



Final Report-Task 4.1
Study of NFIRS Non-response Bias
Using NFPA Survey Data
Cooperative Agreement No. EME-2004-CA-0378

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Introduction

From its inception, the National Fire Incident Reporting System (NFIRS) has faced questions, or worse assumptions, about biases in participation. NFIRS is a voluntary reporting system, some states do not participate, and even the ones that do, participate at various rates of completeness. Thus NFIRS, even with about 40% of all fire departments reporting in a given year, is still a nonprobability sample, and whether this results in any bias in national estimates based on it, needs to be determined.

In short, we do not know how the fire experience of NFIRS reporting departments compares with NFIRS non-reporting departments, and thus how representative is the NFIRS sample with respect to the overall fire experience in the U.S. One way to do this is to examine fire loss statistics generated relative to the NFPA Survey, which is a probability sample stratified by community size. One can then examine results based on a breakdown of departments that participated in the NFPA Survey into those that also participated in NFIRS (matched) and those that did not participate in NFIRS (unmatched).

Matching Methodology

The matching of departments that responded to the NFPA survey and participated in NFIRS was essentially based on trying to find departments that matched on zipcode, fire department name, and address. This process was done separately for 1997 and 2002. This process began with matching both files for a given year by zipcode via computer, and then comparing fire department data on other items.

In most cases, there was only one department in a zipcode in the NFPA file. For the departments in NFIRS with duplicate zipcodes, the multiple departments were examined to determine which one most likely matched the corresponding department in the NFPA survey. This examination was done with respect to data items such as, fire department name, address, population protected, number of paid or volunteer firefighters, and the number of dwelling fires. After the initial match phase was completed, departments identified as matched were eliminated from the two files. This initial phase of the matching process resulted in 96% of the matches for 1997, and 93% of the matches for 2002.

With all computer aided phases exhausted, the next phase of the matching process resulted in a sizable manual effort. At this point most of the larger communities' match statuses were determined, and this new phase focused mostly on departments that protect smaller communities. With the files sorted by fire department name within state, a manual check was made for whatever data was reported, including fire department name, address, city, population protected, paid or volunteer firefighters, and dwelling fires.

Findings

To thoroughly examine results based on a breakdown of departments that participated in the NFPA Survey into those that also participated in NFIRS (matched) and those that did not participate in NFIRS (unmatched), it was felt that a wide range of U.S. fire loss statistics would need to be analyzed. These included:

- dwelling (1 & 2 family) fires
- dwelling civilian fire deaths
- dwelling civilian fire injuries
- dwelling fire property loss
- structure fires
- structure civilian fire deaths
- structure civilian fire injuries
- highway vehicle fires
- highway vehicle civilian fire deaths
- highway vehicle fire property loss
- outside fires

Dwelling fires and associated losses were selected because they are fairly stable from year to year in most communities, and they are less vulnerable to distortions from one or two severe multiple-death or large-loss fires that can dramatically affect fire loss statistics. The other statistics cover a wide range of types of fires, including highway vehicle fires and deaths and outside fires, important statistics when describing the national fire problem.

The analysis plan used in this project is often called domain analysis, where the population can be divided into subpopulations or groups (matched or unmatched). The overall means for the two groups were calculated for the various selected U.S. fire loss statistics previously mentioned, using a combined ratio estimation methodology, since the groups were represented in all

community size strata.¹ The overall numbers of departments by match status and community size can be seen in Tables 1 and 2 for 1997 and 2002. These 10 community size strata, which are the same ones used by the NFPA in its methodology for estimating national statistics based on its survey, were also used for estimating overall means for the matched and unmatched groups in this project. The weighting factors by stratum used in this study were based on the number of fire departments in the U.S. for 1997 and 2002 respectively that were listed on the NFPA Fire Service Inventory File. The analysis was implemented using the SPSS (Statistical Package for the Social Sciences) Program Module for Complex Surveys.

The difference in means for the matched and unmatched groups for a given statistic was evaluated for their statistical significance, because the results are based on a sample. To take into account the 11 mean differences that were evaluated simultaneously, the Bonferroni method was used.²

Results for overall means of the U.S. fire problem by match status for 1997 and 2002 are shown in Tables 3 and 4. For 1997, matched departments had statistically significantly³ higher overall means than unmatched departments for dwelling fires (an average of 11.43 compared to 9.52, or 20.1. % higher), dwelling injuries (an average of .499 compared to .375, or 32.9% higher), and structure fires (19.86 compared to 16.42, or 21.0% higher).

Also in 1997, matched departments had higher overall means than unmatched for the following, but these results were not statistically significant: structure fire injuries (.822 versus .667, or 23.3% higher), dwelling fire deaths (.0967 versus .0861, or 12.3% higher), and dwelling fire property loss (\$126,989.8 versus \$116,175.9, or 9.3% higher).

Also for 1997, matched departments had lower mean overall fire statistics for highway vehicle fire deaths (.008 compared to .018, or 55.2% lower), and outside fires (25.27 compared to 34.16, or 26% lower). For highway vehicle fires and highway vehicle fire property loss, results were about the same for matched and unmatched departments.

For 2002, matched departments had statistically significantly higher overall means than unmatched departments for dwelling fires (an average of 11.44 compared to 9.57, or 19.5%

¹ William G. Cochran, *Sampling Techniques*, John Wiley, New York, NY, 1977, pp. 34-35, 142-145.

² Neter, J., Kutner, M., Wasserman, W., *Applied Linear Statistical Models*, McGraw-Hill, 1996, pp. 736-738.

³ Using the Bonferroni method for multiple comparisons of evaluating 11 mean differences simultaneously, a “p value” of less than .0045 indicates a statistically significant difference.

Table 1
Match Status by Community Size, 1997

Community Size	Matched		Unmatched		Total	
	Number	Percent	Number	Percent	Number	Percent
1,000,000 or more	1	13	7	87	8	100.0%
500,000-999,999	7	29	17	71	24	100.0%
250,000-499,999	9	23	30	77	39	100.0%
100,000-249,999	23	21	87	79	110	100.0%
50,000-99,999	90	39	143	61	233	100.0%
25,000-49,999	122	47	136	53	258	100.0%
10,000-24,999	238	43	313	57	551	100.0%
5,000-9,999	211	40	323	60	534	100.0%
2,500-4,999	155	32	328	68	483	100.0%
Under 2,500	238	27	658	73	896	100.0%
Total	1,094		2,042		3,136	100.0%

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Table 2
Match Status by Community Size, 2002

Community Size	Matched		Unmatched		Total	
	Number	Percent	Number	Percent	Number	Percent
1,000,000 or more	3	30	7	70	10	100.0%
500,000-999,999	9	33	18	67	27	100.0%
250,000-499,999	9	36	16	64	25	100.0%
100,000-249,999	46	45	57	55	103	100.0%
50,000-99,999	113	56	88	44	201	100.0%
25,000-49,999	157	64	91	36	248	100.0%
10,000-24,999	302	57	230	43	532	100.0%
5,000-9,999	337	50	339	50	676	100.0%
2,500-4,999	265	42	371	58	636	100.0%
Under 2,500	349	35	653	65	1,002	100.0%
Total	1,590		1,870		3,460	

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Table 3
Overall Mean Fire Loss Statistics by Match Status, 1997

