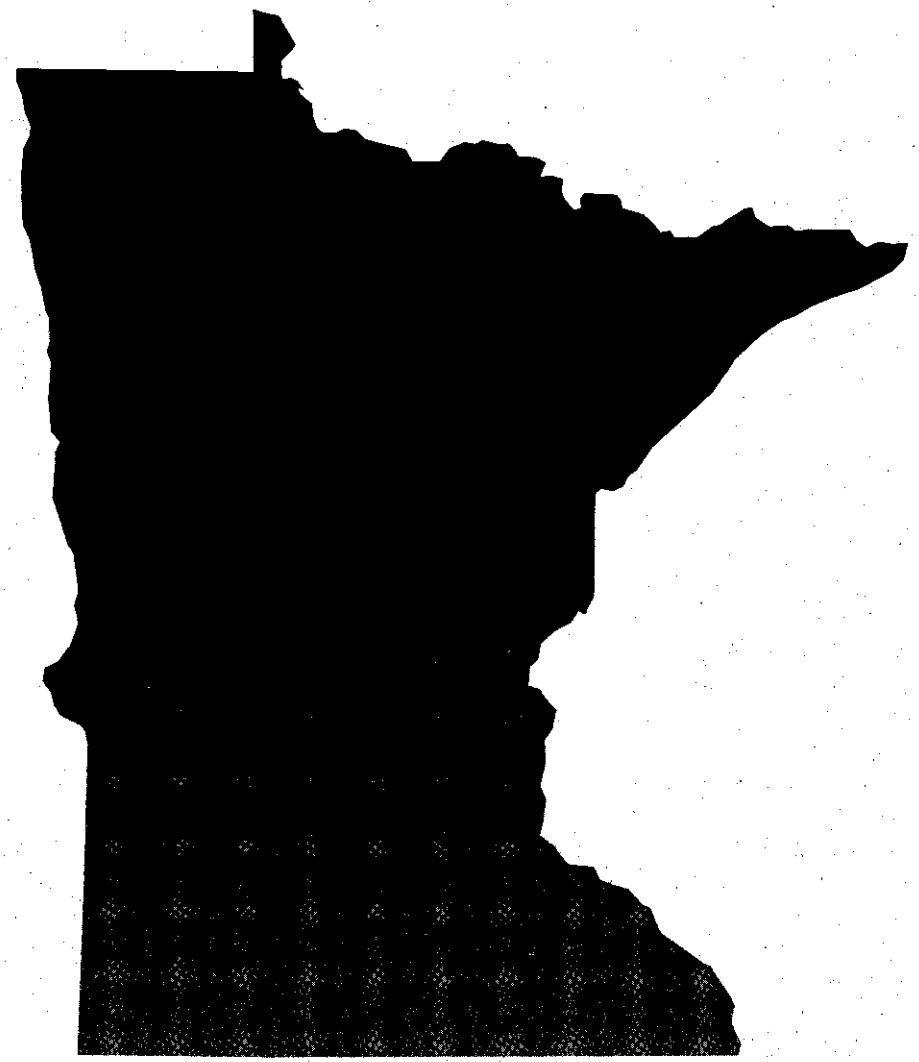
1997

Fire in Minnesota

Fire Reporting System



MINNESOTA DEPARTMENT OF PUBLIC SAFETY

STATE FIRE MARSHAL DIVISION
Thomas R. Brace
State Fire Marshal

ACKNOWLEDGEMENTS

Fire in Minnesota 1997

The Story of the Minnesota Fire Problem: Where? Why? How often? Who gets hurt? Who pays the price? How can we do better?

This ninth ***Fire in Minnesota*** report is a collaborative attempt to answer the above questions. The faithful participation in the Minnesota Fire Incident Reporting System (MFIRS) by the great majority of the state's fire service has resulted in a collection of data that vividly describes our fire problem. The continuing, repeated effort by those participating departments is what makes this document possible, and merits our deepest appreciation.

Within the State Fire Marshal Division, the Fire Data Unit collects, enters, and analyzes the MFIRS information. Special thanks to Robert Dahm, Bureau Chief, Nora Gierok, Irene Moore, Ernie Scheidness, and Connie Weaver for this team effort.

By analyzing Minnesota's 1997 fire statistics, this report reveals patterns and highlights problems and areas of concern to the fire service and citizens of Minnesota.

I hope you find ***Fire in Minnesota*** to be a valuable strategic tool for managing, planning, education, and prevention at both the state and local level.

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STATE FIRE MARSHAL ANNUAL REPORT

From the desk of State Fire Marshal Thomas R. Brace

I am pleased to present "Fire in Minnesota 1997." The efforts of the 695 fire departments who participated in the Minnesota Fire Incident Reporting System (MFIRS) during the year make this report possible. We are grateful for their commitment to this critical data collection program.

"Fire in Minnesota 1997" contains a wealth of information. The following is a brief summary.

- Minnesota's fire departments responded to 146,731 requests for assistance during the year, an increase of 4% over 1996. Fire calls accounted for 19,345 runs, a 5% decrease. Rescue calls showed the largest increase, up 9%, for a total of 71,338 responses.

- Minnesota's fire service responded to a call for help every four minutes. A fire response occurred every 27 minutes, resulting in an average dollar loss of $387,536 per day. While the estimated total dollar loss from fire decreased by 2%, the $141,450,541 amount is still staggering in its impact on our citizens and state.

- Tragically, 50 Minnesotans lost their lives to fire during 1997, the same number as in 1996. Careless smoking was again the leading cause of fatal fires. Three deaths occurred in arson fires.

- Two Minnesota firefighters died in the line of duty. We are saddened by their loss and honored by the sacrifice they made in service to their communities.

- There were 303 civilians injured in fires. Of those, 29% occurred during attempts to control or extinguish the fire.

- Firefighter injuries showed a slight increase, totaling 234. Firefighting operations accounted for 77% of those injuries. The remainder occurred while responding to emergency calls.

- More than 2,370 arson fires occurred during the year -- a 5% decrease and the fourth consecutive year of decline. Structures were involved in 92% of the incendiary fires, 50% of which were residential. The total loss from incendiary fires exceeded $15 million.

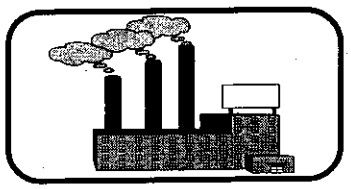
While much has been done to reduce the dollar loss and personal suffering caused by fires, we must not relax our efforts. Public fire education programs, strict enforcement of fire codes, increased installation of fire sprinkler systems, and the full prosecution of those who intentionally set fires will continue to have a significant impact on the problem. The State Fire Marshal Division of the Department of Public Safety is committed to continuing its work in support of Minnesota's fire service community. Let us all work together to make Minnesota a fire safe place to live, work and play.

4,021 **RESIDENTIAL**

(Single family dwellings, apartments, mobile homes, hotels, motels, etc.)

648 **PUBLIC AND MERCANTILE**

(Stores, restaurants, institutions, churches, public facilities, education)

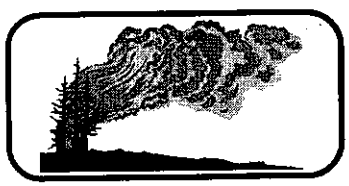


1,703 **INDUSTRIAL, MANUFACTURING, OTHER BUILDINGS**

(Basic industry, manufacturing, storage, residential garages, vacant buildings, unknown)

4,832 **MOBILE PROPERTY**

(Automobiles, trucks, trains, buses, boats)



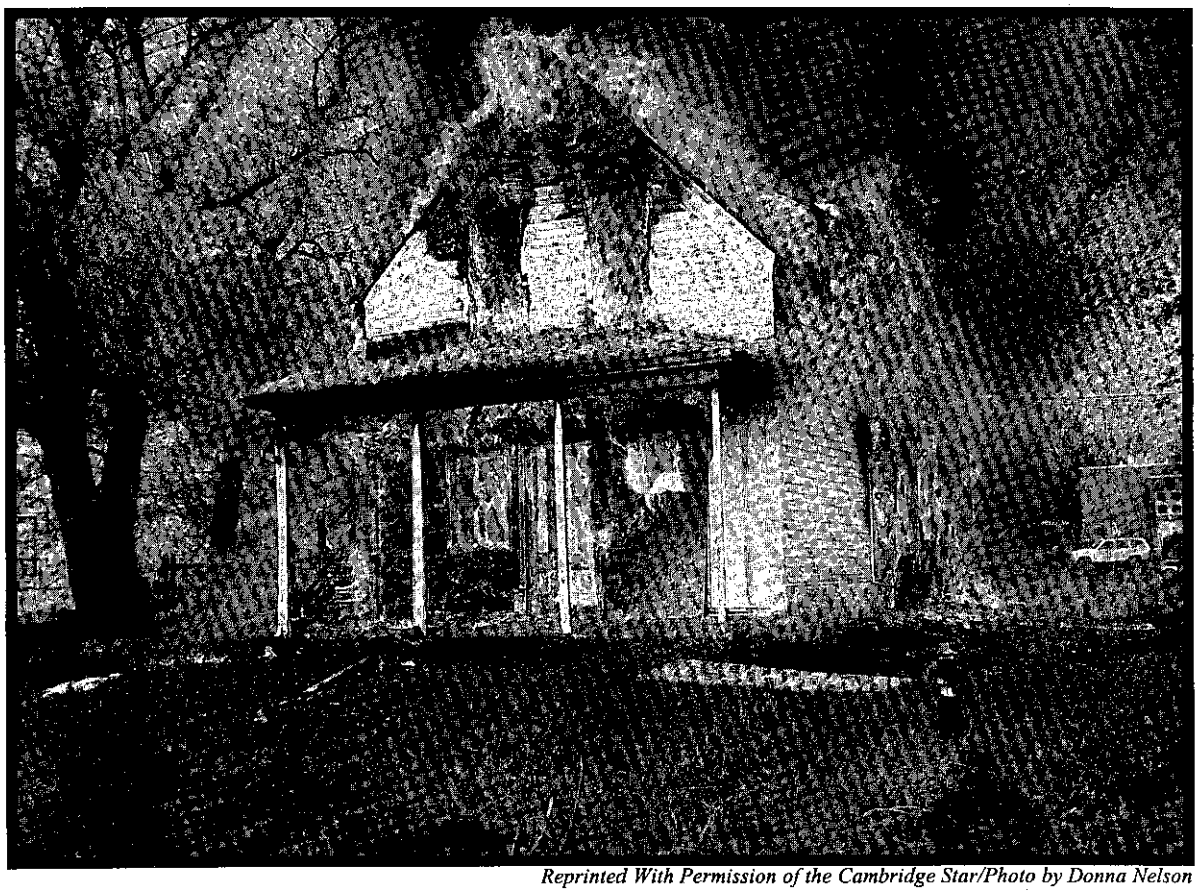
8,141 **OUTSIDE AND OTHER**

(Dumpsters, trash, wildland, grass, trees)

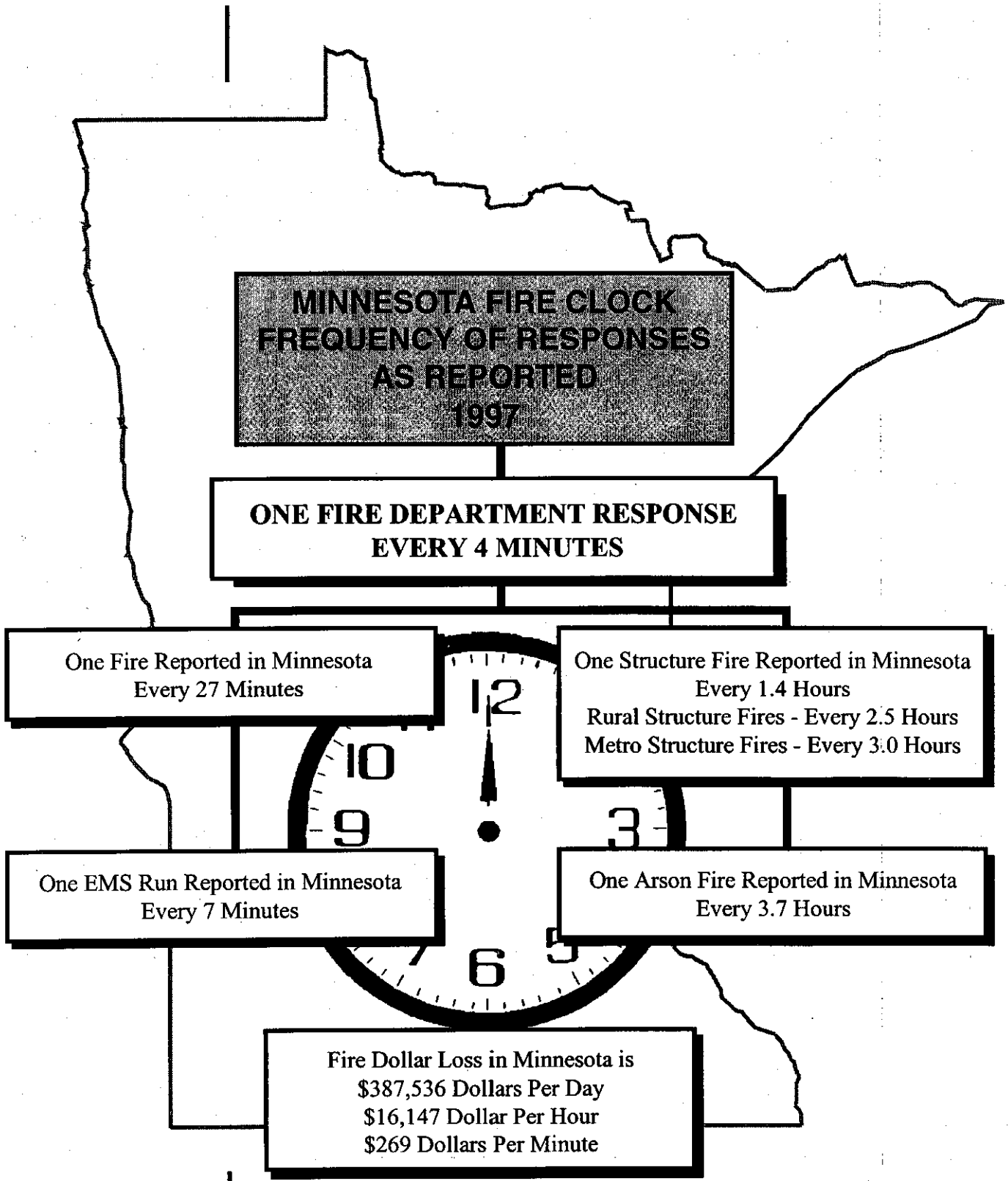
19,345 **TOTAL FIRES**

$141,450,541 **TOTAL DOLLAR LOSS**

TOTAL IMPACT



Reprinted With Permission of the Cambridge Star/Photo by Donna Nelson



These figures represent the collective incidents reported by 695 of Minnesota's 794 fire departments.

Seven-eighths of the state's fire departments reported into the MFIRS program.

OVERALL STATE TOTALS

In 1997, 695 fire departments (88%) reported into the Minnesota Fire Incident Reporting System (MFIRS) which provides information on fire incidents and related activities. This year's figures represent a slight increase in the participation in MFIRS over last year (when 690 departments reported through MFIRS). (See the section titled "Participation," for a breakdown of reporting and non-reporting departments.)

1997 REPORTED FIRE DEPARTMENT RESPONSES

Incidents Reported	7 County Metro Area	% State Total	Balance of State	% State Total	State Total
Structure Fires	2,874	45%	3,498	55%	6,372
Vehicle Fires	2,715	56%	2,117	44%	4,832
Other Fires	4,723	58%	3,418	42%	8,141
TOTAL FIRES	**10,312**	**53%**	**9,033**	**47%**	**19,345**
Rescue / EMS	49,468	76%	16,033	24%	65,501
Other Emergencies	3,253	56%	2,584	44%	5,837
TOTAL RESCUE	**52,721**	**74%**	**18,617**	**26%**	**71,338**
FALSE CALLS	**17,060**	**77%**	**5,094**	**23%**	**22,154**
MUTUAL AID GIVEN	**898**	**36%**	**1,590**	**64%**	**2,488**
OTHER INCIDENTS	**22,615**	**72%**	**8,791**	**22%**	**31,406**
TOTAL CALLS	**103,606**	**70%**	**43,125**	**29%**	**146,731**
Estimated Direct Dollar Loss Due to Fire	**$60,650,037**	**43%**	**$80,800,504**	**57%**	**$141,450,541**

The total number of fire incidents reported by participating Minnesota fire departments in 1997 was 19,345, representing a 5% decrease from 1996. The number of all responses by the fire service increased 4% in 1997, for a total of 146,731.

Total number of incidents increased by over 5,000 runs in 1997.

With minor year-to-year fluctuation in fire incident reporting, structure fires are at a five-year low. Total number of incidents increased by over 5,000 runs in 1997.

