a single response (for example, Rochester's figure seems disproportionate to those reported by the other cities). The FBI crime reports may give a more accurate representation of the demand experienced by a department, but this is limited to incidents that qualified as types of crime; it does not include nuisance- or other calls for service responded to by police departments.

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TABLE 18: STAFFING COMPARISONS

	Sworn personnel: per 1,000 res	per sq mi	Responses per sworn	UCR Total per sworn
Worcester	2.78	12.22	188	24
Bridgeport	2.90	24.06	291	27
Hartford	3.86	27.75	681	35
New Haven	3.52	22.28	309	36
Providence	2.87	23.35	451	32
Rochester	2.97	19.19	638	33
Springfield	3.52	16.36	243	21
Syracuse	3.12	19.88	355	23
Waterbury	3.19	11.54	358	27
<b>AVG (Northeast)</b>	<b>3.19</b>	<b>19.62</b>	<b>391</b>	<b>29</b>
Scottsdale, AZ	1.78	4.30	605	40
Lincoln, NE	1.41	4.16	509	50
Modesto, CA	1.30	6.80	522	67

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Table 18 compares staffing for the twelve cities by adjusting current sworn strength for differences in population, area, number of responses, and FBI Uniform Crime Report totals. Worcester ranks 7th in number of sworn personnel per 1,000 residents, 6th in number of sworn personnel per square mile, 9th in number of responses per sworn personnel, and 8th in UCR crimes per sworn personnel. In regard to the latter two categories, it should be noted that Worcester's ranking is also affected by its relative number of responses and reported crimes, both of which are very low compared to the other cities (see Appendix B): for the year surveyed, Worcester had the lowest number of responses per resident, the lowest number of total reported crimes per resident, and the lowest number of property crimes per resident. It ranked relatively high (4th), however, in the number of violent crimes per resident.

Compared to the other northeastern cities, the Worcester police department ranks quite low in regard to staffing. It has the lowest number of sworn personnel per 1,000 residents and the second lowest number of sworn personnel per square mile (Worcester also has the lowest number of responses per sworn personnel and crime

reports per sworn personnel, but again this may reflect not only the department's number of sworn personnel, but its relatively low number of responses and reported crimes). But as with the fire department data, there is a significant difference in staffing levels between the northeastern and the western cities. Scottsdale, Lincoln, and Modesto each have much lower numbers of sworn personnel per 1,000 residents and per square mile than all of the northeastern cities. Scottsdale, Lincoln and Modesto also have relatively low levels of crime: they rank 7th, 10th and 11th in number of responses per resident, 9th, 11th and 5th in total crimes reported per resident, 12th, 10th and 9th in violent crimes reported per resident, and 7th, 9th and 6th in property crimes reported per resident (see Appendix B). However, as noted above, Worcester has an even-lower level of crime: it ranks lower than these cities in all categories except for violent crime reports per resident. Nonetheless, there is a substantial difference between Worcester and the three western cities both in number of responses per sworn personnel (189 vs. 606, 509 and 522) and in number of reported crimes per sworn personnel (25 vs. 40, 50 and 67). This suggests that there may be a difference in staffing levels between the western cities and Worcester and its northeastern counterparts even when differences in levels of crime and the demands for service experienced by a department are taken into account.

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**TABLE 19: POLICE DEPARTMENT FY97 BUDGETS**

	Current Budget	\$ per resident	\$ per sq mi	\$ per uniform
<b>Worcester</b>	22,039,525	133	586,782	48,016
<b>Bridgeport</b>	27,397,710	206	1,712,357	71,163
<b>Hartford</b>	32,970,000	265	1,905,780	68,688
<b>New Haven</b>	26,216,952	219	1,387,140	62,273
<b>Providence</b>	25,000,000	166	1,351,351	57,870
<b>Rochester</b>	42,019,600	182	1,173,732	61,164
<b>Springfield</b>	29,101,113	195	906,577	55,431
<b>Syracuse</b>	24,719,117	155	984,825	49,537
<b>Waterbury</b>	19,474,045	188	680,911	59,012
<b>AVG (Northeast)</b>	<b>27,659,785</b>	<b>190</b>	<b>1,187,717</b>	<b>59,239</b>
<b>Scottsdale, AZ</b>	28,876,954	189	458,364	106,557
<b>Lincoln, NE</b>	19,354,231	95	280,496	67,436
<b>Modesto, CA</b>	29,599,861	168	875,736	128,695

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Table 19 presents current budgets and comparative measures for the twelve police departments. In its gross budget figure, Worcester is spending less than all of the northeastern cities except Waterbury, and less than all of the western cities except Lincoln. It is spending less per resident, less per square mile, and less per sworn employee than all of the northeastern cities. Compared to the western cities, Worcester is spending less on all three counts than Scottsdale and Modesto, but more per resident and per square mile than Lincoln. In general, unlike in the case of the fire departments, there is no significant difference between western departments as a

group and the northeastern departments either in their current budgets or when their spending is adjusted. The figures in Tables 12 and 19 also reveal that in FY97, police and fire budgets in Worcester are equal. In 9 of the 11 cities surveyed, however, the police department receives substantially more funding than the fire department.