Fire Statistic	Match Status	Mean	Standard Error	Number of Fire Departments Reporting	Percent Difference	t test	p value
Dwelling Fires	unmatched	9.52	0.216	1,940	20.1	4.40	0.000*
	matched	11.43	0.377	1,046			
Dwelling Fire Deaths	unmatched	0.0861	0.0062	2,037	12.3	0.86	0.390
	matched	0.0967	0.0106	1,093			
Dwelling Fire Injuries	unmatched	0.375	0.018	1,990	32.9	3.42	0.001*
	matched	0.499	0.031	1,079			
Dwelling Fire Property Loss	unmatched	116,175.9	3,681.9	1,623	9.3	1.57	0.116
	matched	126,989.8	5,833.8	936			
Structure Fires	unmatched	16.42	0.459	1,926	21.0	4.02	0.000*
	matched	19.86	0.722	1,038			
Structure Fire Deaths	unmatched	0.115	0.0084	2,031	14.3	1.13	0.258
	matched	0.131	0.0119	1,089			
Structure Fire Injuries	unmatched	0.667	0.038	1,983	23.3	2.57	0.010*
	matched	0.822	0.047	1,074			
Highway Vehicle Fires	unmatched	12.58	0.445	2,023	5.0	0.95	0.342
	matched	13.21	0.489	1,087			
Highway Vehicle Fire Deaths	unmatched	0.018	0.0032	2,037	-55.2	-2.62	0.009*
	matched	0.008	0.0020	1,093			
Highway Vehicle Property Loss	unmatched	34,646.5	2,237.9	1,529	+6.1	+72	0.472
	matched	36,753.7	1,857.6	884			
Outside Fires	unmatched	34.16	3.753	2,024	-26.0	-2.18	0.029*
	matched	25.27	1.612	1,081			

Source: 1997 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

*Statistically significant at the .05 level family wise level (.05\11=.0045).

Table 4
Overall Mean Fire Loss Statistics by Match Status, 2002

Fire Statistic	Match Status	Mean	Standard Error	Number of Fire Departments Reporting	Percent Difference	t test	p value
Dwelling Fires	unmatched	9.57	0.271	1,834	19.5	4.45	0.000*
	matched	11.44	0.321	1,575			
Dwelling Fire Deaths	unmatched	0.072	0.0062	1,843	26.6	1.95	0.051
	matched	0.091	0.0076	1,582			
Dwelling Fire Injuries	unmatched	0.272	0.017	1,826	61.1	5.71	0.000*
	matched	0.438	0.024	1,566			
Dwelling Fire Property Loss	unmatched	174,164.4	11,620.4	1,405	2.7	0.33	0.741
	matched	178,814.3	7,414.6	1,305			
Structure Fires	unmatched	15.17	0.463	1,766	23.0	4.67	0.000*
	matched	18.65	0.585	1,518			
Structure Fire Deaths	unmatched	0.096	0.0089	1,851	15.6	1.23	0.219
	matched	0.111	0.0083	1,582			
Structure Fire Injuries	unmatched	0.500	0.039	1,835	33.1	3.12	0.002*
	matched	0.665	0.035	1,567			
Highway Vehicle Fires	unmatched	10.50	0.369	1,860	5.6	1.14	0.254
	matched	11.09	0.364	1,587			
Highway Vehicle Fire Deaths	unmatched	0.020	0.0032	1,832	-12.9	-0.58	0.562
	matched	0.018	0.0030	1,575			
Highway Vehicle Property Loss	unmatched	40,476.7	2,770.8	1,259	-1.1	-.13	0.897
	matched	39,994.3	2,635.7	1,171			
Outside Fires	unmatched	28.38	1.14	1,864	0.2	0.05	0.960
	matched	28.44	0.77	1,588			

Source: 2002 NFPA Fire Experience Survey
 Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

*Statistically significant at the .05 level family wise level (.05\11=.0045).

higher), dwelling fire injuries (.438 compared to .272, or 61.1% higher), structure fires (18.65 compared to 15.17, or 23.0% higher), and structure fire injuries (.665 versus .500, or 33.1% higher).

Also in 2002, matched departments had higher overall means than unmatched for the following, but these results were not statistically significant: dwelling fire deaths (.091 versus .072, or 26.6% higher), and structure fire deaths (.111 versus .096, or 15.6% higher).

Also for 2002, results were quite similar for matched and unmatched departments for dwelling fire property loss, number of highway vehicle fires, highway vehicle fire property loss, and number of outside fires.

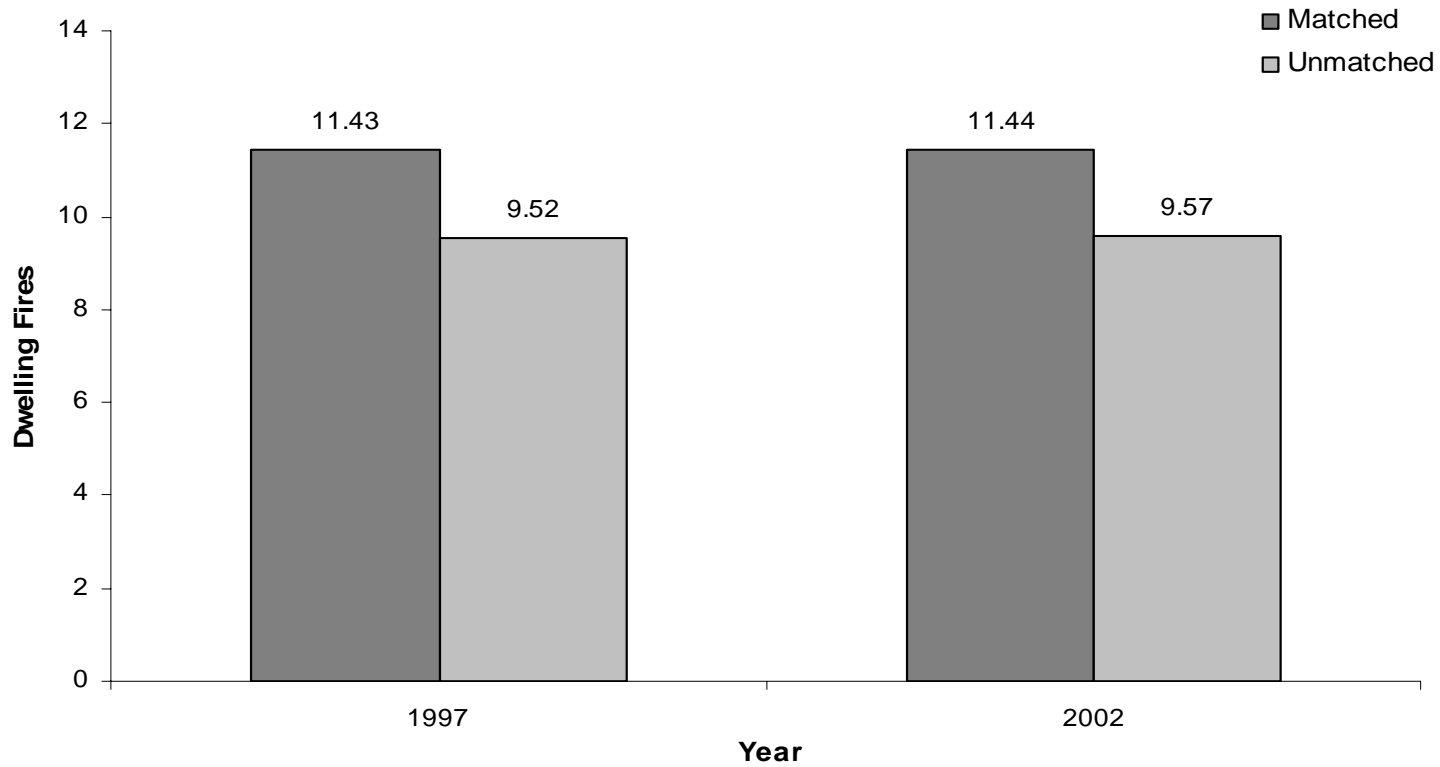
An examination of consistency of results for the two years 1997 and 2002 indicates the following: (1) For dwelling fires, dwelling fire injuries, and structure fires overall mean results for matched departments were statistically significantly higher than unmatched departments for both years (Figures 1 to 3).