FIVE-YEAR OVERALL INCIDENT COMPARISONS
1993-1997

	1993	1994	1995	1996	1997	96/97 Change + (-)	96/97 % Change + (-)
FIRES							
Structure	6,910	7,223	6,942	6,739	6,372	(367)	(5%)
Vehicle	4,746	5,477	5,158	5,448	4,832	(616)	(11%)
Other Fires	7,220	8,612	7,698	8,184	8,141	(43)	(1%)
TOTAL FIRES	**18,876**	**21,312**	**19,798**	**20,371**	**19,345**	**(1,026)**	**(5%)**
OVERPRESSURE RUPTURES	**385**	**520**	**627**	**557**	**555**	**(2)**	**(<1%)**
RESCUE CALLS							
Emergency	46,560	52,193	58,079	59,706	65,501	5,795	10%
All Others	3,827	5,762	6,076	5,635	5,837	202	4%
TOTAL RESCUE CALLS	**50,387**	**57,955**	**64,155**	**65,341**	**71,338**	**5,997**	**9%**
HAZARDOUS CONDITION CALLS	**5,618**	**6,448**	**7,132**	**9,954**	**9,578**	**(376)**	**(4%)**
SERVICE CALLS	**4,547**	**5,265**	**6,847**	**8,447**	**7,645**	**(802)**	**(9%)**
GOOD INTENT CALLS	**7,499**	**9,451**	**10,537**	**12,852**	**12,915**	**63**	**<1%**
FALSE CALLS							
Malicious	1,278	1,445	1,456	1,418	1,441	23	2%
Other False	15,477	16,782	18,872	18,927	20,713	1,786	9%
TOTAL FALSE CALLS	**16,755**	**18,227**	**20,328**	**20,345**	**22,154**	**1,809**	**9%**
MUTUAL AID GIVEN	**2,556**	**2,557**	**2,494**	**2,655**	**2,488**	**(167)**	**(6%)**
ALL OTHER	**550**	**673**	**865**	**976**	**713**	**(263)**	**(27%)**
TOTAL CALLS	**107,173**	**122,408**	**132,783**	**141,498**	**146,731**	**5,233**	**4%**
TOTAL DOLLAR LOSS	**$109.0M**	**$153.1M***	**$131.6M****	**$144.0M**	**$141.5M**	**($2.5M)**	**(2%)**

*Includes one $12 million and two $4 million dollar fires.
**Includes one $15 million dollar fire.

Overall dollar loss decreased by $2.5 million.

Overall dollar loss decreased by $2.5 million (2%), which may be explained by the corresponding decrease in actual fire incidents.

For each of the past five years, residential structure fires have occurred at the rate of one for every 1,000 Minnesotans or one for every 366 households.

STRUCTURE FIRES BY PROPERTY TYPE

Fires in structures continue to occur most frequently in residential property, a category that includes houses, apartments, boarding houses, dorms, hotels/motels, etc. Again in 1997, residential structure fires decreased in number from the previous four years. On average, 4,432 fires have occurred in residential structures each of the past five years. This is approximately one structure fire for every 1,000 Minnesota residents annually or one fire for every 366 households in the state.

Structure Fires by Property Type
1993 - 1997

	1993	1994	1995	1996	1997	% increase (decrease) 1996-1997
Residential	4,650	4,741	4,521	4,229	4,021	(5%)
Educational/ Institutional	272	234	240	152	213	40%
Public Assembly/ Commercial	474	512	475	527	435	(17%)
Industrial/ Manufacturing	353	380	449	395	338	(14%)
Storage	944	1,053	1,009	1,155	1,124	(3%)
Special/Other	156	215	203	220	218	(1%)
Unclassified	61	88	45	61	23	(62%)
TOTAL	**6,910**	**7,223**	**6,942**	**6,739**	**6,372**	**(5%)**

The number of reported structure fires decreased in all categories except for educational/institutional properties.

While the total number of reported structure fires decreased in 1997 from the five-year high reached in 1994, the five-year average remained nearly the same.

There was a 40% increase in educational/institutional structure fires; however, this total number represents an 11% decrease from 1995 .

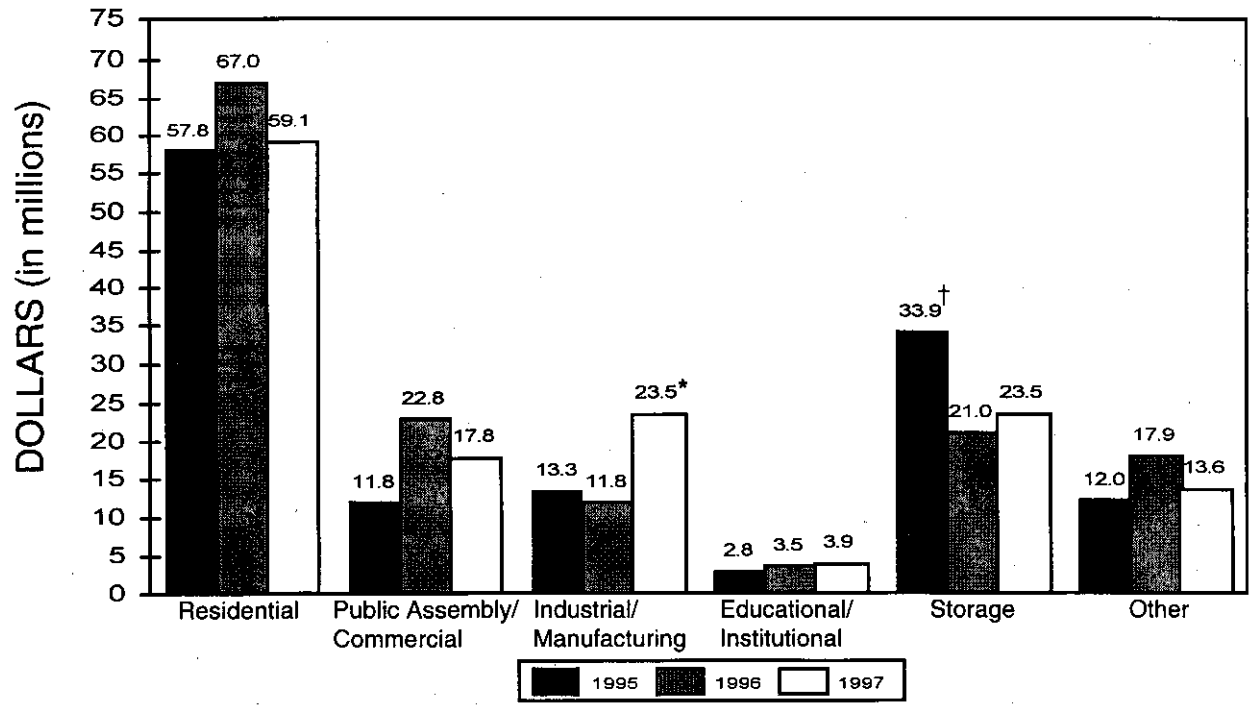
On a positive note, the number of unclassified structure fires decreased by 62%, which reflects more accurate MFIRS reporting.

Overall, total structure fires are at a five-year low.

OVERALL STATEWIDE DOLLAR LOSS

Overall, average dollar loss per structure fire was over $19,000 per incident.

DOLLAR LOSS BY PROPERTY TYPE



*Includes $7 million plastic manufacturing plant fire and $5.5 million canning plant fire.
†Includes $15 million agricultural supply storage fire.

Residential fires accounted for 42% of total dollar loss and represent 63% of all structure fires in 1997.

The 1997 dollar loss in residential property decreased by $7.9 million from 1996. Residential fires accounted for 63% of all structure fires and 47% of total dollar loss.

There was an increase in dollar loss in industrial/manufacturing facilities in 1997 of $11.7 million, which included a $7 million fire in a plastic manufacturing plant and a $5.5 million canning plant fire.

Overall, average dollar loss per structure fire in 1997 was over $19,000 per incident. Average dollar loss per residential fire was over $14,000 per incident.

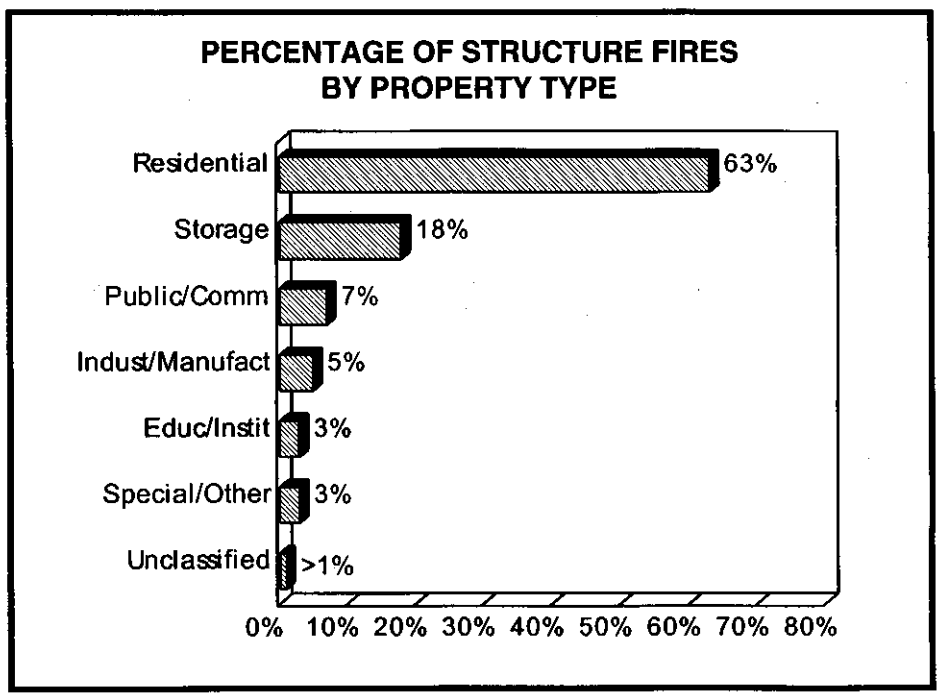
SUMMARY

In the past 10 years residential dollar loss amounted to over $543 million dollars.

Although the total number of Minnesota fire departments decreased to 794, the number participating in MFIRS increased by 5 departments. The total number of incidents reported increased by 4%; dollar loss was in excess of $141 million.

Fires occurred most frequently in residential-type properties. The residential fires occurred in significantly higher percentages than the next most reported property type: storage facilities.

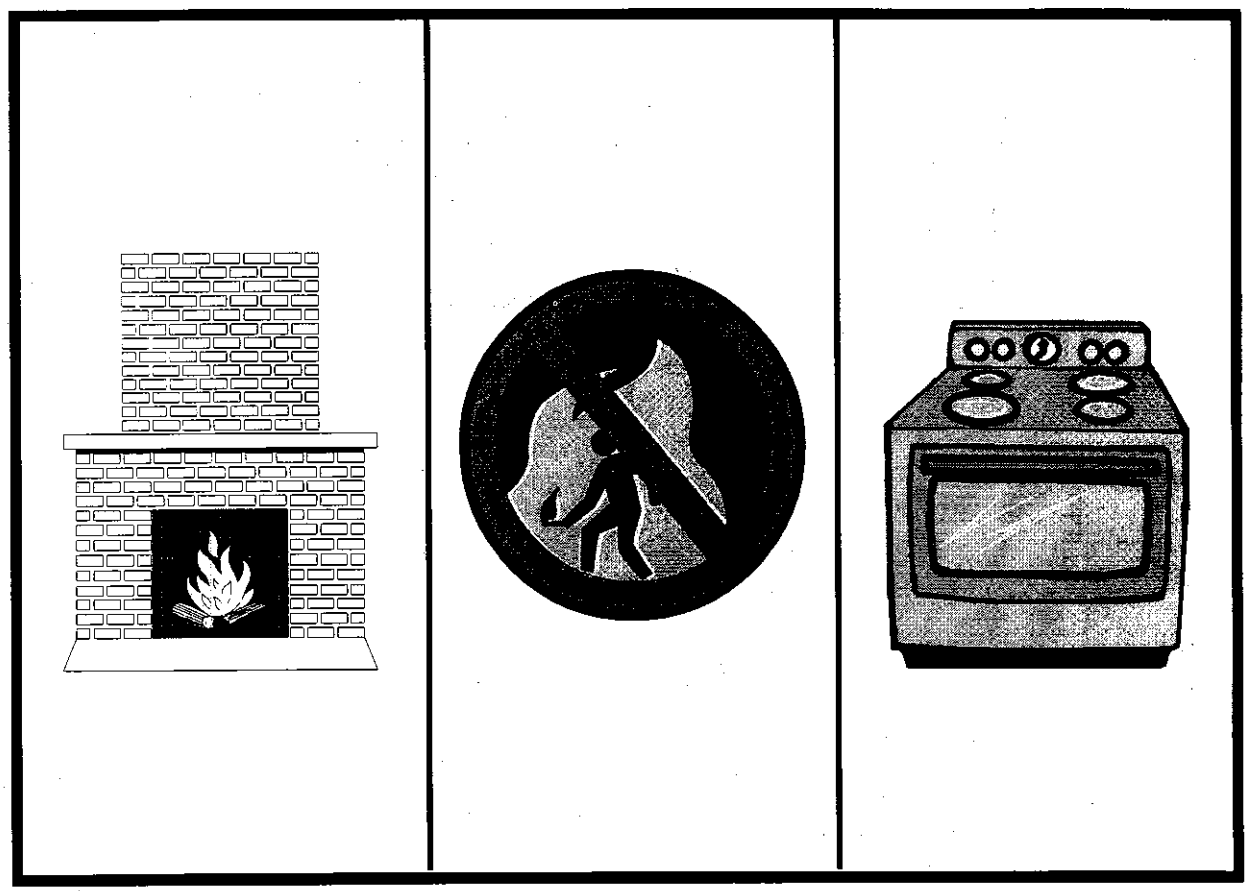
Residential fires accounted for 63% of all structure fires, 42% of total dollar loss, and 68% of all fire deaths. This continues to make the home the most dangerous place to be in regard to fire.



In the last 10 years, over $1.2 billion in property was destroyed by fire; of that amount, 43%, or over $543 million, occurred in residential property.

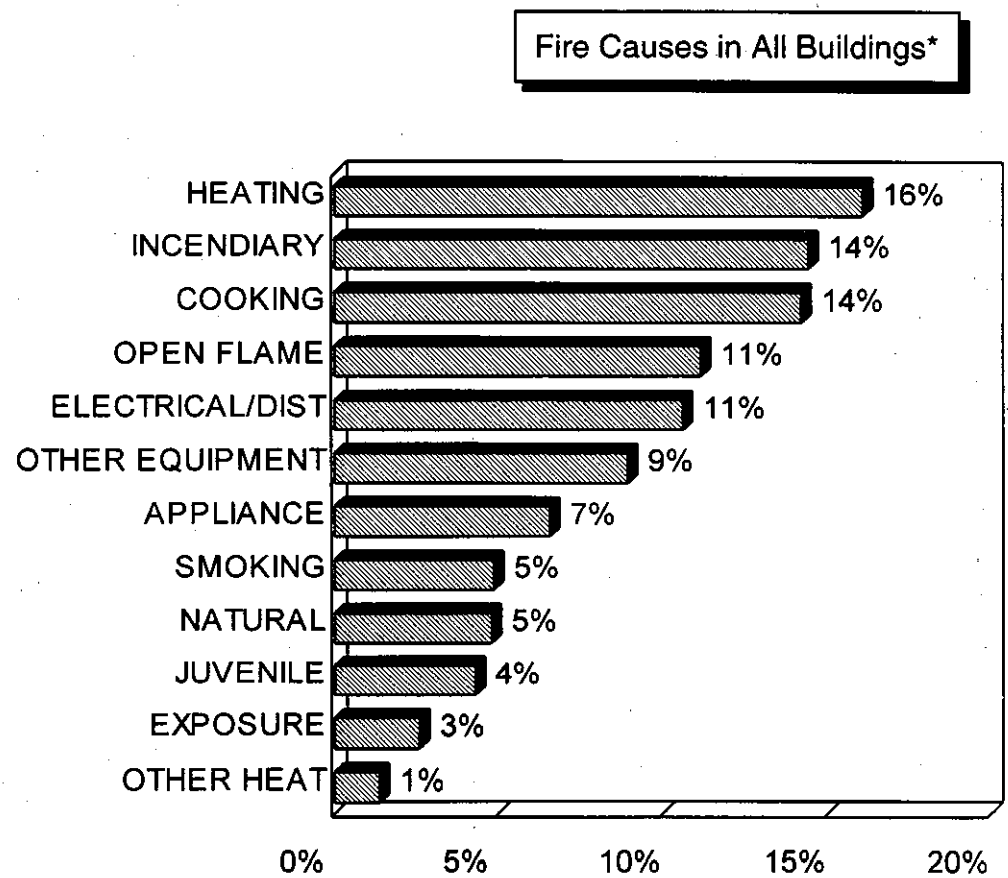
Dollar loss from fires remains high in Minnesota and continues to be a costly problem. Commitment to prevent fires before they occur is the only way to stop the significant loss of life and property from fire. This requires all citizens to actively participate in public education and fire prevention efforts.

CAUSES



CAUSES

For the 9th consecutive year, heating, incendiary, and cooking are reported as the 1st, 2nd, and 3rd leading causes of fire in all structures.



**Based solely on reports from fire departments where known fire causes were identified.*

Incendiary was a cause in 9% of residential fires. The dollar loss in all residential fires totaled over $59 million.

When fire causes in all types of buildings are compared, heating, incendiary, and cooking emerge as the first, second and third overall leading causes of structure fires. In residential structures, as a group, cooking is the most common cause, followed by heating fires. Residential fires represent 63% of all structure fires. In educational properties, incendiarism was the leading known cause of fire with 41%. In store/office properties, incendiary was reported as the cause in 12% of the fires. Incendiarism as a reported cause of fire in residential properties was at 9% in 1997. Residential fires, however, accounted for over $59 million in property loss, or 42% of the total reported dollar loss from all fires.

The overall pattern of heating/incendiary/cooking as leading identified causes has been consistent for the past several years. Heating fires are 16% of the total identified fires. It must be noted, however, the cause of 20% of all structure fires was reported as unknown.

A Closer Look at Major Fire Causes . . .

Four people perished in heating-related fires.

. . . Heating Fires

The majority of heating-related fires occurred in residential properties. Although the reported number of fireplace/chimney fires decreased by 14% from 1996, the dollar loss from those fires increased by 23% over the 1996 loss!

DOLLAR LOSS FROM HEATING FIRES IN RESIDENTIAL PROPERTIES ONLY

Equipment	# of Fire Incidents	% of Total	Dollar Loss	% of Total	Civ. Deaths	Civ. Injuries	Firefighter Injuries
Fireplace/Chimney	382	57%	$3,363,068	45%	3	--	10
Fixed Heating Units	91	14%	1,038,565	14%	--	--	--
Portable Heaters	51	8%	907,728	12%	1	5	2
Water Heaters	47	7%	792,418	11%	--	4	--
Central Heating Units	64	10%	782,924	11%	--	--	--
Other	36	5%	560,402	8%	--	--	1
Total	**671**	**100%**	**$7,445,105**	**100%**	**4**	**9**	**13**

In 1997, cooking-related fires accounted for 17% of all civilian fire injuries.