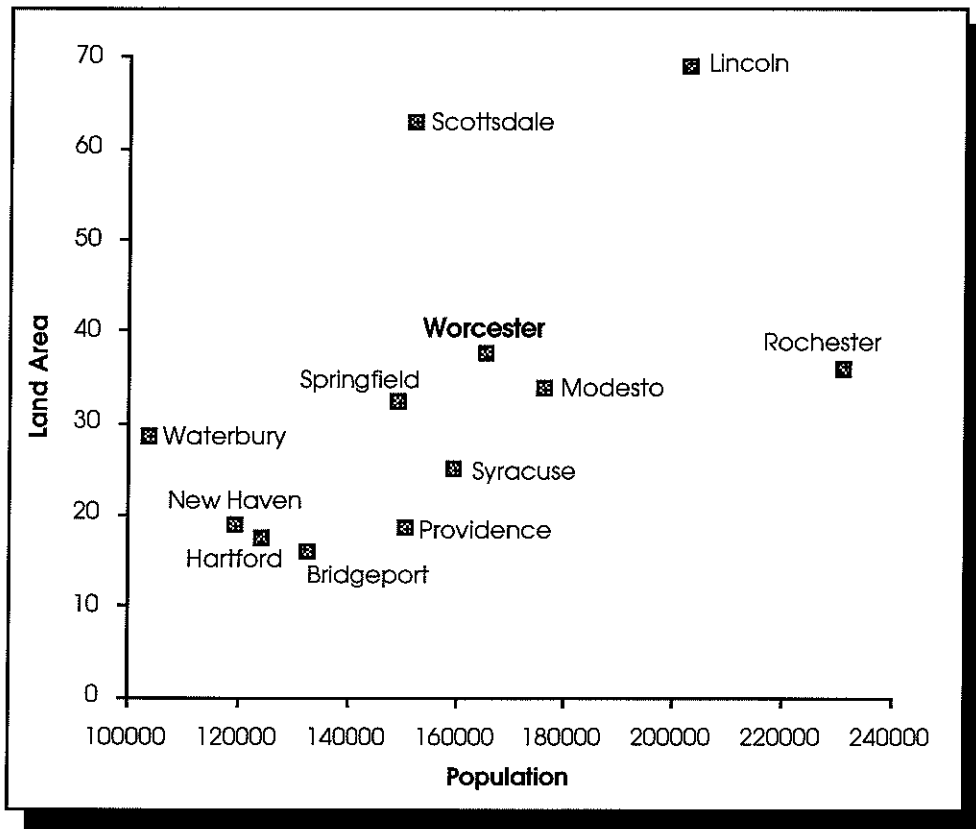
**APPENDIX A. DATA USED IN SELECTING CITIES FOR COMPARISON**

**TABLE 1: POPULATION, LAND AREA, POPULATION DENSITY**

	Population (1994 Census est.)	Land Area (sq. mi.)	Pop/sq. mi.
Worcester	165,387	37.6	4,403
Bridgeport	132,919	16.0	8,307
Hartford	124,196	17.3	7,179
New Haven	119,604	18.9	6,328
Providence	150,639	18.5	8,143
Rochester	231,170	35.8	6,457
Springfield	149,164	32.1	4,647
Syracuse	159,895	25.1	6,370
Waterbury	103,523	28.6	3,620
Scottsdale, AZ	152,439	63.0	2,420
Lincoln, NE	203,076	69.0	2,943
Modesto, CA	176,357	33.8	5,218