(2) For highway vehicle fires and highway vehicle fire property loss, results were similar for matched and unmatched departments for each of the two years (Figures 4 and 5).

(3) Other findings ---Dwelling fire deaths were somewhat higher for matched fire departments in both years, dwelling property loss was somewhat higher for matched departments in 1997 (not statistically significant), but results for matched and unmatched departments were very similar in 2002; highway vehicle fire deaths were higher for unmatched departments in 1997, but results for matched and unmatched departments were very similar in 2002; and outside fires were higher for unmatched in 1997, but results for matched and unmatched departments were very similar in 2002.

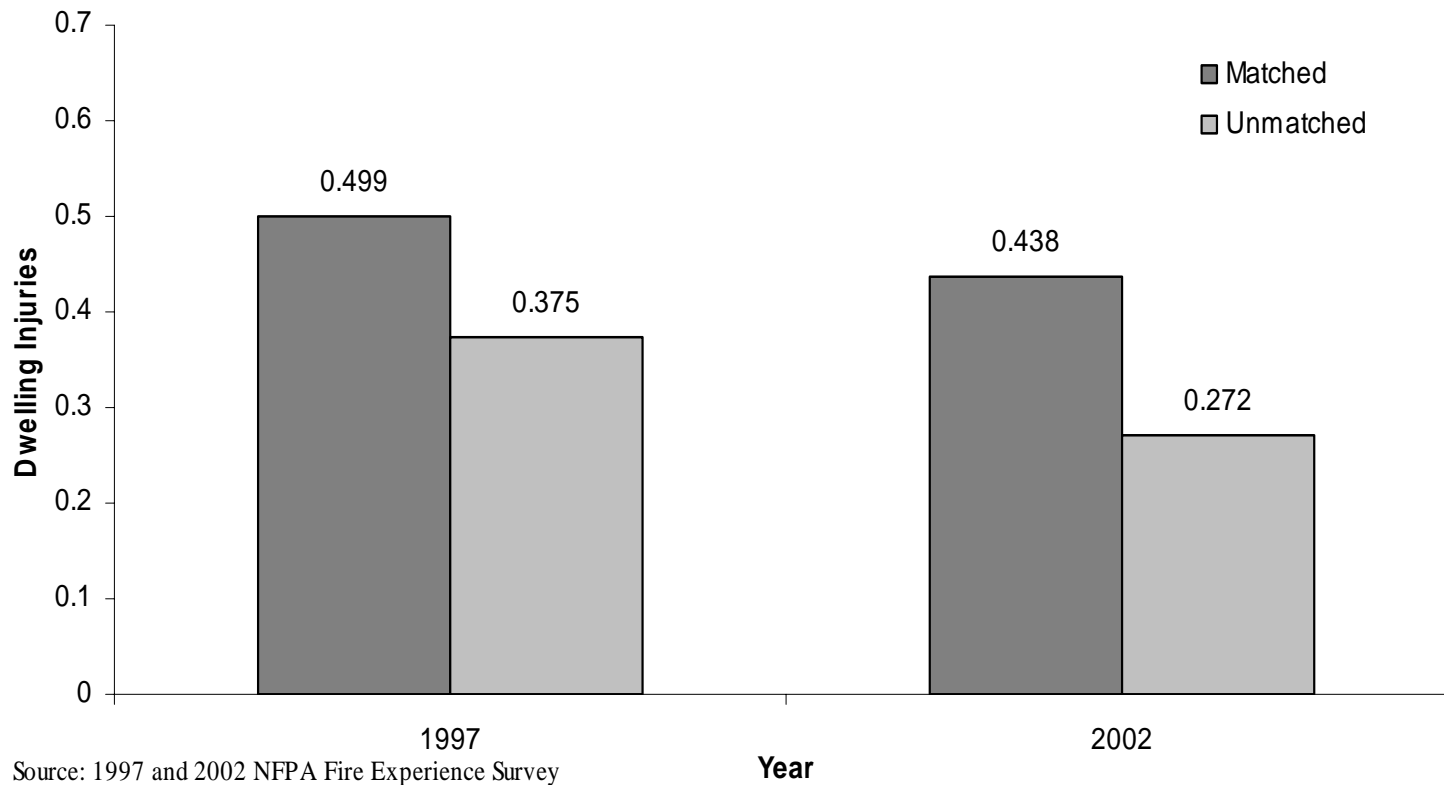
Results were also calculated for mean fire loss statistics by size of community and match status for 1997 and 2002 and are shown in the Appendix.

Figure 1
Overall Mean Dwelling Fires
by Match Status for 1997 and 2002



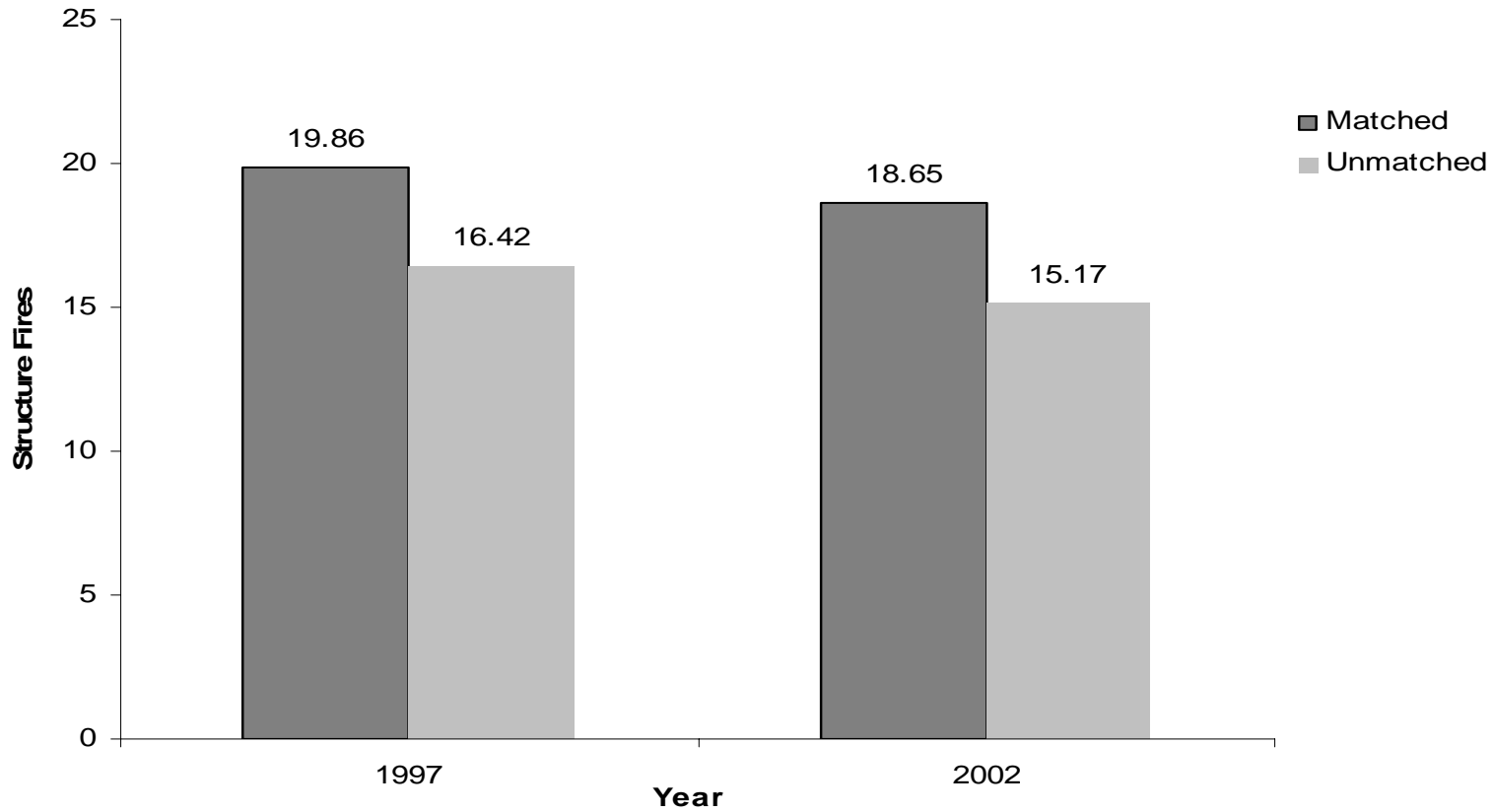
Source: 1997 and 2002 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Figure 2
Overall Mean Dwelling Fire Injuries
by Match Status for 1997 and 2002