. . . Cooking Fires

Unattended cooking accounted for 33% of cooking-related fires and 13% of the dollar loss. Three fire deaths occurred in 1997; 51 civilians and 8 firefighters were injured in cooking fires. This represents a increase of 42% in civilian injuries and firefighter injuries doubled again from last year! Dollar loss totalled over $4 million; a 9% increase over 1996.

MOST COMMON CAUSES AND DOLLAR LOSS FOR ALL COOKING FIRES

Cause	# of Fire Incidents	% of Total	Dollar Loss	% of Total	Civ. Deaths	Civ. Injuries	Firefighter Injuries
Mechanical Failure	172	20%	$1,043,299	25%	--	2	--
Operational Deficiency	102	12%	595,299	14%	--	8	1
Combustibles Too Close	70	8%	550,595	13%	1	5	3
Unattend./Fell Asleep	288	33%	543,583	13%	--	21	--
Abandon. Material (Charcoal)	18	2%	178,203	4%	--	--	--
Other Causes	159	18%	762,277	18%	2	8	4
Undetermined	59	7%	470,910	11%	--	7	--
Total	**868**	**100%**	**$4,144,166**	**100%**	**3**	**51**	**8**

AGRICULTURAL PROPERTIES

Total dollar loss in agricultural properties reached over $10 million.

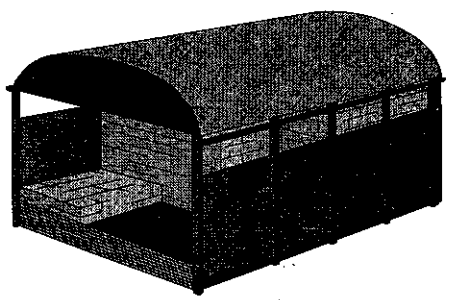
Agricultural properties are defined as those structures or open pieces of land on which the production of raw agricultural products and farming occurs. Agricultural production and storage properties do not include processing facilities.

Fires and dollar loss in production facilities and storage facilities decreased slightly in 1997.

AGRICULTURE PRODUCTION

Type of Facility	No. of Incidents	Dollar Loss
Poultry, Egg	20	$1,235,600
Cattle	27	895,951
Crop/Orchards	72	293,356
Other Livestock	6	246,000
Hog	14	197,365
Unclassified Agric.	126	637,201
TOTAL	**265**	**$3,505,473**

Dollar loss on barns and stables increased over $500,000 from 1996.



AGRICULTURE STORAGE

Type of Facility	No. of Incidents	Dollar Loss
Barns, Stables	207	$4,971,086
Seed, Silage	63	442,380
Agric. Supply Storage	42	307,950
Grain Elevators	25	235,308
Livestock	16	163,550
Boxed, Bagged Prop.	8	123,810
Unclassified Agric.	40	978,516
TOTAL	**401**	**$7,222,600**

Dollar loss for barns and stables increased in 1997, but overall property loss went down.

Overall the number of fire incidents and dollar loss in agricultural properties decreased in 1997.

AGRICULTURAL PROPERTY FIRE CAUSES...

Agricultural Production and Storage Facilities

Ignition Factors	1995 No. of Incidents	1996 No. of Incidents	1997 No. of Incidents	1997 Dollar Loss	1997 % Total $ Loss
Mech. Failure/Malfunct.	181	202	133	$ 1,847,916	17%
Combustibles Too Close to Heat/Exposure	75	66	55	878,765	8%
Misuse of Heat	25	31	23	342,801	3%
Open Flame/Inadeq. Ctrl.	80	91	93	307,050	3%
Spontaneous Heating	51	40	36	296,400	3%
Lightning/Other Natural Conditions	19	24	20	245,825	2%
Incendiary	27	31	30	147,577	1%
Design, Construction, Installation Defic.	7	6	4	145,000	1%
Lack of Maintenance	19	27	7	97,500	1%
Children Playing w/Fire	19	13	12	84,100	1%
Operational/Design Defic.	33	16	19	69,220	1%
Other	32	34	35	68,816	1%
Unattended	9	10	9	45,200	<1%
Ignited Material Misuse	5	3	5	17,500	<1%
Fuel Spill	6	4	1	3,000	<1%
Undeter./Not Class. Above	189	185	184	6,131,403	57%
TOTAL	**777**	**783**	**666**	**$10,728,073**	**100%**

Mechanical failure again was listed as the #1 known cause of fires in agricultural facilities.

Based on identified causes, mechanical failure or malfunction continues to be the leading cause of fire in agricultural facilities. However, while the number of undetermined, unclassified fires have remained the same for the past three years, the dollar loss for those fires almost doubled from 1996!

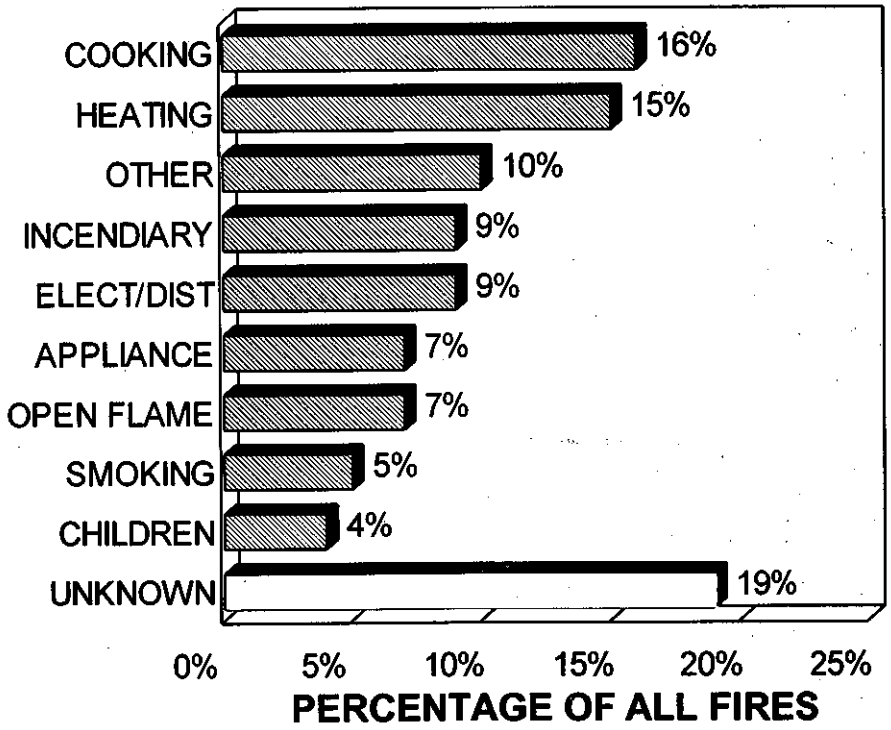
If we are to address the problem of fires in agricultural properties, every effort must be made to identify and report the causes of these fires. Maintenance of agricultural equipment is the known major weakness and caused over $1.8 million in property loss, or 17% of the total agricultural dollar loss.

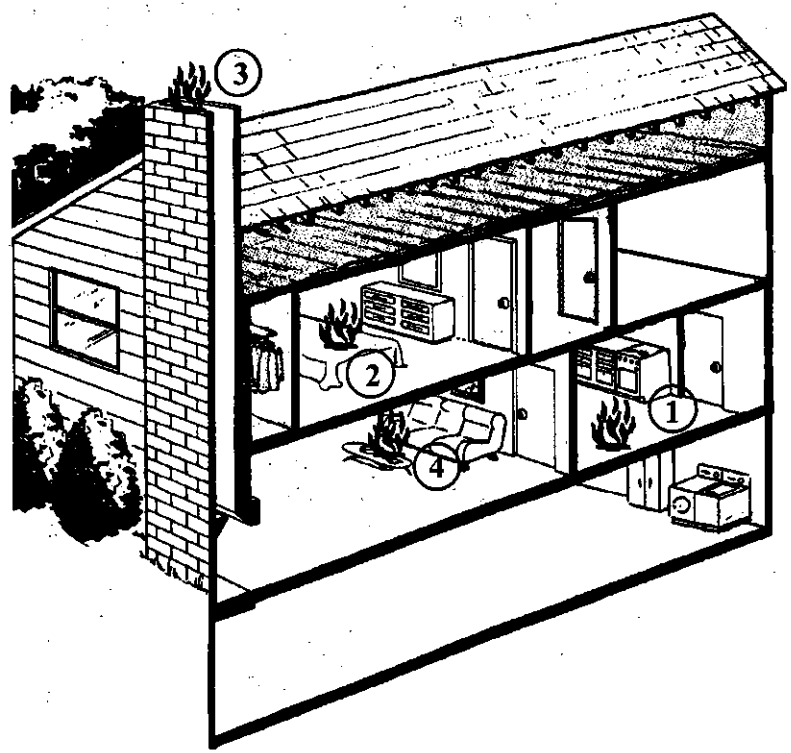
Fire Cause and Areas of Origin by Occupancy Class

The following pages contain additional information about fire causes and most common areas of fire origin. For each of the four major property types (residential, educational, public assembly, and store/office), leading fire causes are presented. Separate data is included with an illustration of the property type, depicting, to the extent reported, which rooms in a given type of structure are most frequently found to be the origin of a fire. For example, in residential properties the kitchen has been identified as the most hazardous area, where fires may result from any number of causes (e.g., cooking, heating, electrical causes, incendiary, etc.).

RESIDENTIAL PROPERTY

LEADING FIRE CAUSES





	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	4,021	116	217	--	34	$59,053,671
% of Total	63%*	50%	72%	--	68%	42%

*Percent of structure fires

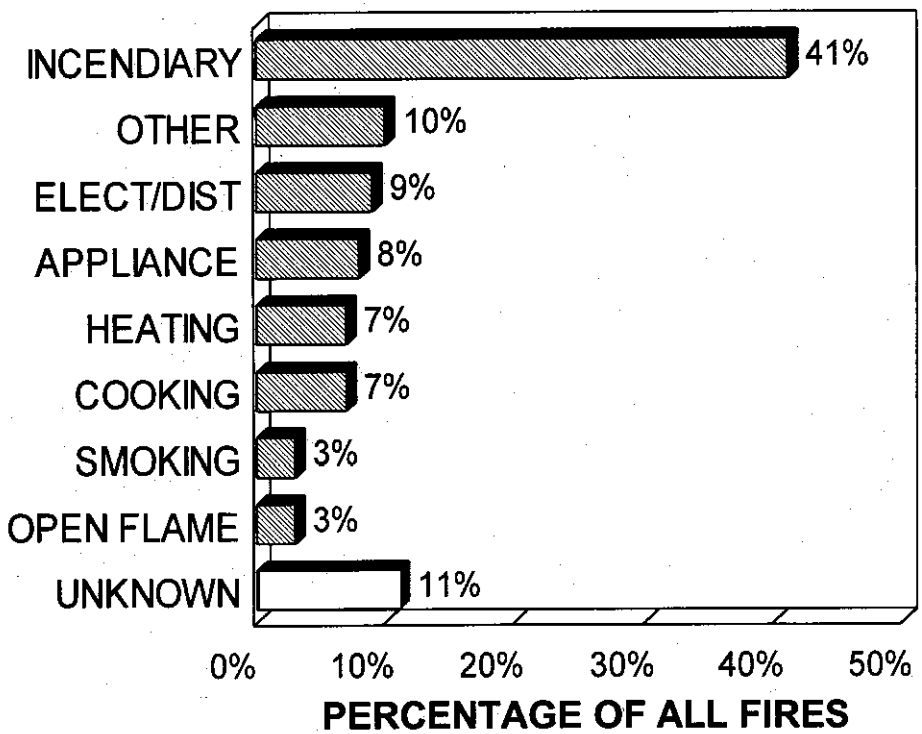
AREA OF FIRE ORIGIN

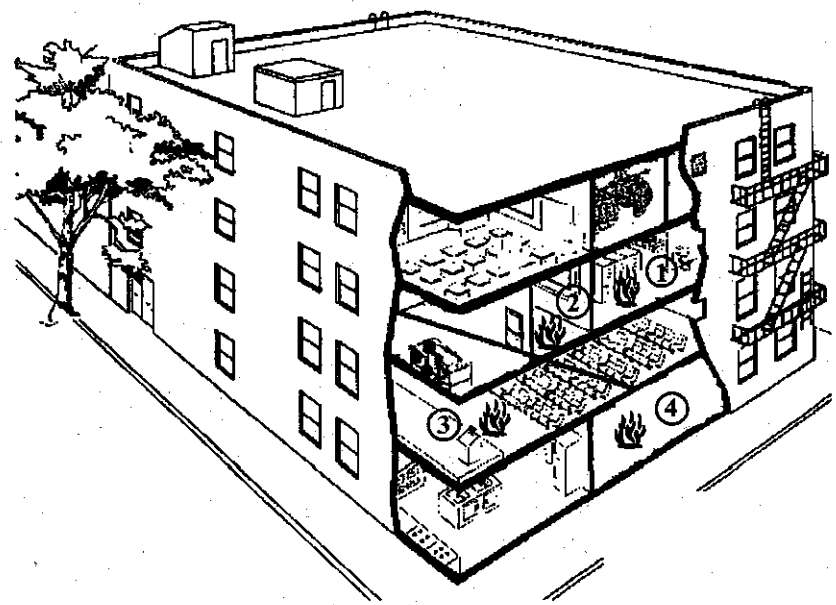
1. Kitchen/Cooking Area 20%
2. Sleeping Area 9%
3. Chimney 7%
4. Living/Family Room 6%

Other Areas of Fire Origin: 58%

EDUCATIONAL PROPERTY

LEADING FIRE CAUSES





	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	105	1	1	--	--	$1,042,662
% of Total	2%*	<1%	<1%	--	--	1%

*Percent of structure fires.

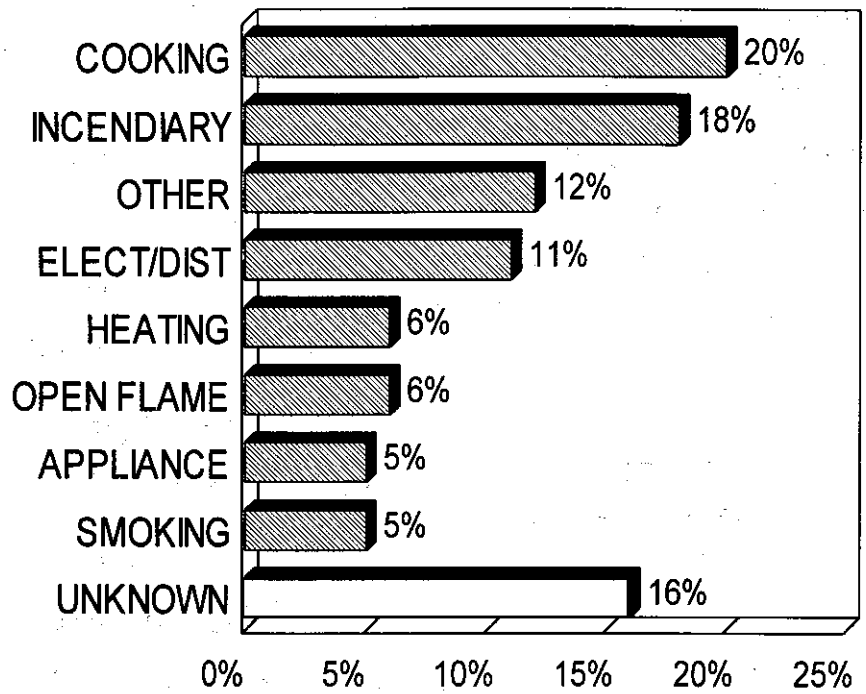
AREA OF FIRE ORIGIN

1. Lavatory/Locker Room 31%
2. Hallway/Corridor/Mall 7%
3. Small Assembly 4%
4. Heating/Equipment Room 4%

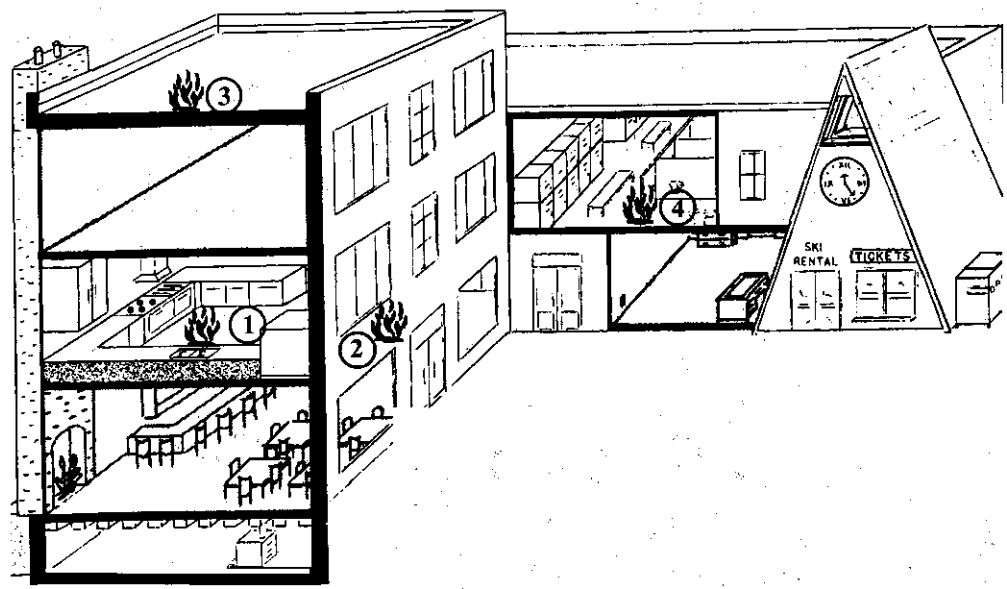
Other Areas of Fire Origin: 54%

PUBLIC ASSEMBLY PROPERTY

LEADING FIRE CAUSES



PERCENTAGE OF ALL FIRES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	176	2	1	--	--	$6,177,778
% of Total	3%*	1%	<1%	--	--	4%