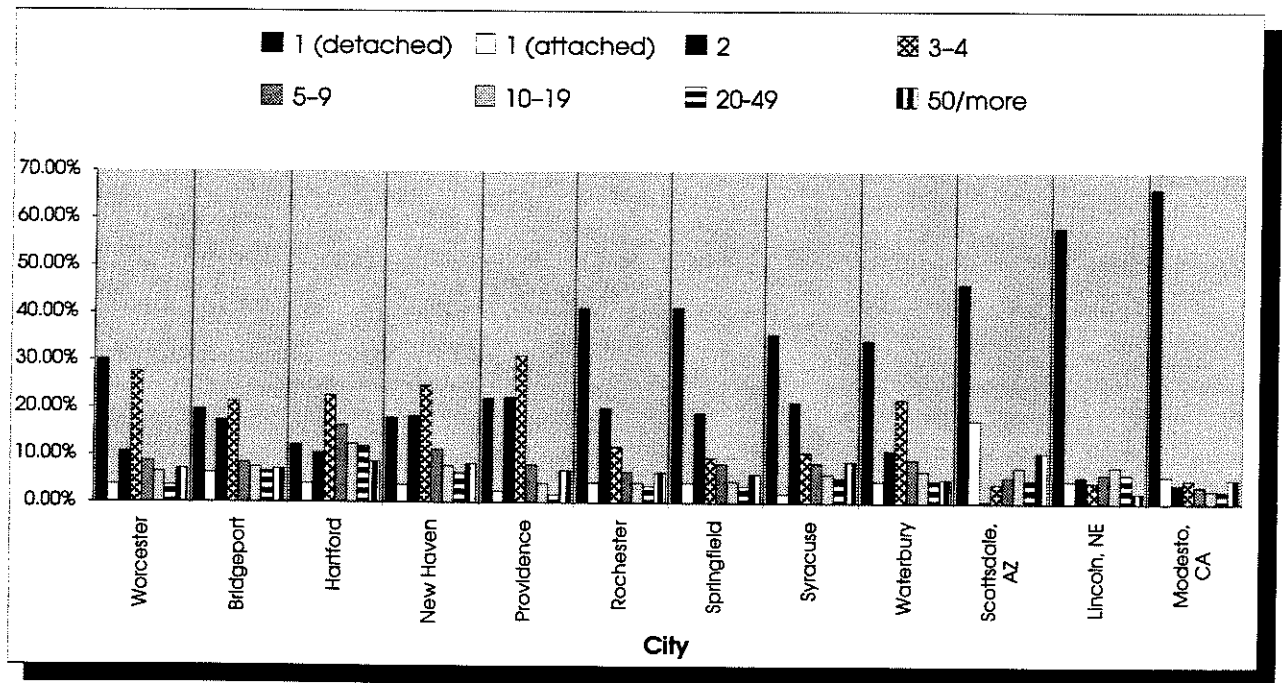
**TABLE 2: NUMBER OF HOUSING UNITS**

	Housing Units	Units/sq mi.
Worcester	69,336	1,846
Bridgeport	57,224	3,577
Hartford	56,098	3,243
New Haven	54,057	2,860
Providence	66,794	3,610
Rochester	101,154	2,826
Springfield	61,320	1,910
Syracuse	71,502	2,849
Waterbury	47,205	1,651
Scottsdale, AZ	69,028	1,096
Lincoln, NE	79,079	1,146
Modesto, CA	60,878	1,801



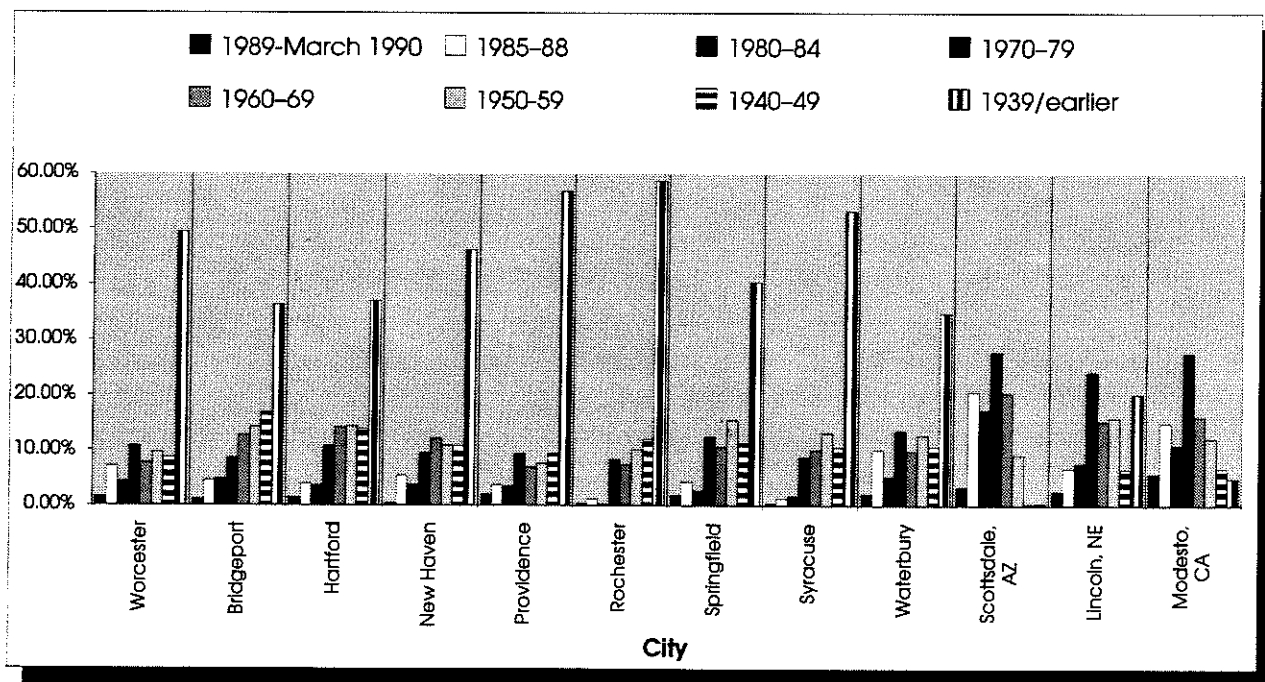
**TABLE 3: TYPE OF HOUSING (BY NUMBER OF UNITS IN STRUCTURE)**