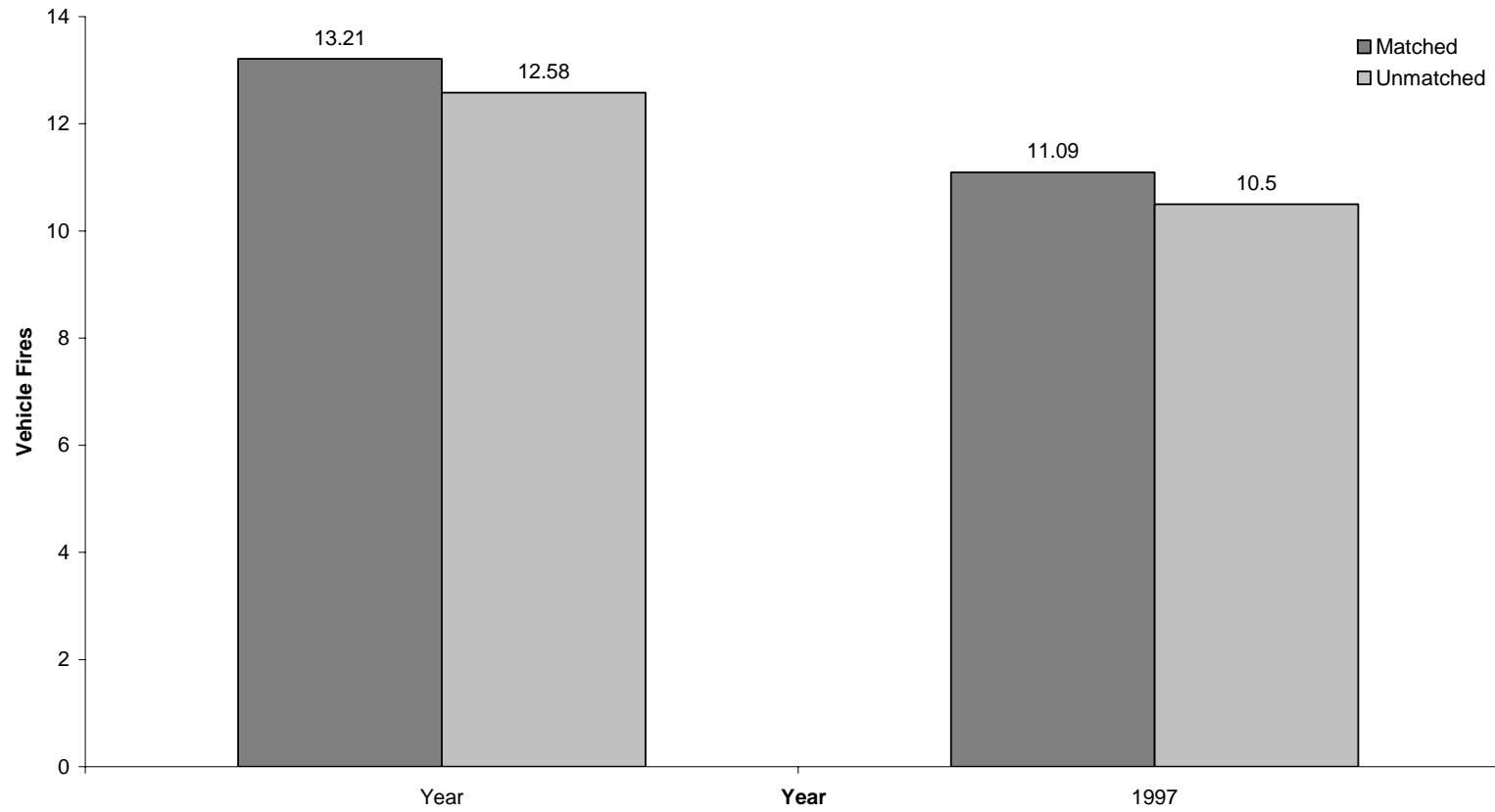
Source: 1997 and 2002 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Figure 3
Overall Mean Structure Fires
by Match Status for 1997 and 2002