*Percent of structure fires

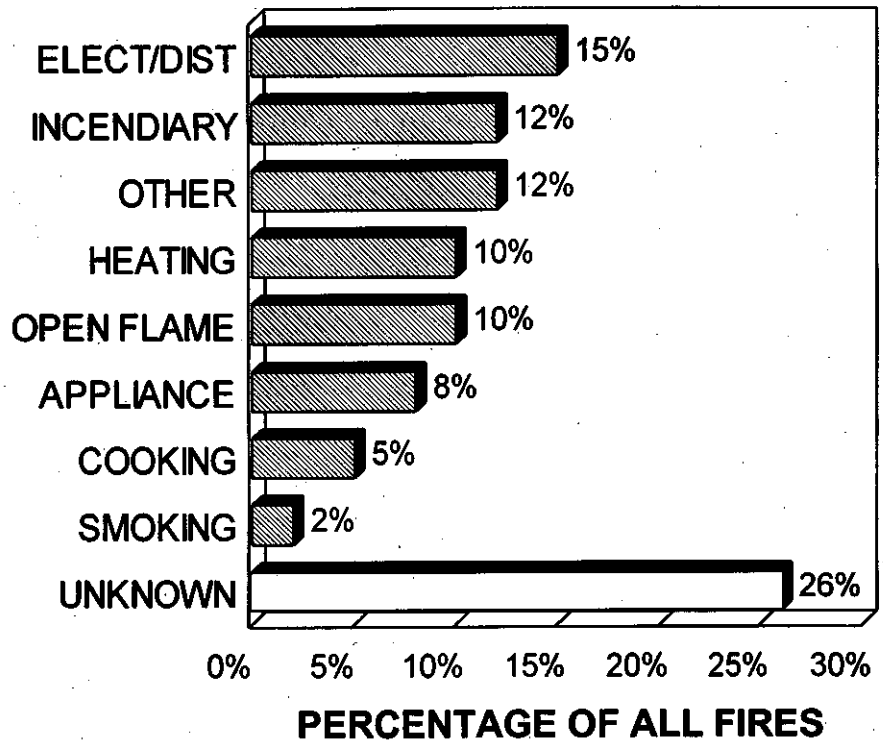
AREA OF FIRE ORIGIN

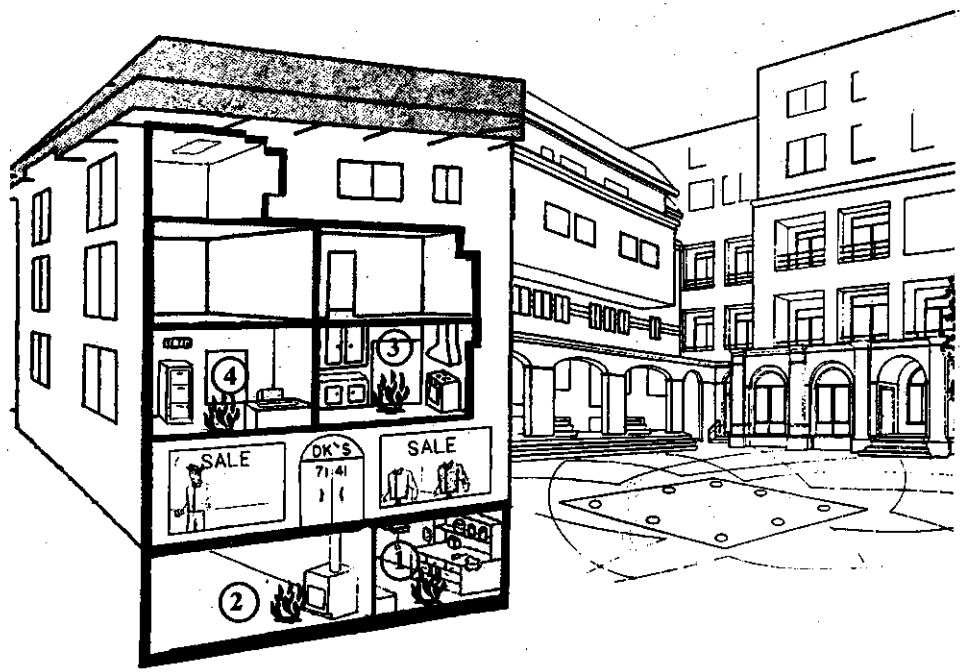
1. Kitchen/Cooking Area 27%
2. Exterior Wall Surface 7%
3. Ceiling Roof Assembly 5%
4. Supply/Storage Room/Area 4%

Other Areas of Fire Origin: 57%

STORE AND OFFICE PROPERTY

LEADING FIRE CAUSES





	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	259	11	12	--	--	$11,649,824
% of Total	4%*	5%	4%	--	--	8%

*Percent of structure fires

AREA OF FIRE ORIGIN

1. Maintenance/Shop Area 7%
2. Heating Equipment Room 6%
3. Lavatory/Locker Room 5%
4. Office 5%

Other Areas of Fire Origin: 77%*

***The high percentage of "Other" in this category may reflect the difficulty in naming the area of fire origin based on coding associated with the MFIRS report form.**

FIRE PREVENTION WEEK

Since 1925, the week containing Oct. 9, the anniversary of the Great Chicago fire of 1871, has been designated as Fire Prevention Week. The purpose of the week's events is to promote public awareness of the need for fire prevention. The National Fire Protection Association (NFPA) offers a variety of classroom activities and materials designed to educate and encourage families to make their homes fire-safe, and to respond appropriately should a fire occur. Each year's theme highlights a particular fire-safety behavior. We encourage fire service personnel to participate in Fire Prevention Week efforts in their own communities. Further information about this yearly event can be found on the NFPA web page at: www.nfpa.org.

Continued support of fire prevention and public education efforts is essential to reduce the tragic losses from fire in Minnesota.

SUMMARY

Heating, incendiary, and cooking are again the leading identified causes of structure fires in Minnesota. These three causes resulted in 10 fire deaths and 156 injuries (both civilian and firefighter). A breakdown of fires by major property type gives additional insights into cause.

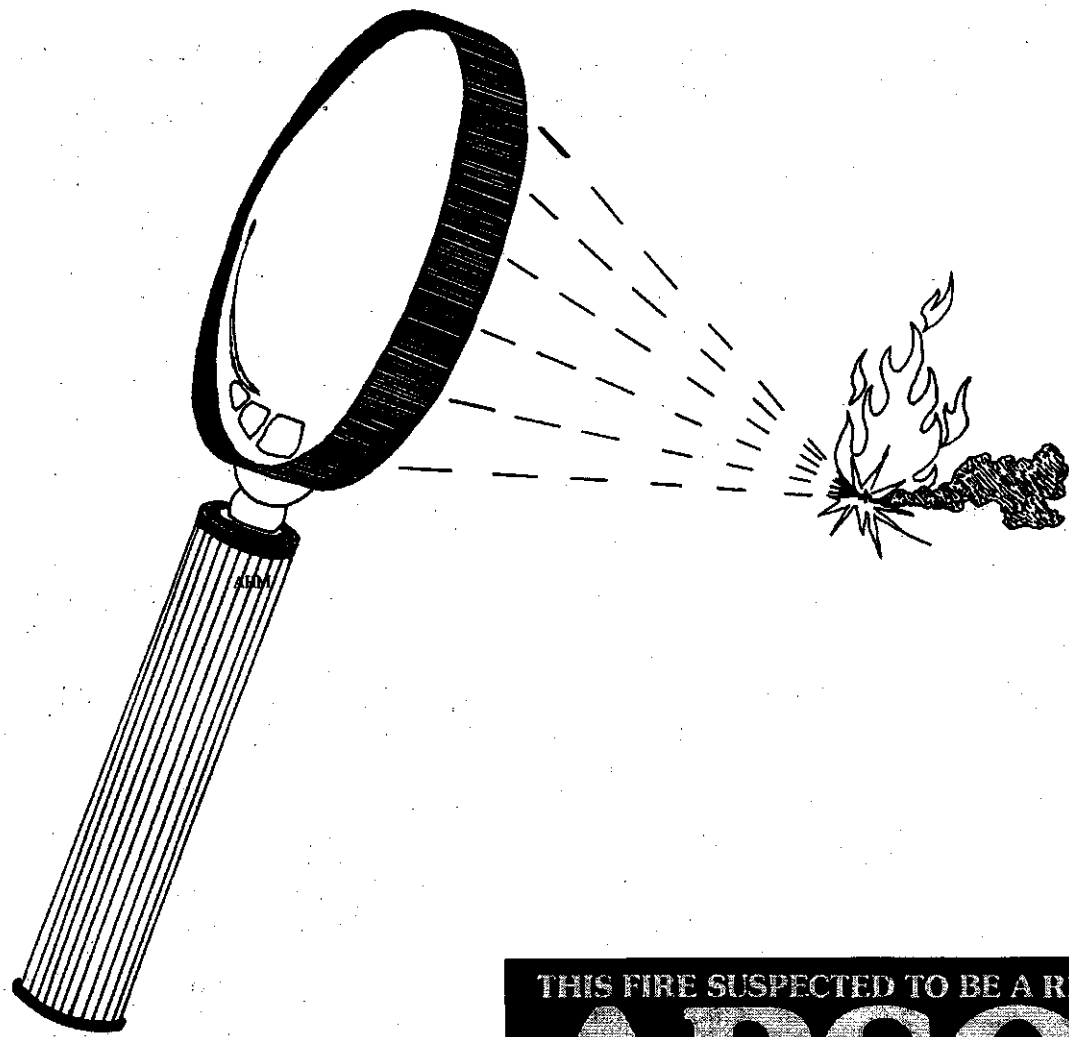
Two leading causes of fires in residential properties (which accounted for 63% of total structure fires) were identified as cooking and heating. Residential fires accounted for 68% of all fire deaths, 64% of firefighter injuries, and 72% of civilian injuries.

While careless smoking accounts for only 5% of overall fires, it represents 32% of all fire fatalities.

In 1997, as in previous years, MFIRS data reflected a large number of unknown/undetermined causes of fires (20%). In order to focus fire prevention efforts more accurately, complete reporting of causes (ignition factor field on the MFIRS form) is absolutely essential.

Fire prevention efforts relating to cooking and heating safety in residences must be one of our top priorities. The most dangerous place to be, in regard to fire, continues to be the home.

INCENDIARY TRENDS

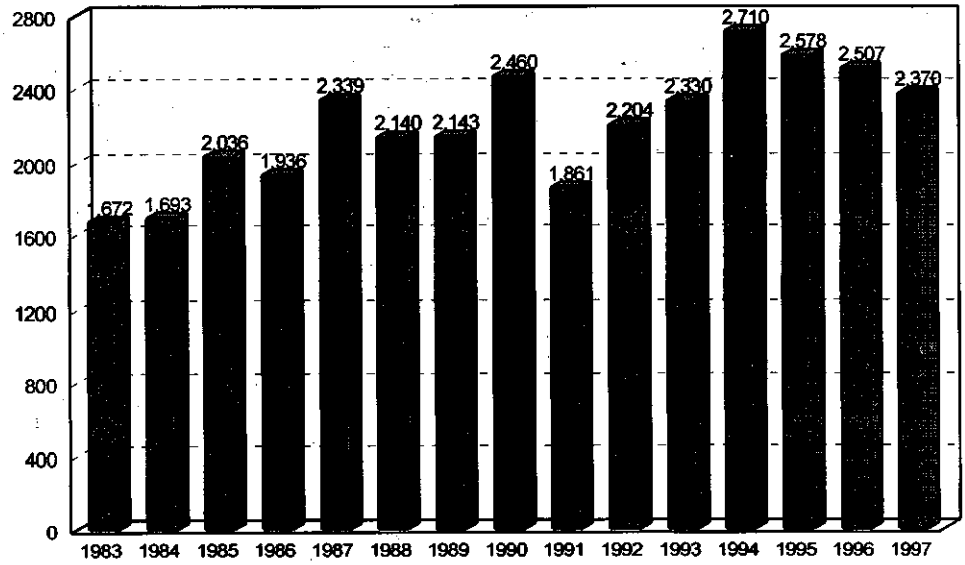


INCENDIARY TRENDS*

In 1997, although slightly decreased, incendiary fire numbers remained among the top five of the last ten years.

In 1997, incendiary fires decreased slightly, although incendiary was still identified as the leading cause of all reported dollar loss from fires in Minnesota. Additionally, 1,268 (20%) fires were reported as undetermined, and experts agree that many of these fires were probably incendiary in nature.

INCENDIARY FIRES IN MINNESOTA

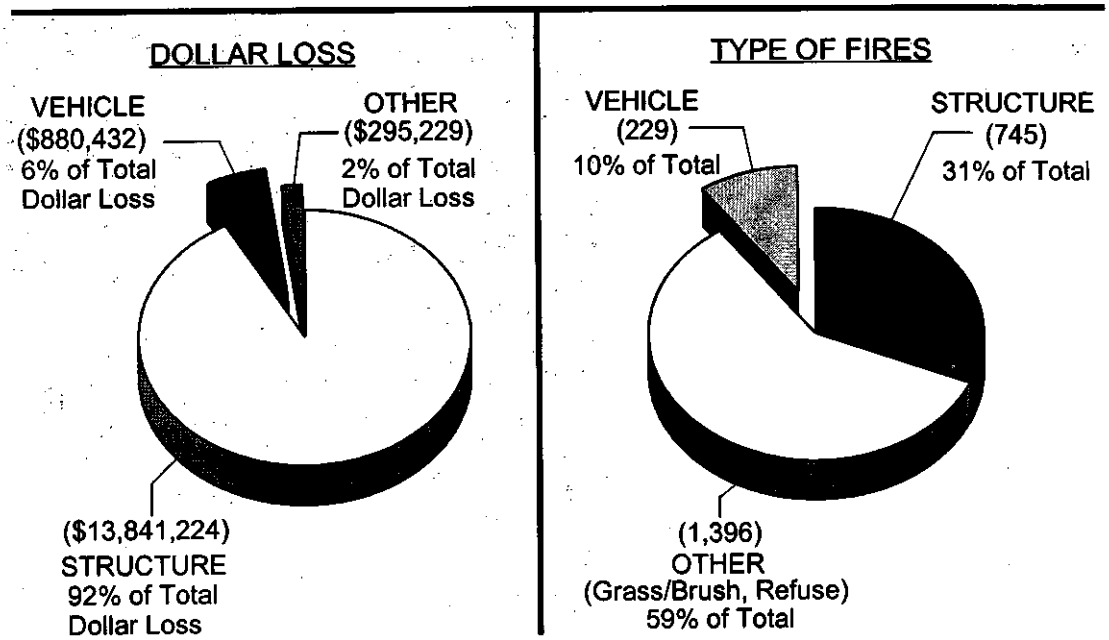


There were a total of 2,370 identified incendiary fires, a 5% decrease from 1996. The value of property destroyed was estimated at over $15 million. The majority of the incendiary dollar loss (92%) occurred in structures. There were 3 reported fire deaths directly attributable to incendiary causes in 1997.

Incendiary Fire Dollar Loss (In Millions)

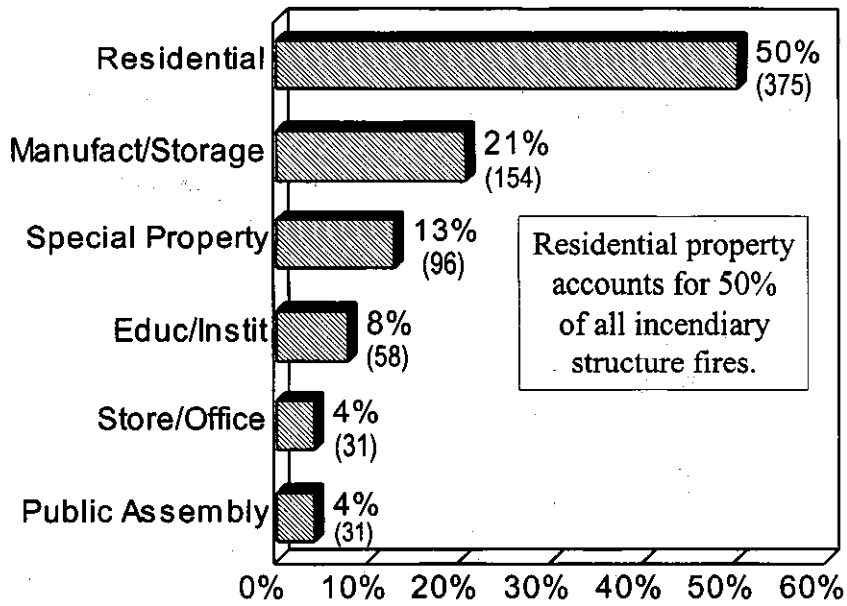
	Structure	Vehicle
1992	$16.3	$.5
1993	$20.6	$.8
1994	$42.2	$.8
1995	$16.9	$.9
1996	$20.5	$1.3
1997	$13.8	$.9

INCENDIARY FIRES BY DOLLAR LOSS AND TYPE



*Starting with the 1997 Fire in Minnesota, all incendiary charts and statistics are taken from MFIRS data only. For additional incendiary statistics, please see the Fire/Arson Investigation Team Section on pages 64-66.