	1 (detached)	1 (attached)	2	3-4	5-9	10-19	20-49	50/more
Worcester	30.26%	3.81%	10.75%	27.78%	8.72%	6.56%	3.69%	7.20%
Bridgeport	19.75%	6.26%	17.49%	21.32%	8.43%	7.50%	6.72%	7.10%
Hartford	12.28%	4.01%	10.48%	22.68%	16.30%	12.35%	11.93%	8.60%
New Haven	17.99%	3.81%	18.32%	24.87%	11.16%	7.80%	6.26%	8.28%
Providence	22.07%	2.35%	22.33%	31.08%	8.15%	4.22%	1.74%	6.83%
Rochester	41.31%	4.29%	20.07%	11.82%	6.59%	4.31%	3.58%	6.47%
Springfield	41.38%	4.30%	19.16%	9.64%	8.31%	4.72%	3.66%	6.17%
Syracuse	35.85%	1.95%	21.33%	10.74%	8.45%	6.21%	5.36%	8.77%
Waterbury	34.44%	4.68%	11.23%	21.95%	9.28%	6.91%	4.85%	5.12%
Scottsdale, AZ	46.39%	17.53%	0.55%	4.13%	5.65%	7.63%	4.96%	10.74%
Lincoln, NE	58.42%	4.80%	5.78%	4.60%	6.36%	7.79%	6.31%	2.34%
Modesto, CA	66.67%	5.86%	4.04%	5.16%	3.73%	2.93%	2.70%	5.21%



**TABLE 4: HOUSING UNITS: YEAR STRUCTURE BUILT**

	Median Year	1989-March 1990	1985-88	1980-84	1970-79	1960-69	1950-59	1940-49	1939/earlier
Worcester	1941	1.62%	7.18%	4.39%	10.93%	7.89%	9.68%	8.80%	49.50%
Bridgeport	1948	1.10%	4.66%	4.85%	8.71%	12.87%	14.36%	17.02%	36.44%
Hartford	1949	1.44%	4.08%	3.71%	10.92%	14.29%	14.44%	14.01%	37.10%
New Haven	1943	0.59%	5.60%	3.84%	9.63%	12.27%	10.95%	10.84%	46.27%
Providence	1939	2.12%	3.77%	3.55%	9.46%	7.05%	7.68%	9.49%	56.87%
Rochester	1939	0.48%	1.23%	0.32%	8.46%	7.50%	10.13%	12.20%	58.70%
Springfield	1948	1.98%	4.33%	2.73%	12.63%	10.81%	15.62%	11.45%	40.44%
Syracuse	1939	0.49%	1.35%	1.88%	8.94%	10.13%	13.29%	10.59%	53.31%
Waterbury	1953	2.18%	10.20%	5.36%	13.70%	9.97%	12.90%	10.78%	34.92%
Scottsdale, AZ	1977	3.43%	20.76%	17.36%	27.90%	20.52%	9.23%	0.37%	0.42%
Lincoln, NE	1965	2.70%	6.83%	7.78%	24.38%	15.34%	15.98%	6.71%	20.28%
Modesto, CA	1974	5.75%	15.08%	11.06%	27.82%	16.17%	12.29%	6.87%	4.96%



**APPENDIX B. PER CAPITA POLICE RESPONSES AND CRIME REPORTS**

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	Responses per resident	UCR (Total) per resident	UCR (Violent) per resident	UCR (Property) per resident
Worcester	0.52	68	10	57
Bridgeport	0.84	78	12	66
Hartford	2.63	133	21	113
New Haven	1.09	127	19	108
Providence	1.29	93	8	85
Rochester	1.90	98	11	87
Springfield	0.86	75	15	59
Syracuse	1.11	71	9	62
Waterbury	1.14	85	5	80
Scottsdale, AZ	1.08	71	3	68
Lincoln, NE	0.72	71	7	65
Modesto, CA	0.68	87	8	80

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