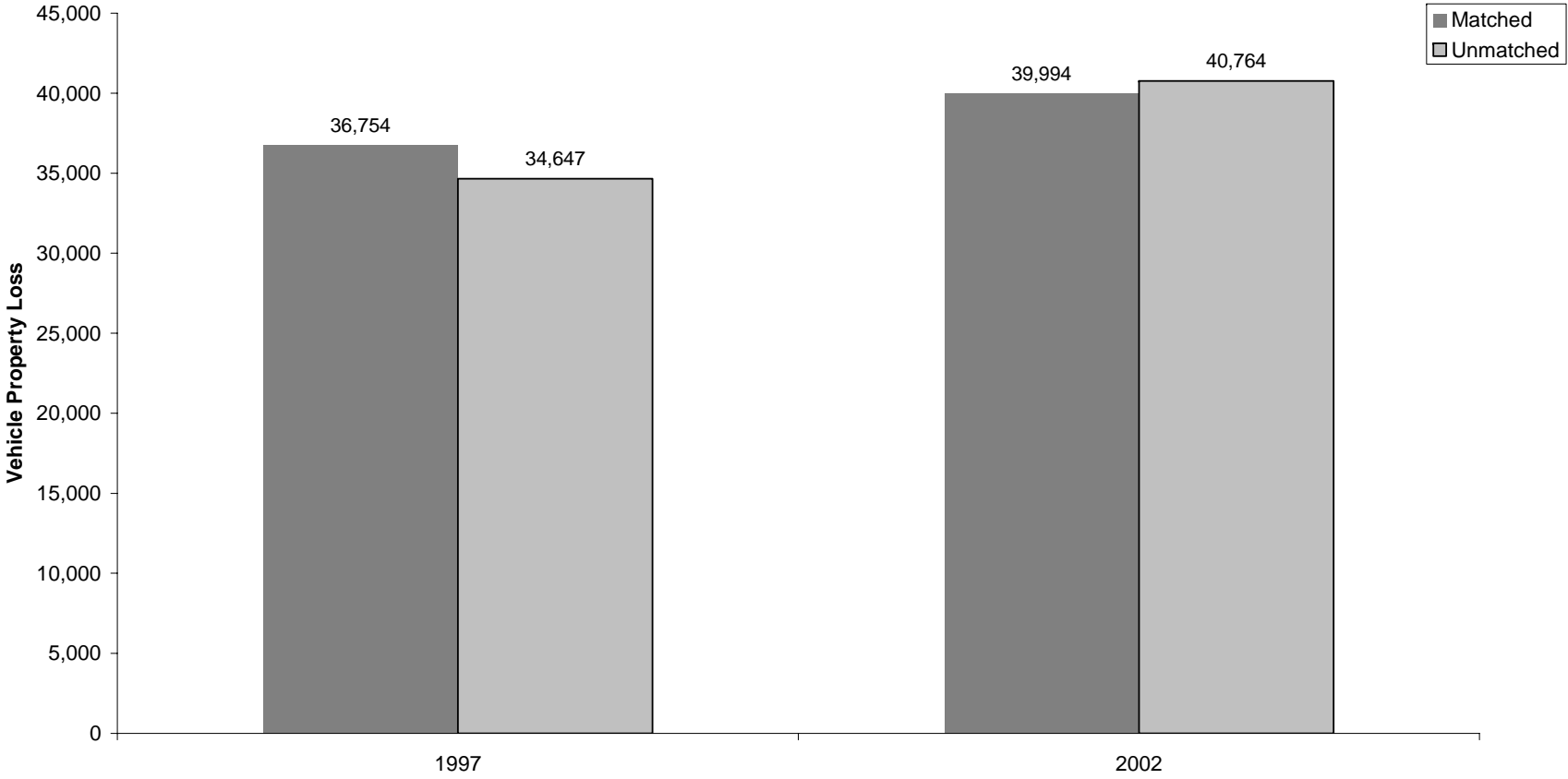
Source: 1997 and 2002 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Figure 4
Overall Mean Highway Vehicle Fires
by Match Status for 1997 and 2002



Source: 1997 and 2002 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Figure 5
Overall Mean Highway Vehicle Property Loss
by Match Status for 1997 and 2002



Source: 1997 and 2002 NFPA Fire Experience Survey
Matched and Unmatched is relative to participation in NFIRS

Discussion

An examination of how representative the NFIRS data base is with respect to the overall fire experience in the U.S. was undertaken. This examination was done relative to the NFPA survey which is a probability sample. Departments in the NFPA survey were classified as also participating in NFIRS (matched) or not in NFIRS (unmatched) and relevant fire statistics were examined for these groups. Results for dwelling fires, dwelling fire injuries, and structure fires indicated that the departments that participated in NFIRS (matched) had significantly higher fire loss statistics than the departments that did not participate in NFIRS (unmatched). This indicates that there are some biases in the NFIRS System with respect to these statistics; that is, the NFIRS data base is not representative of the U.S. fire problem with respect to these statistics.

Also for highway vehicle fires and injuries results were similar for the matched and unmatched groups, and apparently there are no appreciable biases in the NFIRS system. Results also showed for dwelling fire deaths that the matched group was higher for both years. This means that there is some indication of bias in dwelling fire deaths, which is one of the most important measures of the U.S. fire problem.

Results for outside fires were not conclusive, with the unmatched group higher in 1997, and results very similar for the two groups in 2002. It is also worth noting that outside fires comprise a larger portion of fires for smaller communities than larger ones.

Another issue of concern is that matched departments may contain larger communities in terms of population protected than the unmatched group within strata. To examine this question we looked at mean population of community by community size and match status for 1997 and 2002 (Tables 5 and 6). For 1997 results indicate that the unmatched group had a higher mean population for communities of 250,000 to 999,999, and that the matched group was higher for communities under 2,500. For most community sizes (populations of 2,500 to 249,999) the mean population for the matched and unmatched were quite similar. The results for 2002 were quite similar to 1997, and the results for the two years collectively indicate that for the most part there were no appreciable differences in mean population for the two groups within stratum. These findings do not support the notion that population of community varies within stratum with the matched groups having higher populations, and as a result more fires. If anything the reverse is true for larger communities, with the unmatched group having higher mean populations than the matched group.

Table 5
Mean Population by Community Size and Match Status, 1997

Community Size	Match Status	Mean	Standard Error	Number of Fire Departments Reporting	Percent Difference	t test	p value
1,000,000 or more	unmatched	2,735,758	811,722	7			
	matched	1,047,350		1			
500,000 to 999,999	unmatched	659,536	32,000	17	-8.7	-1.20	0.230
	matched	602,169	35,601	7			
250,000 to 499,999	unmatched	364,302	13,608	30	-13.7	-2.48	0.013*
	matched	314,234	14,891	9			
100,000 to 249,999	unmatched	152,241	4,441	87	2.4	0.37	0.711
	matched	155,873	8,844	23			
50,000 to 99,999	unmatched	68,144	1,093	143	-3.7	-1.49	0.136
	matched	65,624	1,287	90			
25,000 to 49,999	unmatched	33,080	535	136	2.2	0.87	0.384
	matched	33,809	649	122			
10,000 to 24,999	unmatched	15,186	242	313	3.4	1.42	0.156
	matched	15,703	271	238			
5,000 to 9,999	unmatched	7,006	83	323	-3.1	-1.67	0.094
	matched	6,785	102	211			
2,500 to 4,999	unmatched	3,378	41	328	3.6	1.73	0.083
	matched	3,500	58	155			
Less than 2,500	unmatched	1,033	26	658	18.0	3.92	0.000*
	matched	1,219	40	238			

Source: 1997 NFPA Fire Experience Survey
 Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

*Statistically significant at the .05 level.

Table 6
Mean Population by Community Size and Match Status, 2002

Community Size	Match Status	Mean	Standard Error	Number of Fire Departments Reporting	Percent Difference	t test	p value
1,000,000 or more	unmatched	3,196,586	831,372	7			
	matched	1,362,860	274,032	3			
500,000 to 999,999	unmatched	649,150	24,734	18	-1.4	-0.17	0.086
	matched	639,875	48,092	9			
250,000 to 499,999	unmatched	360,573	19,062	16	-6.1	-0.82	0.412
	matched	338,667	18,798	9			
100,000 to 249,999	unmatched	160,297	5,737	57	-13.5	-2.75	0.006*
	matched	138,620	5,399	46			
50,000 to 99,999	unmatched	69,584	1,447	88	-2.0	-0.76	0.447
	matched	68,162	1,166	113			
25,000 to 49,999	unmatched	33,649	818	91	1.9	0.63	0.529
	matched	34,282	579	157			
10,000 to 24,999	unmatched	14,629	266	230	2.3	0.93	0.352
	matched	14,963	243	302			
5,000 to 9,999	unmatched	6,935	82	339	2.2	1.31	0.19
	matched	7,086	80	337			
2,500 to 4,999	unmatched	3,394	39	371	3.3	1.89	0.058
	matched	3,507	46	265			
Less than 2,500	unmatched	1,063	26	653	9.1	2.28	0.022*
	matched	1,160	33	349			

Source: 2002 NFPA Fire Experience Survey
 Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

*Statistically significant at the .05 level.