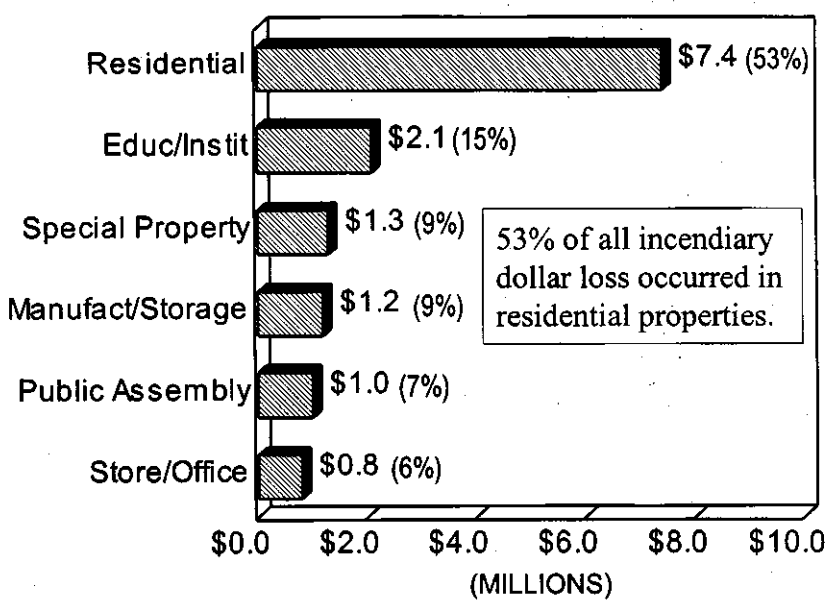
Incendiary Fire Incidents By Structure Type



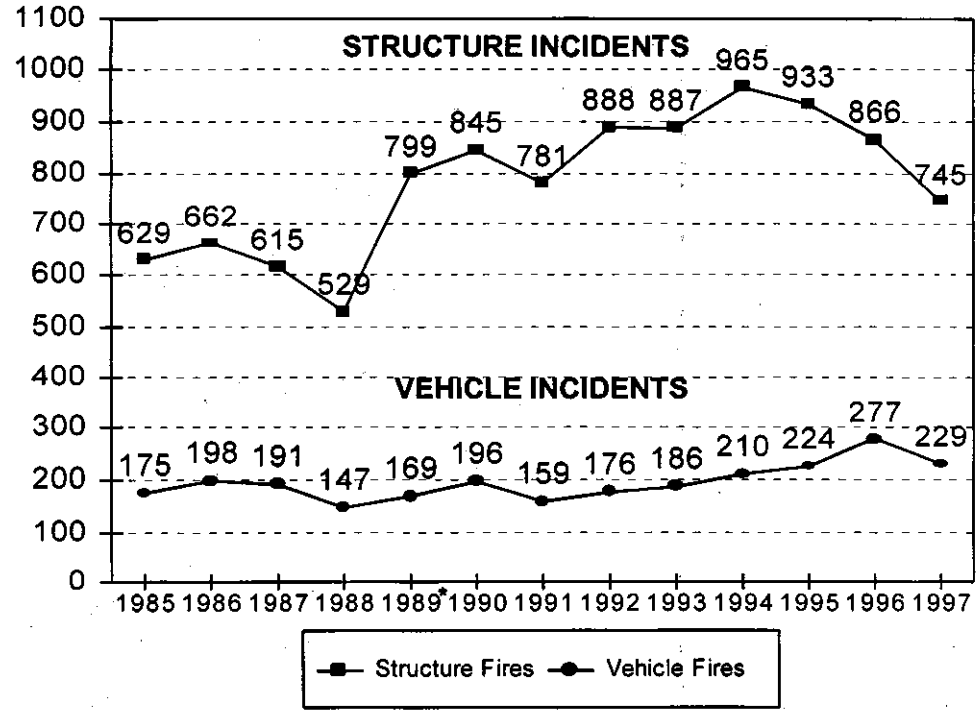
Average dollar loss in incendiary residential structure fires is nearly $20,000, compared to $14,000 in all residential structure fires.

Half of incendiary fires in structures (50%) occurred in residential properties, a slight decrease from 1996. The dollar loss in those properties totalled $7.4 million or 53% of all incendiary dollar losses in structures. The average loss for a residential incendiary structure fire was nearly $20,000, compared to an average dollar loss of $14,000 for all residential structure fires.

Incendiary Fire Dollar Loss By Structure Type



INCENDIARY TREND IN STRUCTURE AND VEHICLE FIRES, 1985-1997



**Two major cities began reporting in 1989. This had a significant impact on the number of arson structure fires reported.*

Incendiary Structure Fires by Time of Day	
0001-0400	*165*
0401-0800	*81*
0801-1200	*82*
1201-1600	*99*
1601-2000	*153*
2001-2400	*160*
Time - Blank	*5*
Total	***745***

In 1997, incendiary was listed as the cause of 14% of all reported structure fires with known causes and 5% of all reported vehicle fires in Minnesota. Vehicle incendiary dollar loss represented 6% of total vehicle fire dollar loss, with an average dollar loss per incendiary vehicle fire of $3,845. Fire investigators agree that incendiary vehicle fires are under-reported and may not receive the attention that structure fires do.

RESIDENTIAL STRUCTURE INCENDIARY FIRES

	1996		1997		
Property Type	**Incidents**	**Dollar Loss**	**Incidents**	**Dollar Loss**	**% of Total Dollar Loss**
One-Two Family Dwelling	304	$8.0M	255	$5.4M	73%
Apartment/Tenement/Flat	118	$4.6M	98	$1.9M	26%
Other Residential Occupancy	3	$.002M	7	$.076M	<1%
Hotel/Motel/Inn/Lodge	5	$.003M	10	$.024M	<1%
Dormitories	6	<$.001M	4	$.002M	<1%
Rooming/Boarding/Lodging/Housing	2	$.035M	1	<$.001M	<1%
TOTAL	**438**	**$12.6M**	**375**	**$7.4M**	**100%**

When we look at overall fires, we find residential structures are at greatest risk. These same structures are also at greatest risk from incendiary fires. The 375 residential incendiary incidents reported in 1997 accounted for 9% of all reported residential fires and 13% of the dollar loss for this property type.

INCENDIARY FIRE INCIDENTS AND DOLLAR LOSS BY COUNTY*

In some instances, the protection district of the reporting fire department goes beyond its county boundary, but the incident will still be recorded within the department's home county. Per capita data is calculated at a standard rate of incendiary fires per 100,000 people.

County	Incendiary Incidents	Incend. Fires/ 100,000 Pop.	Incendiary Dollar Loss
Aitkin	0	0	$0
Anoka	224	92	$3,111,534
Becker	32	115	$101,050
Beltrami	23	67	$191,800
Benton	2	7	$750
Big Stone	0	0	$0
Blue Earth	45	83	$58,290
Brown	3	11	$220
Carlton	17	58	$22,310
Carver	14	29	$37,700
Cass	11	50	$29,000
Chippewa	5	38	$34,000
Chisago	11	36	$86,000
Clay	17	34	$55,800
Clearwater	3	36	$0
Cook	0	0	$0
Cottonwood	2	16	$78,000
Crow Wing	11	25	$28,502
Dakota	198	72	$905,491
Dodge	5	32	$141,250
Douglas	10	35	$66,300
Faribault	2	12	$500
Fillmore	1	5	$1,000
Freeborn	20	60	$7,420
Goodhue	42	103	$136,000
Grant	1	16	$0
Hennepin	435	42	$2,072,618
Houston	0	0	$0
Hubbard	2	13	$3,150
Isanti	4	15	$1,000
Itasca	14	34	$79,200
Jackson	1	9	$0
Kanabec	4	31	$12,000
Kandiyohi	8	21	$96,402
Kittson	0	0	$0
Koochiching	4	25	$23,075
Lac qui Parle	0	0	$0
Lake	4	38	$100
Lake of the Woods	2	49	$1,500
Lesueur	5	22	$32,300
Lincoln	1	15	$1,000
Lyon	2	8	$60,100
McLeod	5	16	$400,000
Mahnomen	2	40	$35,000
Marshall	3	27	$19,000
Martin	3	13	$18,000
Meeker	6	29	$5,100
Mille Lacs	16	86	$10,325
Morrison	6	20	$2,000
Mower	11	29	$36,184
Murray	1	10	$21,000
Nicollet	17	61	$10,300
Nobles	4	20	$30,500
Norman	5	63	$30,300
Olmsted	41	39	$165,470
Ottertail	8	16	$31,200
Pennington	7	53	$502,200
Pine	1	5	$10,000
Pipestone	0	0	$0
Polk	25	77	$73,870
Pope	1	9	$1,100
Ramsey	357	73	$2,357,450
Red Lake	0	0	$0
Redwood	4	23	$12,000
Renville	4	23	$7,000
Rice	39	79	$28,101
Rock	2	20	$1,000
Roseau	1	7	$300,000
St. Louis	274	138	$1,011,608
Scott	40	69	$445,760
Sherburne	25	60	$173,502
Sibley	0	0	$0
Stearns	83	70	$199,607
Steele	17	55	$524,951
Stevens	4	38	$4,050
Swift	2	19	$500
Todd	11	47	$2,300
Traverse	1	22	$5,000
Wabasha	4	20	$92,500
Wadena	1	8	$2,000
Waseca	2	11	$2,000
Washington	113	77	$681,813
Watonwan	4	34	$103,675
Wilkin	0	0	$0
Winona	17	36	$135,457
Wright	16	23	$48,200
Yellow Medicine	2	17	$1,500
TOTAL	**2,370**	**54**	**$15,016,885**

* Based on data received from 695 departments. See pages 43-50 for MFIRS participation by county.

SUMMARY

Incendiary has remained one of the top three causes of fire in Minnesota for the past nine years.

The average dollar loss in a residential incendiary fire in 1997 was nearly $20,000 per incident, compared to $14,000 per incident in all residential fires.

Half of all incendiary structure fires were in residential property. These fires accounted for 53% of dollar loss from incendiary causes.

Forty-one percent (41%) of all structure fires in educational facilities were determined to be deliberately set. This continues to be the leading cause of fire in educational property.

In the past nine years, incendiary fires caused 26 deaths and over $179 million in property loss. Arson prevention must continue to be a priority; incendiary fires kill, maim, and destroy at an alarming rate. It is a crime against every Minnesotan.

CASUALTIES

Associated Press

MANY ARE STILL VULNERABLE.....

Every fire death is a tragic loss, no matter the age or circumstances of the victim.

The practical skills and creative imagination of the fire service and the fire safety education communities have always been dedicated to preventing these fire deaths. In recent years, we have made great progress: there are Fire Prevention Week programs and Learn Not to Burn curricula in many schools, programs aimed at senior citizens, and stringent fire safety procedures enforced in institutional settings. In August, 1993, fire safety in the home took a giant leap forward with legislation requiring smoke detectors in every dwelling in Minnesota. The fire protection industry is moving rapidly to provide sprinkler protection in both new and existing buildings.

We know that these efforts are effective - every day the fire service confirms through MFIRS data that smoke detectors save lives. Every year at the State Fair, young children participating in Public Safety exhibits demonstrate impressive knowledge of fire-safe behaviors they have learned at home and school.

And yet, in 1997, ten people died in fires in homes with working smoke detectors! Why did this occur? Who were these people? Nine of the victims can only be described as "vulnerable populations." Three of the ten were senior citizens, over 80 years of age, with various age-related disabilities - hearing loss, heart and breathing problems, etc. Two more victims, one adult and one teen-ager, had mental disabilities. The remaining four were children, six years and under. These vulnerable people were not able to respond effectively and escape the fire.

These situations remind us that the job is indeed not finished. Fire safety behaviors must be taught as part of Special Education curricula, to caregivers as well as students. Smoke detectors designed for the hearing-impaired must be made more widely available. There are many possibilities.

Excellent, effective groundwork has been laid, but the difficult challenge of fire safety for the vulnerable remains before us.

Fire Deaths and Smoke Detector Performance*

In 27% of fatalities in residential occupancies, smoke detectors were improperly maintained or absent altogether.

As in 1996, 50 civilians lost their lives in fires. While deaths in residential settings were down 21% in 1997, they still represent 68% of Minnesota's fire fatalities. In 27% of the casualties in dwellings, smoke detectors were either absent or non-operating. In another 26% of the dwelling cases, it was not possible to determine whether a smoke detector was present or operating.

FIRE DEATHS IN RESIDENTIAL DWELLINGS

	Fatalities	% of Dwell. Fires	% of Total Deaths
No Smoke Detectors Present	4	12%	8%
Inoperable Smoke Detectors Present	5	15%	10%
Working Smoke Detectors Present	10	29%	20%
Unk. if Detectors Present/Working	9	26%	18%
Not a Factor/Suicides, Explosions, etc.	6	18%	12%
Total Deaths in Dwellings	**34**	**100%**	**68%**
Other Fire Deaths (Including vehicles, outdoors, etc.)	16	--	32%
Total Fire Deaths	**50**	**--**	**100%**

What can be said of the ten people who died in dwellings equipped with working smoke detectors? The following additional factors have been identified.

SEVEN FATALITIES WHERE THERE WERE WORKING SMOKE DETECTORS: WHY DIDN'T THEY GET OUT?

	Fatalities	Percent
Too Young	4	40%
Elderly/Mobility Impaired	3	30%
Mentally Handicapped	2	20%
Alcohol or Drug Impaired	1	10%
TOTAL	**10**	**100%**

Since August 1, 1993, smoke detectors have been required in every dwelling in Minnesota that has a sleeping area.

Since August 1, 1993, smoke detectors have been required for every dwelling in Minnesota that has a sleeping area. Citizens must take responsibility for installation and maintenance of smoke detectors in their homes. This year's demographics show a high percentage of elderly/hearing impaired/mentally handicapped people who could not escape fires in their homes, despite the presence of working smoke detectors. We are reminded that the differing safety needs of these vulnerable populations still need to be addressed more fully.

*All charts and information on this page has been taken from the State Fire Marshal Division's 1997 fire death database, which is based on fire death investigations done by this office and MFIRS data.

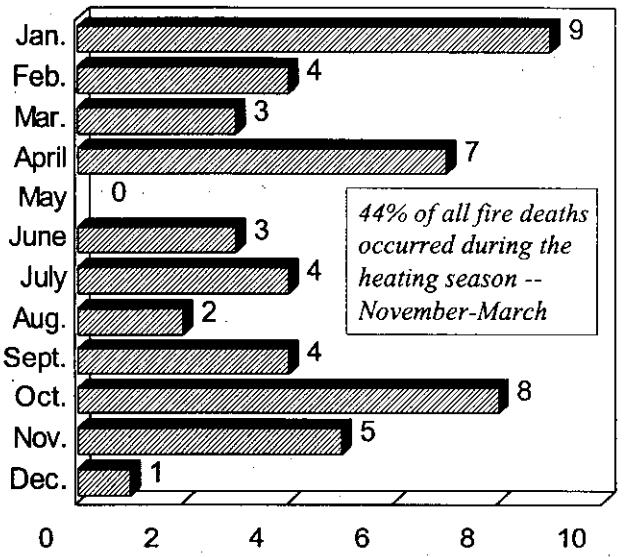
CIVILIAN FIRE DEATHS: WHO AND WHEN

Forty-six percent of fire deaths occurred between the hours of 6:00 p.m. and 6:00 a.m. The two high-risk months of the year were January and October, with January being the coldest month of the year.

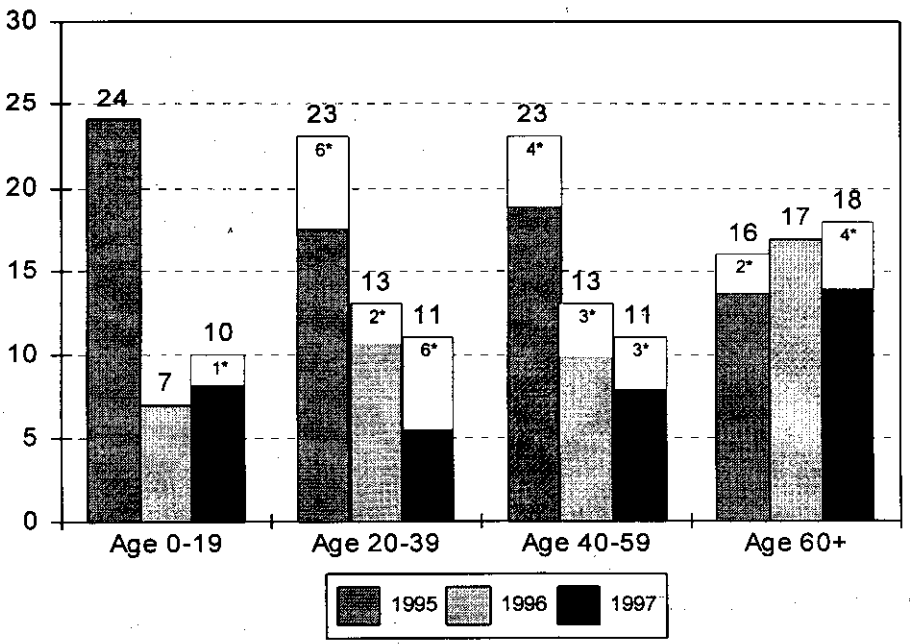
FIRE DEATHS BY TIME OF DAY

	TOTAL	0000-0600	0600-1200	1200-1800	1800-2400
Careless Smoking	16	5	4	4	3
Vehicle	9	1	6	2	0
Wood Heating	4	0	3	0	1
Suicide	4	0	2	1	1
Arson	3	0	2	0	1
Child Play	3	0	0	1	2
Electrical Malfunct.	3	3	0	0	0
Cooking	3	2	1	0	0
Inadeq. Control/Outdrs.	2	1	0	1	0
Other	2	1	0	0	1
Undetermined	1	1	0	0	0
Total	**50**	**14**	**18**	**9**	**9**

FIRE DEATHS BY MONTH



FIRE DEATHS BY AGE



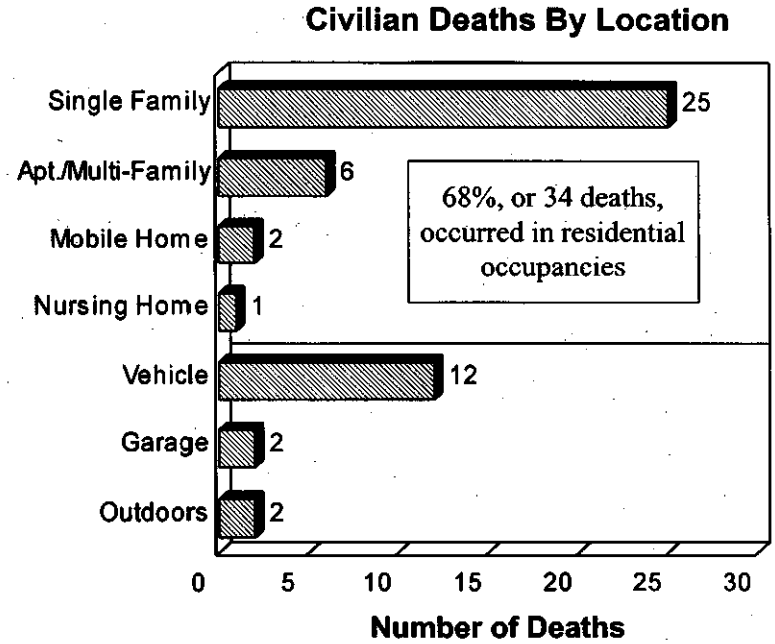
*Fire deaths listed as suicides or motor vehicle fire incidents.