When one examines match status by community size stratum, several observations are worth noting (Tables 1 and 2). The highest participation rates in NFIRS do not occur for the largest community sizes. For 1997, the highest percent of matched departments, a range of 39% to 47%, occurred for communities of 5,000 to 99,999. Though generally higher rates of matching occurred in 2002 than in 1997, the highest percent of matched departments occurred for communities of 5,000 to 249,999. These results do not reflect prior sentiment that the highest participation rates occurred for the largest communities. However, the results do indicate appreciably higher matches rated for medium sized communities (5,000 to 99,999). These results may argue for adjusting for differences in match rates by community size to estimate overall national fire statistics, but does not resolve the finding that some biases exist in NFIRS based on participation rates in NFIRS relative to the NFPA Survey.

In summary, this study was one way to examine NFIRS, though a rigorous one, and should help in understanding some of the relevant data collection and statistical issues concerning it.

Appendix

**Table A-1. Mean Dwelling Fire Incidents
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	1,482.00	143.637	7
	matched	964.00	0.000	1
500,000-999,999	unmatched	597.07	35.101	15
	matched	671.43	28.091	7
250,000—499,999	unmatched	328.30	22.112	27
	matched	368.89	28.024	9
100,000-249,999	unmatched	117.75	6.109	76
	matched	190.60	13.354	20
50,000-99,999	unmatched	64.23	3.335	127
	matched	64.26	4.003	84
25,000-49,999	unmatched	31.30	1.588	128
	matched	29.61	1.508	114
10,000-24,999	unmatched	17.44	0.729	288
	matched	19.52	0.812	220
5,000-9,999	unmatched	10.52	0.553	305
	matched	10.44	0.535	202
2,500-4,999	unmatched	5.25	0.283	319
	matched	5.43	0.366	152
Under 2,500	unmatched	2.13	0.113	648
	matched	2.34	0.190	237

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-2. Mean Dwelling Civilian Fire Deaths
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	19.43	3.980	7
	matched	8.00	0.000	1
500,000-999,999	unmatched	5.75	0.354	16
	matched	6.00	0.437	7
250,000-499,999	unmatched	5.00	0.573	29
	matched	2.78	0.535	9
100,000-249,999	unmatched	1.03	0.142	87
	matched	1.13	0.177	23
50,000-99,999	unmatched	0.51	0.072	142
	matched	0.52	0.079	90
25,000-49,999	unmatched	0.29	0.057	135
	matched	0.31	0.054	121
10,000-24,999	unmatched	0.12	0.018	312
	matched	0.16	0.029	238
5,000-9,999	unmatched	0.06	0.014	323
	matched	0.05	0.021	211
2,500-4,999	unmatched	0.06	0.018	328
	matched	0.09	0.038	155
Under 2,500	unmatched	0.02	0.006	658
	matched	0.02	0.011	238

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-3. Mean Dwelling Civilian Fire Injuries
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	96.80	12.266	5
	matched	22.00	0.000	1
500,000-999,999	unmatched	30.92	2.481	12
	matched	30.71	1.673	7
250,000—499,999	unmatched	19.39	2.183	23
	matched	17.56	2.558	9
100,000-249,999	unmatched	9.18	0.903	78
	matched	14.55	1.806	20
50,000-99,999	unmatched	3.23	0.266	133
	matched	3.38	0.325	86
25,000-49,999	unmatched	1.45	0.186	132
	matched	1.40	0.156	119
10,000-24,999	unmatched	0.59	0.070	308
	matched	0.95	0.122	235
5,000-9,999	unmatched	0.25	0.049	316
	matched	0.29	0.054	211
2,500-4,999	unmatched	0.08	0.021	325
	matched	0.15	0.044	154
Under 2,500	unmatched	0.03	0.008	658
	matched	0.05	0.016	237

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-4. Mean Dwelling Fire Property Loss
by Community Size and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	14,762,696.4	1,765,458.22	5
	matched	15,749,336.0	0.00	1
500,000-999,999	unmatched	8,466,530.0	367,783.68	15
	matched	6,782,580.1	429,600.81	7
250,000—499,999	unmatched	3,325,383.6	262,908.25	23
	matched	4,299,537.4	28,7648.42	9
100,000-249,999	unmatched	1,454,987.9	89,361.00	70
	matched	1,503,122.4	104,090.52	18
50,000-99,999	unmatched	614,040.5	35,795.41	109
	matched	582,792.5	43,438.01	70
25,000-49,999	unmatched	373,315.9	38,823.50	100
	matched	313,355.3	20,691.44	106
10,000-24,999	unmatched	198,302.9	14,854.74	241
	matched	182,286.0	10,481.93	195
5,000-9,999	unmatched	144,080.1	13,126.50	246
	matched	116,510.3	9,562.09	183
2,500-4,999	unmatched	83,352.8	7,679.47	251
	matched	82,349.9	16,752.02	136
Under 2,500	unmatched	29,324.8	2,261.15	563
	matched	39,104.3	5,239.51	211

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-5. Mean Structure Fire Incidents
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	3,077.50	484.485	6
	matched	2,076.00	0.000	1
500,000-999,999	unmatched	1,288.57	108.024	14
	matched	1,676.14	109.000	7
250,000—499,999	unmatched	738.00	70.637	27
	matched	789.33	72.425	9
100,000-249,999	unmatched	244.16	11.645	80
	matched	383.68	25.058	22
50,000-99,999	unmatched	116.94	5.978	126
	matched	114.95	8.482	82
25,000-49,999	unmatched	52.98	2.857	121
	matched	54.59	3.072	108
10,000-24,999	unmatched	26.87	1.060	283
	matched	31.22	1.431	221
5,000-9,999	unmatched	15.90	0.880	301
	matched	14.84	0.702	200
2,500-4,999	unmatched	7.60	0.366	319
	matched	7.91	0.512	151
Under 2,500	unmatched	3.20	0.157	649
	matched	3.86	0.257	237

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-6. Mean Structure Civilian Fire Deaths,
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	42.43	10.794	7
	matched	16.00	0.000	1
500,000-999,999	unmatched	7.13	0.402	16
	matched	8.43	0.460	7
250,000—499,999	unmatched	5.97	0.635	29
	matched	4.78	0.623	9
100,000-249,999	unmatched	1.54	0.154	87
	matched	1.52	0.209	23
50,000-99,999	unmatched	0.63	0.080	141
	matched	0.82	0.113	90
25,000-49,999	unmatched	0.37	0.062	135
	matched	0.43	0.070	120
10,000-24,999	unmatched	0.16	0.021	312
	matched	0.23	0.036	238
5,000-9,999	unmatched	0.08	0.016	323
	matched	0.06	0.022	211
2,500-4,999	unmatched	0.07	0.019	325
	matched	0.10	0.039	155
Under 2,500	unmatched	0.02	0.006	656
	matched	0.02	0.011	235

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-7. Mean Structure Civilian Fire Injuries
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	198.80	35.035	5
	matched	87.00	0.000	1
500,000-999,999	unmatched	59.42	4.486	12
	matched	74.29	5.810	7
250,000—499,999	unmatched	33.48	3.165	23
	matched	36.22	4.284	9
100,000-249,999	unmatched	14.72	1.173	79
	matched	23.23	2.429	22
50,000-99,999	unmatched	5.43	0.427	135
	matched	5.93	0.506	86
25,000-49,999	unmatched	3.14	0.646	133
	matched	2.39	0.228	118
10,000-24,999	unmatched	1.03	0.108	309
	matched	1.33	0.147	233
5,000-9,999	unmatched	0.35	0.060	310
	matched	0.41	0.068	208
2,500-4,999	unmatched	0.11	0.025	323
	matched	0.24	0.060	154
Under 2,500	unmatched	0.06	0.025	654
	matched	0.06	0.018	236

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-8. Mean Highway Vehicle Fire Incidents
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	3,754.43	682.419	7
	matched	2,458.00	0.000	1
500,000-999,999	unmatched	756.79	37.068	14
	matched	1,059.71	41.422	7
250,000—499,999	unmatched	543.04	33.638	27
	matched	589.89	41.485	9
100,000-249,999	unmatched	203.21	10.214	85
	matched	252.55	16.072	22
50,000-99,999	unmatched	85.73	2.891	140
	matched	78.35	3.107	88
25,000-49,999	unmatched	40.46	2.162	134
	matched	37.46	1.634	121
10,000-24,999	unmatched	19.88	0.752	311
	matched	20.28	0.807	235
5,000-9,999	unmatched	10.35	0.515	322
	matched	9.75	0.502	211
2,500-4,999	unmatched	5.68	0.449	325
	matched	5.35	0.382	155
Under 2,500	unmatched	1.99	0.125	658
	matched	2.25	0.212	238

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-9. Mean Highway Vehicle Civilian Fire Deaths
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	3.86	0.665	7
	matched	0.00	0.000	1
500,000-999,999	unmatched	0.69	0.056	16
	matched	0.71	0.113	7
250,000—499,999	unmatched	0.45	0.077	29
	matched	0.33	0.096	9
100,000-249,999	unmatched	0.18	0.031	87
	matched	0.22	0.080	23
50,000-99,999	unmatched	0.05	0.013	143
	matched	0.03	0.018	90
25,000-49,999	unmatched	0.04	0.020	135
	matched	0.02	0.013	121
10,000-24,999	unmatched	0.02	0.007	311
	matched	0.01	0.007	238
5,000-9,999	unmatched	0.03	0.016	323
	matched	0.00	0.000	211
2,500-4,999	unmatched	0.02	0.011	328
	matched	0.01	0.009	155
Under 2,500	unmatched	0.00	0.003	658
	matched	0.00	0.000	238

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-10. Mean Highway Vehicle Fire Property Loss
by Community Size, and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	830,9238.2	2,774,307.80	5
	matched	3,661,192.0	0.00	1
500,000-999,999	unmatched	2,974,842.5	195,662.25	14
	matched	308,3204.0	246,897.45	7
250,000—499,999	unmatched	1,710,626.5	182,929.72	22
	matched	1,399,430.2	157,236.12	9
100,000-249,999	unmatched	436,200.7	32,553.63	68
	matched	495,470.3	50,695.96	18
50,000-99,999	unmatched	202,690.3	13,075.34	111
	matched	182,232.9	12,648.92	68
25,000-49,999	unmatched	87,590.7	7,200.09	95
	matched	82,481.3	5,856.28	103
10,000-24,999	unmatched	59,215.5	15,206.07	225
	matched	51,936.7	4,367.79	183
5,000-9,999	unmatched	28,751.0	2,339.21	222
	matched	31,103.0	3,438.37	162
2,500-4,999	unmatched	18,381.1	2,008.76	219
	matched	20,845.0	4,095.47	126
Under 2,500	unmatched	7,611.9	801.99	548
	matched	11,687.0	2,072.90	207

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-11. Mean Outside Fires
by Size of Community and Match Status, 1997**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	8,740.43	2,913.671	7
	matched	3,278.00	0.000	1
500,000-999,999	unmatched	1,449.67	221.893	15
	matched	1,792.14	284.858	7
250,000—499,999	unmatched	1,112.61	139.625	28
	matched	849.22	70.237	9
100,000-249,999	unmatched	394.69	29.037	85
	matched	401.82	42.686	22
50,000-99,999	unmatched	162.89	9.925	142
	matched	138.26	8.490	88
25,000-49,999	unmatched	79.96	5.198	135
	matched	75.54	4.946	120
10,000-24,999	unmatched	41.17	2.160	309
	matched	40.65	1.819	235
5,000-9,999	unmatched	25.56	1.723	320
	matched	21.95	1.438	211
2,500-4,999	unmatched	15.89	1.089	325
	matched	14.56	1.447	155
Under 2,500	unmatched	6.97	0.385	658
	matched	5.97	0.406	238

Source: 1997 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-12. Mean Dwelling Fire Incidents
By Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	1,325.29	138.379	7
	matched	920.67	63.313	3
500,000-999,999	unmatched	474.33	42.609	18
	matched	510.33	52.028	9
250,000—499,999	unmatched	229.21	26.942	14
	matched	260.22	20.478	9
100,000-249,999	unmatched	130.55	11.695	49
	matched	131.58	9.499	45
50,000-99,999	unmatched	58.36	3.062	83
	matched	55.96	2.858	111
25,000-49,999	unmatched	30.16	1.878	86
	matched	27.84	1.321	152
10,000-24,999	unmatched	18.33	.982	224
	matched	17.00	.714	299
5,000-9,999	unmatched	11.16	.581	333
	matched	10.25	.447	335
2,500-4,999	unmatched	5.71	.306	368
	matched	5.17	.308	263
Under 2,500	unmatched	2.40	.151	652
	matched	2.20	.189	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-13. Mean Dwelling Civilian Fire Deaths
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	16.80	4.357	5
	matched	9.00	.873	3
500,000-999,999	unmatched	2.93	.299	14
	matched	7.00	1.245	9
250,000—499,999	unmatched	2.14	.531	14
	matched	2.11	.544	9
100,000-249,999	unmatched	.98	.209	48
	matched	1.95	.376	43
50,000-99,999	unmatched	.46	.074	85
	matched	.40	.054	110
25,000-49,999	unmatched	.29	.071	90
	matched	.31	.059	155
10,000-24,999	unmatched	.09	.020	228
	matched	.10	.022	302
5,000-9,999	unmatched	.11	.020	336
	matched	.05	.013	337
2,500-4,999	unmatched	.04	.012	371
	matched	.03	.012	265
Under 2,500	unmatched	.01	.005	652
	matched	.01	.004	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-14. Mean Dwelling Civilian Fire Injuries
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	29.50	7.246	2
	matched	34.00	1.380	2
500,000-999,999	unmatched	17.19	1.647	16
	matched	31.00	4.723	9
250,000—499,999	unmatched	16.60	1.956	15
	matched	12.78	2.207	9
100,000-249,999	unmatched	9.02	1.044	44
	matched	5.66	.776	38
50,000-99,999	unmatched	2.51	.294	80
	matched	3.00	.235	106
25,000-49,999	unmatched	1.51	.216	87
	matched	1.66	.152	151
10,000-24,999	unmatched	.38	.060	225
	matched	.67	.069	300
5,000-9,999	unmatched	.18	.033	334
	matched	.19	.032	337
2,500-4,999	unmatched	.05	.013	371
	matched	.06	.015	265
Under 2,500	unmatched	.02	.005	652
	matched	.02	.010	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-15. Mean Dwelling Fire Property Loss
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	19,299,740.8	3,762,519.71	4
	matched	11,094,238.3	1,174,895.01	3
500,000-999,999	unmatched	7,725,105.9	445,130.07	18
	matched	8,770,049.0	1,102,070.78	9
250,000—499,999	unmatched	4,219,574.9	852,571.21	13
	matched	4,040,752.3	345,533.41	8
100,000-249,999	unmatched	1,896,531.1	153,135.47	44
	matched	1,744,962.8	206,546.25	35
50,000-99,999	unmatched	757,009.6	53,166.39	73
	matched	764,307.9	45,581.46	101
25,000-49,999	unmatched	891,963.2	381,424.62	71
	matched	480,341.0	45,958.63	143
10,000-24,999	unmatched	294,090.6	26,755.76	168
	matched	237,250.6	14,814.43	245
5,000-9,999	unmatched	178,031.8	15,580.82	238
	matched	158,582.6	12,968.20	264
2,500-4,999	unmatched	132,477.9	14,864.14	298
	matched	108,442.7	19,990.36	205
Under 2,500	unmatched	52,846.5	5,461.70	518
	matched	39,916.3	4,830.69	292