Deaths among elderly account for 36% of fire deaths in 1997.

In 1997, fire deaths in the 20-59 year-old age group dropped slightly; fifty percent of those fatalities showed alcohol/drug levels significant enough to impair their ability to escape. While still disturbingly high, these figures are an encouraging drop from the 1996 high of 85%. The most alarming figures indicate an upward trend in deaths among senior citizens; in 1997, deaths in the 60+ age range represent 36% of all fire deaths. This number has increased each year since 1995. Fire safety for seniors is an issue that must be addressed by the fire community.

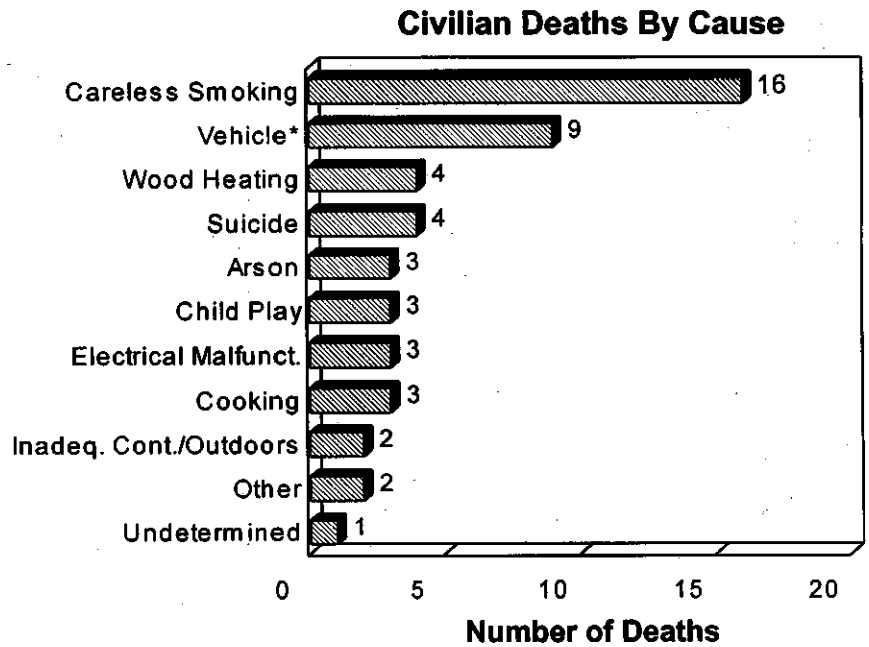
CIVILIAN FIRE DEATHS: WHERE AND WHY

68% of fire deaths occurred in residential property.



Careless smoking was identified as the cause of 32% of all fire deaths. Fifty percent (50%) of those careless smoking deaths were also alcohol-related.

Sixty-eight percent of the 1997 fire deaths occurred where people generally feel safest - at home. Careless smoking was the major cause of fire in these deaths.



*Two vehicle deaths were counted in suicide category and another one was added in the careless smoking category.

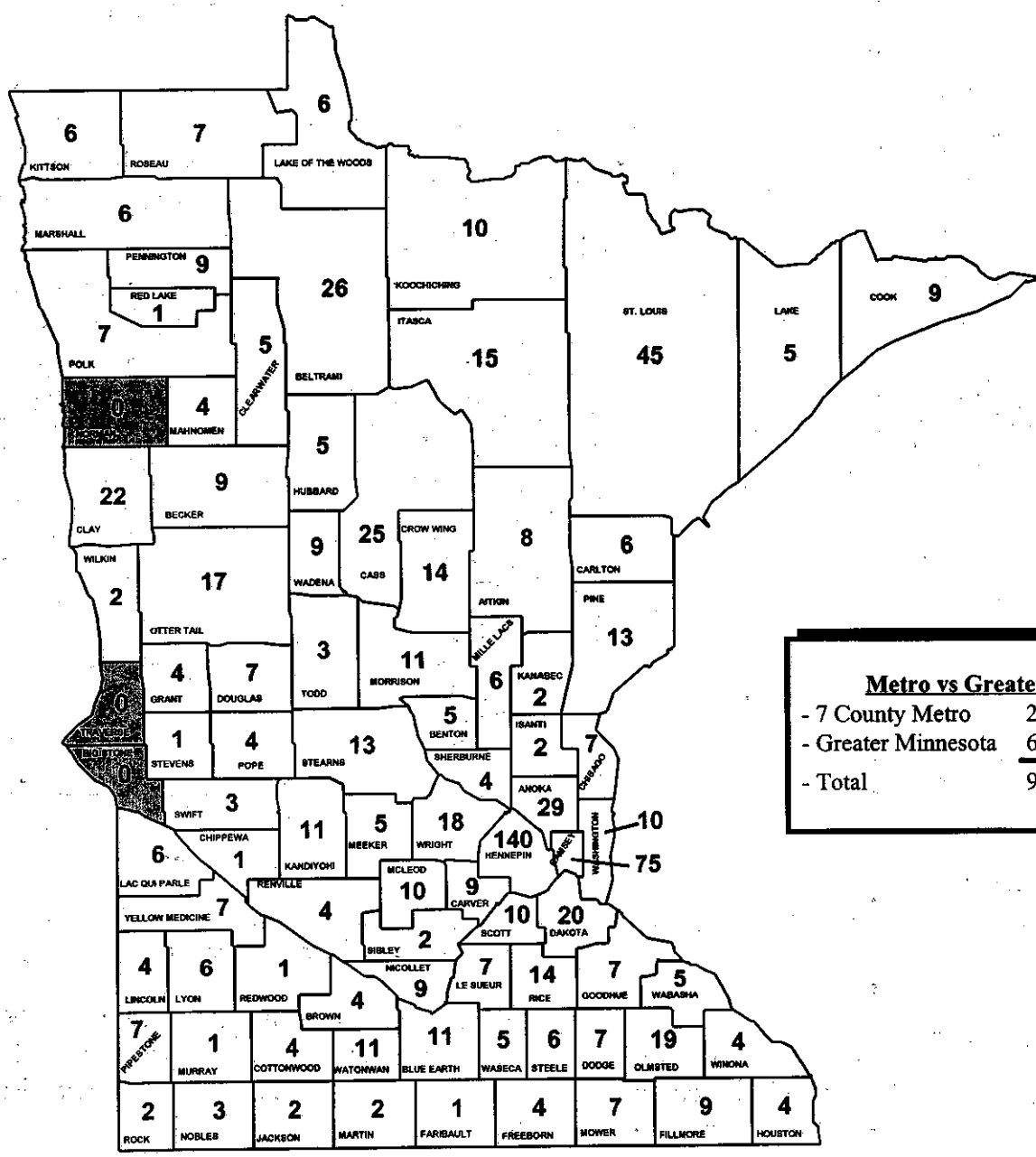
Alcohol/Drugs was clearly a factor in 30% of all fire deaths.

Careless smoking was the largest single identified fire cause where a fire death occurred (32%). Alcohol or other drug use was present or identified as an impairing factor in 30% of all fire deaths (15 deaths) and 50% in fire deaths attributed to careless smoking.

Civilian Death Rates

Fire deaths in greater Minnesota outpace those in the seven county metro area by a rate of two to one.

In the past 14 years, 903 Minnesota civilians have died in fires (see distribution by county below). During that time, fire deaths in greater Minnesota have outpaced those in the seven county metro area by a rate of two to one. In 1997, greater Minnesota contained 49% of the state's population and experienced a per capita death rate of 1.6 for every 100,000 people. The per capita rate for the metro area in 1997 was 1 per 100,000, while the rate for the state as a whole was 1.1 per 100,000, compared to a national rate of 1.52 per 100,000 for the same period. (The United States consistently has among the highest per capita death rates in the world.) Three counties in the state have remained fatality free for 14 years. They are Norman, Traverse, and Big Stone.



Metro vs Greater MN		
- 7 County Metro	293	32%
- Greater Minnesota	610	68%
- Total	903	100%

20 YEARS OF FIRE DEATH HISTORY

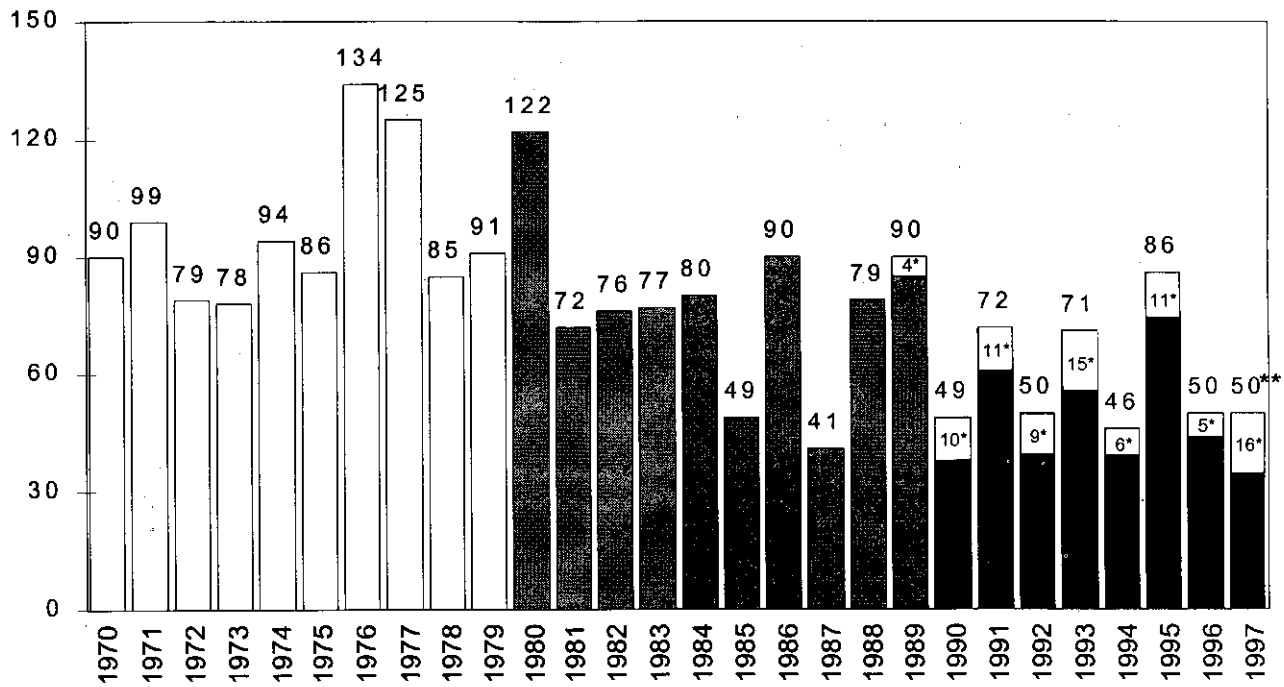
Minnesota's Fire Deaths

1970's	*961 deaths*
1980's	*776 deaths*
1990's	*592 deaths (projected)*

As the population of Minnesota has continued to grow, from 3.8 million in 1970 to 4.4 million in 1990, fire deaths have decreased. During the decade of the eighties, fire deaths in Minnesota dropped 19% from the levels of the 1970s. In the first eight years of this decade, from January, 1990 through December, 1997, 474 Minnesotans have died in fires. Should this rate continue, the decade of the nineties will see a 24% decrease in fire deaths from the eighties.

What factors might be affecting the rate of deaths? Since the mid-seventies, the promotion of fire protection technology (smoke detectors, sprinkler systems, etc.) has become more widespread in Minnesota. During this time, the state has mandated new inspection programs targeting hotels, motels and schools. Awareness and public education efforts have increased.

FIRE DEATHS 1970 - 1997



*Number of vehicle/suicide fires.
**Does not include firefighter deaths.

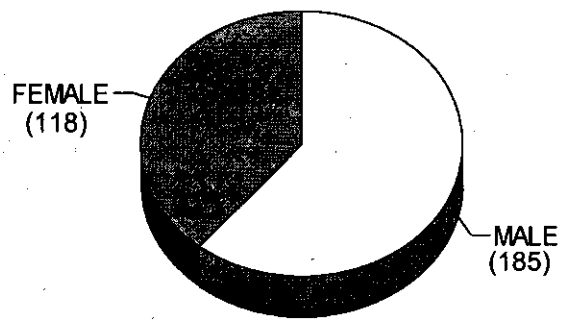
FIREFIGHTER DEATHS

It is with great sadness that we report the death of two firefighters in 1997. One firefighter suffered a heart attack after responding with his department, and the other firefighter was hit and killed by a vehicle while assisting at a motor vehicle accident. The entire fire community mourns these losses, and grieves with the families of those who died.

CIVILIAN INJURIES

In 1997, 303 civilians were injured in Minnesota fires. Injuries to males were 61%, compared with 39% to females.

In 1997, 303 civilian injuries were reported through the MFIRS system, a 18% decrease from 1996. The numbers do not represent the actual number of fire injuries occurring in the state, as it includes only those victims who have direct contact with the fire department. Many burn victims are taken to emergency rooms by private car or ambulance.



AGE OF VICTIM	NO. OF VICTIMS
0-19	50
20-39	85
40-59	48
60-OVER	37
UNREPORTED	83
TOTAL	**303**

A breakdown of reported injuries by gender shows injuries to males outnumbering injuries to females by a rate of nearly 2 to 1. Persons age 20-39 were most frequently reported as injured.

ACTIVITY AT TIME OF FIRE

People trying to control the fire accounted for 29% of all injuries, indicating a need to educate people on how to react to a fire. The age group between 20-39 yrs. has the largest number of reported injuries, perhaps because they are the most mobile and active age group, and are more likely to try to contain the fire themselves before calling the fire department.

Twenty-nine percent of all injuries were to people trying to control or extinguish the fire. Citizens between 20-39 yrs. of age were the most frequently injured age group.

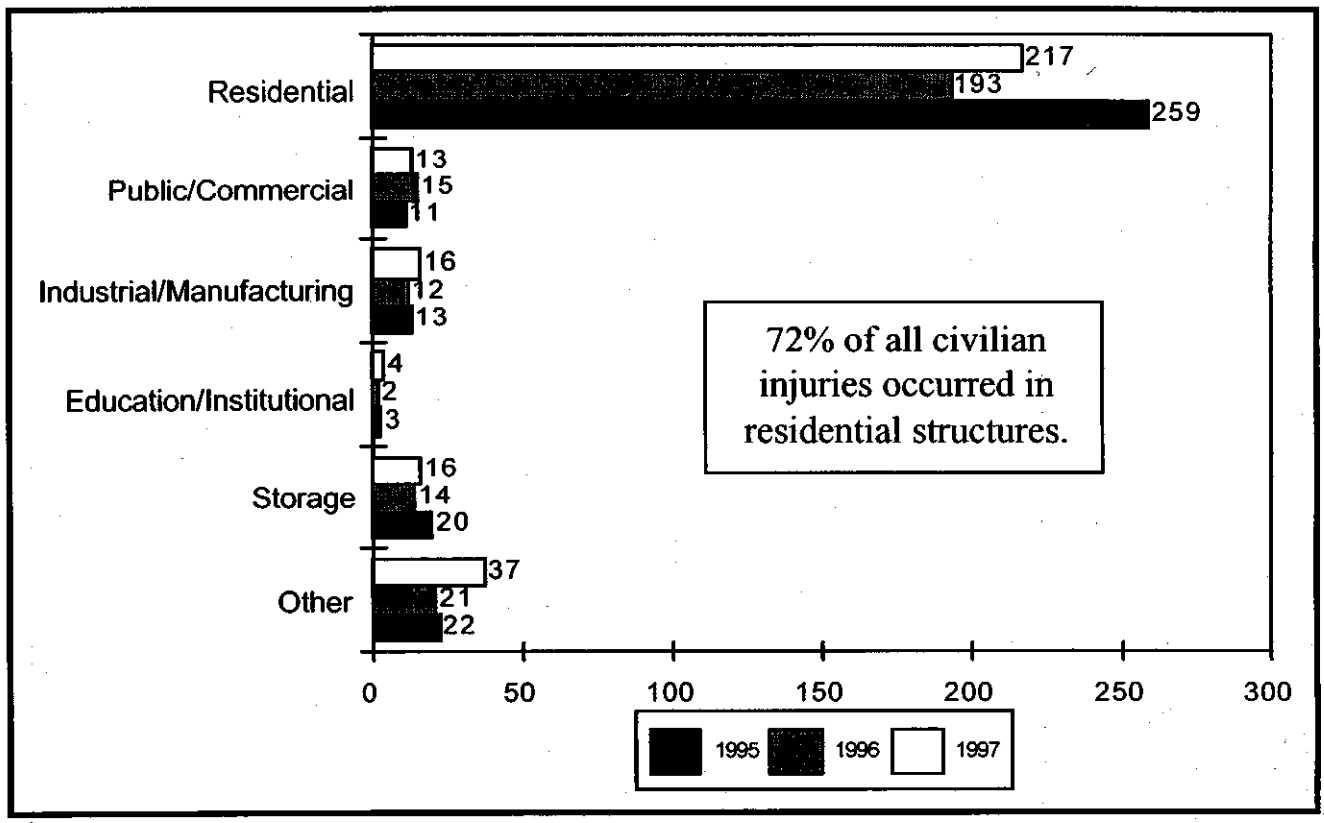
ACTIVITIES FOR ALL INJURIES

Activity	#	%
Fire Control	87	29%
Escape	56	18%
Sleeping	32	11%
Unable to act	16	5%
Rescue attempt	12	4%
Irrational act	12	4%
Other	33	11%
Unkn/Unrep	55	18%
	303	100%