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A16. Mean Structure Fire Incidents
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	2,249.67	157.045	6
	matched	2,020.00	250.521	3
500,000-999,999	unmatched	958.78	87.719	18
	matched	1,174.50	116.581	8
250,000—499,999	unmatched	426.50	51.041	14
	matched	502.13	43.280	8
100,000-249,999	unmatched	248.04	21.291	53
	matched	252.71	21.432	42
50,000-99,999	unmatched	109.21	6.693	78
	matched	96.83	5.615	98
25,000-49,999	unmatched	48.16	3.017	81
	matched	49.97	2.423	144
10,000-24,999	unmatched	25.18	1.521	196
	matched	25.57	.976	282
5,000-9,999	unmatched	14.97	.870	316
	matched	13.98	.529	324
2,500-4,999	unmatched	7.97	.359	357
	matched	7.44	.421	260
Under 2,500	unmatched	3.32	.170	647
	matched	3.40	.229	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-17. Mean Structure Civilian Fire Deaths
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	30.80	10.739	5
	matched	13.00	1.512	3
500,000-999,999	unmatched	4.56	.645	16
	matched	9.00	1.175	9
250,000—499,999	unmatched	2.80	.614	15
	matched	2.78	.651	9
100,000-249,999	unmatched	1.26	.194	53
	matched	2.40	.399	43
50,000-99,999	unmatched	.62	.083	86
	matched	.54	.063	111
25,000-49,999	unmatched	.40	.092	90
	matched	.34	.061	155
10,000-24,999	unmatched	.10	.022	229
	matched	.13	.024	302
5,000-9,999	unmatched	.13	.021	335
	matched	.07	.014	336
2,500-4,999	unmatched	.05	.013	371
	matched	.03	.012	265
Under 2,500	unmatched	.02	.006	651
	matched	.01	.006	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-18. Mean Structure Civilian Fire Injuries
By Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	116.00	47.402	3
	matched	76.50	9.825	2
500,000-999,999	unmatched	26.75	2.018	16
	matched	49.44	5.582	9
250,000—499,999	unmatched	29.87	3.064	15
	matched	25.00	3.483	8
100,000-249,999	unmatched	16.47	2.017	49
	matched	10.53	1.371	40
50,000-99,999	unmatched	4.22	.435	82
	matched	4.84	.317	108
25,000-49,999	unmatched	2.45	.300	89
	matched	2.34	.201	152
10,000-24,999	unmatched	.73	.118	226
	matched	.93	.085	299
5,000-9,999	unmatched	.23	.035	334
	matched	.27	.042	337
2,500-4,999	unmatched	.06	.014	369
	matched	.07	.018	264
Under 2,500	unmatched	.02	.007	652
	matched	.03	.011	348

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-19. Mean Highway Vehicle Fire Incidents
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	3,096.14	295.118	7
	matched	2,128.67	194.538	3
500,000-999,999	unmatched	787.22	48.391	18
	matched	708.33	33.711	9
250,000—499,999	unmatched	395.00	31.840	16
	matched	323.00	27.803	9
100,000-249,999	unmatched	154.71	11.096	55
	matched	155.07	10.715	46
50,000-99,999	unmatched	68.98	5.097	87
	matched	55.32	1.974	112
25,000-49,999	unmatched	29.84	1.886	89
	matched	29.28	1.251	156
10,000-24,999	unmatched	14.86	.704	228
	matched	14.02	.562	302
5,000-9,999	unmatched	8.36	.394	338
	matched	7.92	.329	336
2,500-4,999	unmatched	4.17	.291	370
	matched	4.32	.364	265
Under 2,500	unmatched	1.94	.107	652
	matched	1.78	.115	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-20. Mean Highway Vehicle Civilian Fire Deaths
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	3.60	.854	5
	matched	2.00	.660	3
500,000-999,999	unmatched	.94	.183	16
	matched	.56	.151	9
250,000—499,999	unmatched	.64	.282	14
	matched	.44	.250	9
100,000-249,999	unmatched	.37	.077	49
	matched	.22	.068	41
50,000-99,999	unmatched	.09	.041	82
	matched	.08	.021	107
25,000-49,999	unmatched	.03	.023	88
	matched	.04	.025	154
10,000-24,999	unmatched	.00	.000	227
	matched	.03	.010	302
5,000-9,999	unmatched	.01	.007	336
	matched	.02	.007	336
2,500-4,999	unmatched	.03	.010	370
	matched	.00	.004	265
Under 2,500	unmatched	.01	.004	652
	matched	.00	.003	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-21. Mean Highway Vehicle Fire Property Loss
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	13,843,920.8	2,396,372.49	4
	matched	10,352,862.3	3,172,103.88	3
500,000-999,999	unmatched	2,866,955.5	238,523.76	17
	matched	2,454,333.9	273,734.90	9
250,000—499,999	unmatched	1,897,970.4	498,163.74	14
	matched	948,523.9	142,532.31	8
100,000-249,999	unmatched	439,543.3	42,183.01	44
	matched	441,427.1	54,542.42	35
50,000-99,999	unmatched	192,627.1	31,772.83	67
	matched	148,910.7	10,301.74	99
25,000-49,999	unmatched	81,650.7	11,003.99	71
	matched	92,294.1	7,227.36	130
10,000-24,999	unmatched	54,255.3	6,114.29	140
	matched	45,141.5	3,591.24	220
5,000-9,999	unmatched	34,200.0	3,601.16	189
	matched	32,791.8	4,872.12	223
2,500-4,999	unmatched	25,059.3	4,155.75	240
	matched	19,153.2	2,286.74	174
Under 2,500	unmatched	8,983.3	1,150.85	473
	matched	8,490.6	1,014.55	270

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.

**Table A-22. Mean Outside Fire Incidents
by Size of Community and Match Status, 2002**

Community Size	Match Status	Estimate	Standard Error	Number of Fire Departments Reporting
1,000,000 or more	unmatched	6,702.71	1,439.153	7
	matched	2,978.33	117.401	3
500,000-999,999	unmatched	1,282.78	75.350	18
	matched	1,527.00	102.771	9
250,000—499,999	unmatched	667.69	74.238	16
	matched	689.00	53.013	9
100,000-249,999	unmatched	351.30	23.488	56
	matched	277.54	19.412	46
50,000-99,999	unmatched	167.45	16.214	88
	matched	131.96	6.180	112
25,000-49,999	unmatched	86.21	8.157	90
	matched	74.92	3.749	157
10,000-24,999	unmatched	43.41	2.448	229
	matched	40.89	1.676	302
5,000-9,999	unmatched	27.49	1.373	338
	matched	20.93	.972	336
2,500-4,999	unmatched	15.75	.807	370
	matched	13.36	.692	265
Under 2,500	unmatched	8.25	.395	652
	matched	7.63	.437	349

Source: 2002 NFPA Fire Experience Survey

Matched and Unmatched is relative to participation in NFIRS

Breakdown by departments in NFPA Survey that also participated in NFIRS (matched) and those departments in the NFPA Survey where there is no match in NFIRS (unmatched).

Note that some results are based on a small number of departments reporting and caution should be used because of the high variability associated with small samples.