ACTIVITIES FOR 20-39 YEAR OLDS

Activity	#	%
Fire Control	30	35%
Escape	18	21%
Sleeping	2	2%
Rescue attempt	7	8%
Unable to act	4	5%
Irrational act	2	2%
Other	10	12%
Unkn/Unrep	12	14%
	85	100%

CIVILIAN INJURIES BY PROPERTY TYPE



CIVILIAN INJURIES BY ACTIVITY AND STRUCTURE

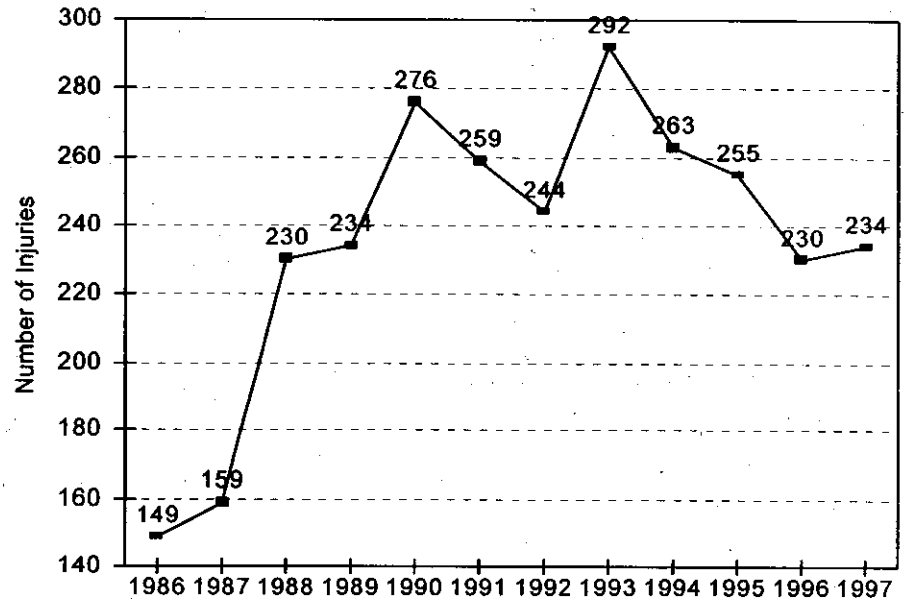
	Residential	Educ/Inst	Pub/Comm	Indus/Manu	Storage	Other
Fire Control	58	1	4	6	7	11
Escaping	45	--	1	5	--	5
Sleeping	31	1	--	--	--	--
Other	18	--	1	3	5	6
Rescue Attempt	11	--	--	--	--	1
Unable to Act	10	--	3	--	--	3
Irrational Action	5	2	1	1	2	1
Unknown	39	--	3	1	2	10
TOTAL	**217**	**4**	**13**	**16**	**16**	**37**

FIREFIGHTER INJURIES

In 1997, 234 Minnesota firefighters were injured while responding to, involved in, or returning from emergency situations. Of these 234 injuries, 180 were directly fire related. (This does not include injuries that occur during training or at the stations.) Sixty-four percent (64%) of these injuries occurred while firefighters were fighting residential structure fires.

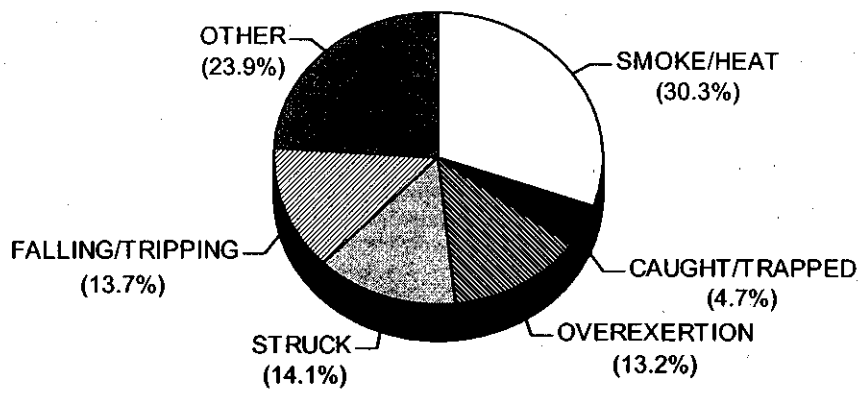
Of the 234 firefighter injuries, 180 (77%) occurred in the course of fighting fires.

TEN-YEAR HISTORY OF MINNESOTA FIREFIGHTER INJURIES



A breakdown of injuries shows that smoke/heat and other related injuries are the most frequent causes of firefighter injuries.

MINNESOTA FIREFIGHTER INJURIES: CAUSES



Exposure to smoke and heat accounted for 30.3% of the injuries. Falling or tripping also caused 13.7% of Minnesota firefighter injuries. The percentage for the smoke and heat category is slightly higher than the national average (26.1%), but the falling and tripping category is below the national (16%).

SUMMARY

Clearly, Minnesotans are most at risk from fire death and injury at home. Sixty-eight percent (68%) of the state's fire deaths and 72% of civilian injuries in 1997 occurred in residential occupancies.

The presence or absence of working smoke detectors in dwellings is a critical factor in fire fatalities. In 53% of the 34 fire fatalities occurring in dwellings, no smoke detectors were present, or they were present but not working, or it was not known whether detectors were present or functioning.

Eighteen Minnesotans aged 60 yrs. and above lost their lives in fires in 1997, indicating once again the vulnerability of the elderly population.

Careless smoking (32%), continues in 1997 as the leading cause of fire deaths. Alcohol or other drug use was an impairing factor in 30% of all fire deaths; these fires resulted in fifteen fatalities.

Almost three-fourths of all fire-related civilian injuries occurred in residential dwellings. Twenty-nine percent (29%) of all civilian fire injuries occurred during attempts to control the fire. **Sixty-four percent of firefighter injuries occurred in the course of battling residential fires.** These numbers accentuate the need for fire safety education in the home and consistent, ongoing training and updated equipment for the fire service.

Since 1984, fire deaths in greater Minnesota have outpaced those in the metro area at a rate of two to one. Statewide, fire deaths have decreased over the past twenty years, even as Minnesota's population has grown. Total fire deaths during the eighties reflected a 19% drop from the seventies. If current trends continue, the decade of the nineties will see a 24% decrease in fire deaths from the previous 10 years. However, many preventable tragedies continue to occur. **Prevention efforts, particularly those targeting children, the elderly, and other at-risk groups are essential to reducing the needless, tragic losses from fire.**

PARTICIPATION

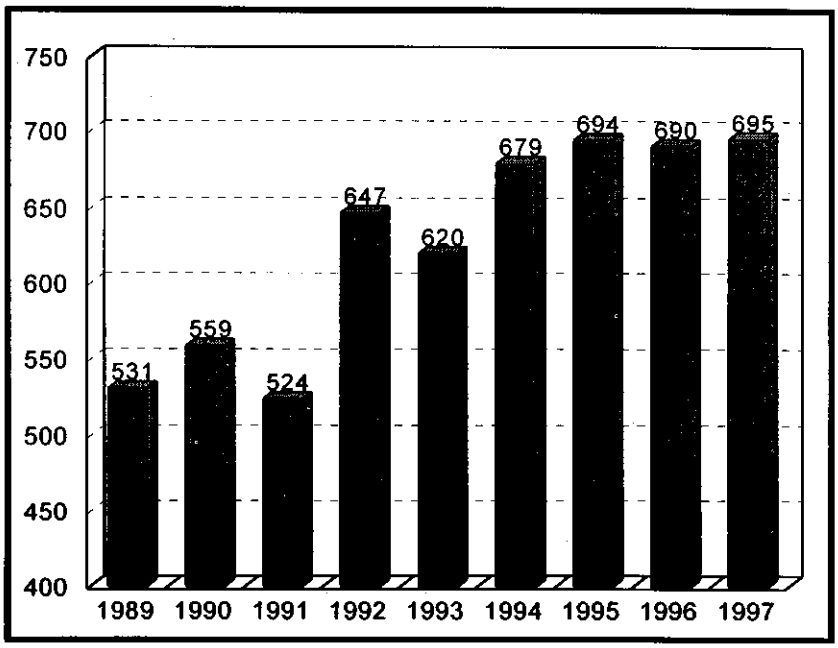
Fire information is requested on a weekly basis by the media, the public, the fire service and the fire protection community.

PARTICIPATION - Minnesota Fire Incident Reporting System

The Minnesota State Fire Marshal Division appreciates the efforts of the fire departments who submitted MFIRS reports in 1997. This information is essential if we are to understand and effectively combat the fire problem in Minnesota. It allows the Division to focus on real versus perceived fire problems. **Fire information is requested on a weekly basis by the media, the public, the fire service and the fire protection community. It is used to support legislative initiatives and to guide public fire safety education campaigns.** On the local level, this data can be used to support prevention efforts and to justify strategic fire department budget elements, staffing and equipment.

The reporting history of Minnesota fire departments from 1993 - 1997 is listed on the following pages. Departments are listed by county, with the total percent of those reporting in 1997 indicated. In 34 counties (over 1/3 of all counties), 100% of the fire departments reported to the MFIRS system.

FIRE DEPARTMENTS' MFIRS PARTICIPATION



Participation in MFIRS increased in 1997 with a gain of five reporting departments. The number of departments reporting electronically has also been increasing the last few years. The ease and convenience of electronic reporting makes it an increasingly popular choice by fire departments. If you would like information about how to set up the MFIRS system or how to computerize your reporting, call Ernie Scheidness or Nora Gierok at 651/215-0500.

AITKIN COUNTY

(6) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	AITKIN
*	*	*	*	*	HILL CITY
*	*	*	*	*	JACOBSON
	*	*	*	*	MCGRATH
*	*	*	*	*	MCGREGOR VOL
*	*	*	*	*	PALISADE VOL

ANOKA COUNTY

(15) - 100% Reporting

*	*	*	*	*	ANDOVER
*	*	*	*	*	ANOKA-CHAMPLIN
	*	*	*	*	BETHEL
*	*	*	*	*	CENTENNIAL
*	*	*	*	*	COLUMBIA HEIGHTS
*	*	*	*	*	COON RAPIDS
*	*	*	*	*	EAST BETHEL
*	*	*	*	*	FRIDLEY
*	*	*	*	*	HAM LAKE
*	*	*	*	*	LEXINGTON
*	*	*	*	*	LINWOOD VOL
*				*	OAK GROVE
*	*	*	*	*	RAMSEY
*	*	*	*	*	SPRING LAKE PARK
*	*	*	*	*	ST FRANCIS

BECKER COUNTY

89% Reporting

*	*	*	*	*	AUDUBON
*	*	*	*	*	CALLAWAY
*	*	*	*	*	CARSONVILLE VOL
*	*	*	*	*	DETROIT LAKES
*	*	*	*	*	FRAZEE
*	*	*	*	*	LAKE PARK
				*	OGEMA
*	*	*	*	*	WOLF LAKE
					White Earth Vol

BELTRAMI COUNTY

85% Reporting

93	94	95	96	97	
*	*	*	*	*	ALASKA
*	*	*	*	*	BEMIDJI
*	*	*	*	*	BLACKDUCK
*	*	*	*	*	KELLIHER VOL
*	*	*	*	*	RED LAKE
				*	Solway

BENTON COUNTY

67% Reporting

*	*	*	*	*	FOLEY
*	*	*	*	*	SAUK RAPIDS
					Rice

BIG STONE COUNTY

50% Reporting

		*	*	*	CLINTON
	*	*	*	*	GRACEVILLE
*	*	*	*	*	ORTONVILLE
	*				Beardsley
					Correll
*	*	*	*		Odessa

BLUE EARTH COUNTY

(12) - 100% Reporting

*	*	*	*	*	AMBOY
*	*	*	*	*	EAGLE LAKE VOL
*	*	*	*	*	GOOD THUNDER
*	*	*	*	*	LAKE CRYSTAL
*	*	*	*	*	MADISON LAKE
*	*	*	*	*	MANKATO
*	*	*	*	*	MAPLETON
		*	*	*	PEMBERTON
	*		*	*	SKYLINE
*	*	*	*	*	SOUTH BEND
*	*	*	*	*	ST CLAIR
*		*		*	VERNON CENTER

BROWN COUNTY

83% Reporting

93	94	95	96	97	
*	*	*	*	*	COMFREY
*	*	*	*	*	NEW ULM
	*	*	*	*	SLEEPY EYE
	*			*	SPRINGFIELD VOL
					Hanska

CARLTON COUNTY

93% Reporting

*	*	*	*	*	BARNUM VOL
*	*	*	*	*	BLACKHOOF
*	*	*	*	*	CARLTON VOL
*	*	*	*	*	CLOQUET
*	*	*	*	*	CROMWELL VOL
*	*	*	*	*	KETTLE RIVER
*	*	*	*	*	MAHTOWA
*	*	*		*	MOOSE LAKE
*	*	*	*	*	PERCH LAKE VOL
*	*	*	*	*	SCANLON VOL
*	*	*	*	*	THOMSON TWP
*	*	*	*	*	WRENSHALL
*	*	*		*	WRIGHT VOL
*	*	*	*		Holyoke Vol

CARVER COUNTY

(12) - 100% Reporting

*	*	*	*	*	CARVER
*	*	*	*	*	CHANHASSEN
*		*	*	*	CHASKA
*	*	*	*	*	COLOGNE
*	*	*	*	*	HAMBURG
*	*	*	*	*	MAYER
*	*	*	*	*	NEW GERMANY
*	*	*	*	*	NORWOOD
*	*	*	*	*	VICTORIA
*	*	*	*	*	WACONIA
*	*	*	*	*	WATERTOWN
*	*	*	*	*	YOUNG AMERICA

KEY

* Fire Departments submitting MFIRS each year.

CASS COUNTY

91% Reporting

93	94	95	96	97	
*	*	*	*	*	BACKUS VOL
*	*	*	*	*	CASS LAKE
*	*		*	*	CROOKED LAKE VOL
*		*	*	*	FEDERAL DAM
*	*	*	*	*	HACKENSACK AREA
*	*	*	*	*	LONGVILLE VOL
*	*	*	*	*	PILLAGER AREA
*	*	*	*	*	PINE RIVER
*	*	*	*	*	REMER
*	*	*	*	*	WALKER
					Bena

CHIPPEWA COUNTY

80% Reporting

*	*	*	*	*	CLARA CITY
*	*	*	*	*	MAYNARD
*	*	*	*	*	MONTEVIDEO
*	*	*	*	*	WATSON
	*	*	*		Milan

CHISAGO COUNTY

(11) - 100% Reporting

*	*	*		*	ALMELUND
*	*	*	*	*	CENTER CITY
		*	*	*	CHISAGO CITY
*	*	*	*	*	HARRIS
*	*	*	*	*	LINDSTROM
*	*	*	*	*	NORTH BRANCH
*	*	*	*	*	RUSH CITY
*	*	*		*	SHAFER
*		*	*	*	STACY
	*	*		*	TAYLORS FALLS
*	*	*	*	*	WYOMING

CLAY COUNTY

78% Reporting

*	*	*	*	*	BARNESVILLE
	*	*	*	*	DILWORTH
*	*	*	*	*	GLYNDON VOL
*	*	*	*	*	HITTERDAL
*	*	*	*	*	MOORHEAD
*	*	*	*	*	SABIN-ELMWOOD
*	*	*	*	*	ULEN
		*			Felton Comm
*	*	*			Hawley

CLEARWATER COUNTY

67% Reporting

93	94	95	96	97	
*	*	*	*	*	BAGLEY
*	*	*	*	*	CLEARBROOK
	*			*	GONVICK
	*	*		*	SHEVLIN
			*		Bear Creek
	*				Hangaard Twp

COOK COUNTY

75% Reporting

*	*	*	*	*	GUNFLINT TRAIL
*	*	*	*	*	HOVLAND
*			*	*	LUTSEN TWP VOL
*				*	MAPLE HILL
*	*			*	SCHROEDER
*	*	*	*	*	TOFTE
					Grand Marais Vol
					Grand Portage

COTTONWOOD COUNTY

(5) - 100% Reporting

			*	*	JEFFERS
*	*	*	*	*	MOUNTAIN LAKE
			*	*	STORDEN
*	*	*	*	*	WESTBROOK
*	*	*	*	*	WINDOM

CROW WING COUNTY

86% Reporting

*	*	*	*	*	BRAINERD
	*	*	*	*	CROSBY VOL
*	*	*	*	*	CROSSLAKE
	*	*	*	*	CUYUNA
*	*	*	*	*	DEERWOOD
	*	*	*	*	EMILY VOL
			*	*	FIFTY LAKES
	*	*	*	*	GARRISON
*	*	*	*	*	IDEAL TWP
	*	*	*	*	IRONTON
	*	*	*	*	MISSION TWP
*	*	*	*	*	PEQUOT LAKES
*	*	*	*		Nisswa
	*	*	*		Riverton

DAKOTA COUNTY

(14) - 100% Reporting

92	93	94	95	96	
*	*	*	*	*	APPLE VALLEY
*	*	*	*	*	BURNSVILLE
*	*	*	*	*	EAGAN
*	*	*	*	*	FARMINGTON
*	*	*	*	*	HAMPTON
*	*	*	*	*	HASTINGS
*	*	*	*	*	INVER GROVE HTS
*	*	*	*	*	LAKEVILLE
*	*	*	*	*	MENDOTA HEIGHTS
*	*	*	*	*	MIESVILLE VOL
		*	*	*	RANDOLPH
*	*	*	*	*	ROSEMOUNT
*	*	*	*	*	SOUTH ST PAUL
*	*	*	*	*	WEST ST PAUL

DODGE COUNTY

(6) - 100% Reporting

*	*	*	*	*	CLAREMONT
*	*	*	*	*	DODGE CENTER
*	*	*	*	*	HAYFIELD
*	*	*	*	*	KASSON
*	*	*	*	*	MANTORVILLE
*	*	*	*	*	WEST CONCORD

DOUGLAS COUNTY

91% Reporting

*	*	*	*	*	ALEXANDRIA
		*	*	*	BRANDON
*	*	*	*	*	CARLOS
*	*	*	*	*	EVANSVILLE
*	*	*	*	*	FORADA TWP
		*	*	*	KENSINGTON
*	*	*	*	*	LEAF VALLEY TWP
		*	*	*	MILLERVILLE
*	*	*	*	*	MILTONA
*	*	*	*	*	OSAKIS
		*	*	*	Garfield

FARIBAULT COUNTY

(11) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	BLUE EARTH
*	*	*	*	*	BRICELYN
*	*	*	*	*	DELAVAN VOL
*	*	*	*	*	EASTON VOL
	*	*	*	*	ELMORE
*	*	*	*	*	FROST
*	*	*	*	*	KIESTER
*	*		*	*	MINNESOTA LAKE
*	*	*	*	*	WALTERS VOL
*	*	*	*	*	WELLS
*	*	*	*	*	WINNEBAGO VOL

FILLMORE COUNTY

91% Reporting

	*	*	*	*	CHATFIELD
*	*	*	*	*	FOUNTAIN
*	*	*	*	*	HARMONY
*	*	*	*	*	LANESBORO
*	*	*	*	*	MABEL VOL
*	*	*	*	*	OSTRANDER
*	*	*	*	*	PRESTON
*	*	*	*	*	RUSHFORD
*	*	*	*	*	SPRING VALLEY
	*	*	*	*	WYKOFF
			*		Canton

FREEBORN COUNTY

69% Reporting

*	*	*	*	*	ALBERT LEA
*	*	*	*	*	ALBERT LEA TWP
		*	*	*	ALDEN
		*	*	*	EMMONS
	*	*	*	*	FREEBORN
				*	GLENVILLE
*	*	*	*	*	HARTLAND
	*			*	HAYWARD
*	*	*	*	*	LONDON
*	*	*	*	*	MANCHESTER
	*	*	*	*	MYRTLE
					Clarks Grove Vol
	*				Conger
*		*			Geneva
*	*	*			Hollandale
			*		Twin Lakes

GOODHUE COUNTY

75% Reporting

93	94	95	96	97	
*	*	*	*	*	CANNON FALLS
*		*	*	*	DENNISON
*	*	*	*	*	GOODHUE
*	*	*	*	*	PINE ISLAND
*	*	*	*	*	RED WING
*	*		*	*	ZUMBROTA
					Kenyon
*					Wanamingo

GRANT COUNTY

(6) - 100% Reporting

		*	*	*	ASHBY
*	*	*	*	*	BARRETT
*	*	*	*	*	ELBOW LAKE
*	*	*	*	*	HERMAN VOL
*	*	*	*	*	HOFFMAN
*	*	*	*	*	WENDELL

HENNEPIN COUNTY

(32) - 100% Reporting

*	*	*	*	*	BLOOMINGTON
*	*	*	*	*	BROOKLYN CENTER
*	*	*	*	*	BROOKLYN PARK
*	*	*	*	*	CRYSTAL
*	*	*	*	*	DAYTON
*	*	*	*	*	EDEN PRAIRIE
*	*	*	*	*	EDINA
*	*	*	*	*	EXCELSIOR
*	*	*	*	*	FORT SNELLING
*	*	*	*	*	GOLDEN VALLEY
*	*	*	*	*	HAMEL
*	*	*	*	*	HANOVER
*	*	*	*	*	HOPKINS
*		*	*	*	LONG LAKE
*	*	*	*	*	LORETTO VOL
*	*	*	*	*	MAPLE GROVE
*	*	*	*	*	MAPLE PLAIN
*		*	*	*	MEDICINE LAKE
*	*	*	*	*	MINNEAPOLIS
*	*	*	*	*	MINNETONKA
*	*	*	*	*	MOUND
*	*	*	*	*	MPLS/ST PAUL INT'L AIRPORT
*	*	*	*	*	NEW HOPE
*	*	*	*	*	OSSEO
*	*	*	*	*	PLYMOUTH
*	*	*	*	*	RICHFIELD
*	*	*	*	*	ROBBINSDALE
*	*	*	*	*	ROGERS

93	94	95	96	97	
*	*	*	*	*	ST ANTHONY
*	*	*	*	*	ST BONIFACIUS
*	*	*	*	*	ST LOUIS PARK
*	*	*	*	*	WAYZATA

HOUSTON COUNTY

86% Reporting

*	*	*	*	*	BROWNSVILLE
*	*	*	*	*	CALEDONIA
			*	*	HOKAH VOL
*	*	*	*	*	HOUSTON
*	*	*	*	*	LACRESCENT
*	*	*	*	*	SPRING GROVE
					Eitzen

HUBBARD COUNTY

60% Reporting

*		*	*	*	EAST HUBBARD CO
		*	*	*	LAKE GEORGE
*	*	*	*	*	PARK RAPIDS
*	*	*	*		LaPorte/Lakeport
					Nevis

ISANTI COUNTY

(4) - 100% Reporting

*	*	*	*	*	BRAHAM
*	*	*	*	*	CAMBRIDGE
*	*	*	*	*	DALBO
*	*	*	*	*	ISANTI VOL

ITASCA COUNTY

88% Reporting

*	*	*	*	*	BALSAM VOL
*	*	*	*	*	BOVEY
*	*	*	*	*	CALUMET
*	*	*	*	*	COHASSET
*	*	*	*	*	COLERAINE
*	*	*	*	*	DEER RIVER
*	*	*	*	*	GOODLAND
*	*	*	*	*	GRAND RAPIDS
	*	*	*		KEEWATIN VOL
*	*	*	*	*	MARBLE
*	*	*	*	*	NASHWAUK
				*	SQUAW LAKE
*	*	*	*	*	TACONITE
*	*	*	*	*	WARBA
	*	*	*		Bearville Twp
			*		Bigfork Vol

JACKSON COUNTY
80% Reporting

93	94	95	96	97	
*	*	*	*	*	ALPHA
*	*	*	*	*	HERON LAKE VOL
*	*	*	*	*	JACKSON
*	*	*	*	*	LAKEFIELD
					Okabena

KANABEC COUNTY
(3) - 100% Reporting

	*	*	*	*	GRASSTON
*	*	*	*	*	MORA
*	*	*	*	*	OGILVIE

KANDIYOHI COUNTY
64% Reporting

*	*	*	*	*	ATWATER
		*	*	*	BLOMKEST
*	*	*	*	*	NEW LONDON
*	*	*	*	*	PRINSBURG
	*	*	*	*	SPICER
		*	*	*	SUNBURG
*	*	*	*	*	WILLMAR
*	*	*	*		Kandiyohi
*	*	*	*		Lake Lillian
					Pennock
	*	*	*		Raymond

KITTSON COUNTY
80% Reporting

*	*	*	*	*	HALLOCK
	*	*	*	*	KARLSTAD VOL
*	*	*	*	*	LAKE BRONSON
*	*	*	*	*	LANCASTER
	*	*	*		Kennedy

KOOCHICHING COUNTY
83% Reporting

*	*	*	*	*	BIG FALLS VOL
	*		*	*	BIRCHDALE RURAL
*	*	*	*	*	INTERNATIONAL FLS
*	*	*	*	*	LITTLEFORK
		*	*	*	LOMAN RURAL
*			*		Northome

LAC QUI PARLE COUNTY
57% Reporting

93	94	95	96	97	
		*	*	*	BELLINGHAM
*	*	*	*	*	DAWSON
*	*	*	*	*	MADISON
*	*	*		*	NASSAU
	*				Boyd
	*		*		Louisburg
*					Marietta

LAKE COUNTY
(4) - 100% Reporting

*	*	*	*	*	BEAVER BAY VOL
*	*	*	*	*	FINLAND
*	*	*	*	*	SILVER BAY
*	*	*	*	*	TWO HARBORS

LAKE OF THE WOODS COUNTY
(2) - 100% Reporting

*	*	*	*	*	BAUDETTE
	*	*	*	*	WILLIAMS

LE SUEUR COUNTY
(8) - 100% Reporting

*	*	*	*	*	CLEVELAND
*	*	*	*	*	ELYSIAN
*	*	*	*	*	KASOTA
*	*	*	*	*	KILKENNY
*	*	*	*	*	LE CENTER
*	*	*	*	*	LESUEUR
*	*	*	*	*	MONTGOMERY
*	*	*	*	*	WATERVILLE

LINCOLN COUNTY
80% Reporting

	*	*		*	ARCO
*	*	*	*	*	IVANHOE
	*	*	*	*	LAKE BENTON
*	*	*	*	*	TYLER
	*				Hendricks

LYON COUNTY
80% Reporting

93	94	95	96	97	
*	*	*	*	*	BALATON
*	*	*	*	*	GARVIN
	*	*	*	*	GHENT
*	*	*	*	*	LYND
*	*	*	*	*	MARSHALL
*	*	*	*	*	MINNEOTA
*	*		*	*	TAUNTON
*	*	*	*	*	TRACY
					Cottonwood
		*			Russell

MC LEOD COUNTY
88% Reporting

*	*	*	*	*	BROWNTON VOL
*	*	*	*	*	GLENCOE
*	*	*	*	*	LESTER PRAIRIE
*	*	*	*	*	PLATO
*	*	*	*	*	SILVER LAKE
	*	*	*	*	STEWART
*	*	*	*	*	WINSTED
					Hutchinson

MAHNOMEN COUNTY
50% Reporting

*	*	*	*	*	ELBOW-TULABY LKS
*	*	*	*	*	MAHNOMEN
*	*	*	*		Twin Lakes Vol
					Waubun

MARSHALL COUNTY
63% Reporting

*	*	*	*	*	ALVARADO VOL
*	*	*	*	*	ARGYLE
	*	*	*	*	NEWFOLDEN
	*	*	*	*	STEPHEN
*	*	*	*	*	WARREN
	*				Grygla
*			*		Middle River
*	*	*	*		Oslo

MARTIN COUNTY

78% Reporting

93	94	95	96	97	
*	*	*		*	CEYLON
*	*	*	*	*	DUNNELL
*	*	*	*	*	FAIRMONT
*	*	*	*	*	SHERBURN
*	*	*		*	TRIMONT
	*	*	*	*	TRUMAN
				*	WELCOME
*	*	*	*		Granada
*	*	*	*		Northrop

MEEKER COUNTY

(6) - 100% Reporting

			*	*	COSMOS
*	*	*	*	*	DASSEL
*	*	*	*	*	EDEN VALLEY
*	*	*	*	*	GROVE CITY
*	*	*	*	*	LITCHFIELD
*	*	*	*	*	WATKINS

MILLE LACS COUNTY

(5) - 100% Reporting

*	*	*	*	*	FORESTON
*	*	*	*	*	ISLE
*	*	*	*	*	MILACA
	*	*	*	*	ONAMIA
*	*	*	*	*	PRINCETON

MORRISON COUNTY

90% Reporting

*	*	*	*	*	BOWLUS
*				*	FLENSBURG
*	*	*	*	*	LITTLE FALLS
*	*	*	*	*	MOTLEY
*	*	*	*	*	PIERZ
*	*	*	*	*	RANDALL
			*	*	ROYALTON
*	*	*	*	*	SCANDIA VALLEY
*	*		*	*	SWANVILLE
	*				Upsala

MOWER COUNTY

67% Reporting

93	94	95	96	97	
*	*	*	*	*	ADAMS VOL
*	*	*	*	*	AUSTIN
*	*	*	*	*	BROWNSDALE
				*	DEXTER VOL
				*	LYLE
*	*	*	*	*	ROSE CREEK AREA
*	*	*	*		Grand Meadow
*	*				Le Roy
	*				Mapleview

MURRAY COUNTY

88% Reporting

	*	*	*	*	CHANDLER
*	*	*	*	*	CURRIE VOL
	*	*	*	*	DOVRAY
*	*	*	*	*	FULDA
		*	*	*	IONA
	*	*	*	*	LAKE WILSON
*	*	*	*	*	SLAYTON
*	*				Avoca

NICOLLET COUNTY

(5) - 100% Reporting

*	*	*	*	*	COURTLAND
*	*	*	*	*	LAFAYETTE
*	*	*	*	*	NICOLLET
*	*	*	*	*	NORTH MANKATO
*	*	*	*	*	ST PETER

NOBLES COUNTY

90% Reporting

*	*	*	*	*	ADRIAN
*		*		*	BIGELOW
*	*	*	*	*	BREWSTER
*	*	*	*	*	DUNDEE
*	*	*	*	*	ELLSWORTH
	*	*		*	LISMORE
	*	*	*	*	RUSHMORE
*	*	*		*	WILMONT
*	*	*	*	*	WORTHINGTON
*	*	*	*		Round Lake

NORMAN COUNTY

(8) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	ADA
*	*		*	*	BORUP
*	*	*	*	*	GARY VOL
*	*	*	*	*	HALSTAD
	*			*	HENDRUM
	*		*	*	PERLEY-LEE TWP
			*	*	SHELLY
*	*	*	*	*	TWIN VALLEY

OLMSTED COUNTY

(8) - 100% Reporting

*	*	*	*	*	BYRON
*	*	*	*	*	DOVER
	*	*	*	*	EYOTA VOL
*	*	*	*	*	ORONOCO
*	*	*	*	*	ROCHESTER
*	*	*	*	*	ROCHESTER AIRPT
*	*	*	*	*	ROCHESTER RURAL
*	*	*	*	*	STEWARTVILLE

OTTERTAIL COUNTY

76% Reporting

		*	*	*	CLITHERALL
*	*	*	*	*	DALTON
*	*	*	*	*	DEER CREEK
*	*	*	*	*	ELIZABETH
*	*	*	*	*	FERGUS FALLS
*	*	*	*	*	HENNING VOL
*	*	*	*	*	NEW YORK MILLS
*	*	*	*	*	OTTERTAIL
*	*	*		*	PARKERS PRAIRIE
*		*		*	PELICAN RAPIDS VL
*	*	*	*	*	UNDERWOOD
*	*	*	*	*	VERGAS
				*	VINING
*	*				Battle Lake
*	*	*	*		Bluffton
		*			Dent
		*	*		Perham

PENNINGTON COUNTY

(3) - 100% Reporting

*	*	*	*	*	GOODRIDGE AREA
*	*	*	*	*	ST HILAIRE
*	*	*	*	*	THIEF RIVER FALLS

PINE COUNTY

80% Reporting

93	94	95	96	97	
	*		*		ASKOV VOL
*	*	*	*	*	BROOK PARK
*	*	*	*	*	BRUNO
*	*	*	*	*	FINLAYSON
*	*	*	*	*	HINCKLEY VOL
*	*	*	*	*	SANDSTONE VOL
*	*	*	*	*	STURGEON LAKE
*	*	*	*	*	WILLOW RIVER
*					Kerrick
	*				Pine City

PIPESTONE COUNTY

(6) - 100% Reporting

*	*	*	*	*	EDGERTON
*	*	*	*	*	HOLLAND
*	*	*	*	*	JASPER
*	*	*	*	*	PIPESTONE
		*	*	*	RUTHTON
*	*	*	*	*	WOODSTOCK

POLK COUNTY

92% Reporting

		*	*	*	BELTRAMI
			*		CLIMAX
*	*	*	*	*	CROOKSTON
*	*	*	*	*	EAST GRAND FORKS
*	*	*	*	*	ERSKINE
*	*	*	*	*	FERTILE
	*	*	*	*	FISHER
*	*	*	*	*	FOSSTON
	*	*	*	*	MCINTOSH
	*	*	*	*	MENTOR
		*		*	NIELSVILLE
					Winger

POPE COUNTY

83% Reporting

*	*	*	*	*	GLENWOOD
*	*	*	*	*	LOWRY
*	*	*		*	SEDAN
*	*	*	*	*	STARBUCK
*		*	*	*	VILLARD VOL
					Cyrus

RAMSEY COUNTY

(11) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	FALCON HEIGHTS
*	*	*	*	*	FIRE MARSHAL
					CENTRAL OFFICE
*	*	*	*	*	LAKE JOHANNA
*	*	*	*	*	LITTLE CANADA
				*	MAPLEWOOD
*	*	*	*	*	NEW BRIGHTON
*	*	*	*	*	NORTH ST PAUL
*	*	*	*	*	ROSEVILLE
*	*	*	*	*	ST PAUL
*	*	*	*	*	VADNAIS HEIGHTS
*	*	*	*	*	WHITE BEAR LAKE

RED LAKE COUNTY

0% Reporting

*	*	*	*	Oklee
				Plummer
			*	Red Lake Falls

REDWOOD COUNTY

(14) - 100% Reporting

*	*	*	*	*	BELVIEW
*	*	*	*	*	CLEMENTS
*	*	*		*	LAMBERTON
*	*	*	*	*	LUCAN
	*	*	*	*	MILROY
*	*	*	*	*	MORGAN
*		*	*	*	REDWOOD FALLS
	*	*	*	*	REVERE
*	*	*	*	*	SANBORN
*	*		*	*	SEAFORTH
*	*	*	*	*	VESTA
	*	*	*	*	WABASSO VOL
*	*	*	*	*	WALNUT GROVE
*	*	*	*	*	WANDA

RENVILLE COUNTY

90% Reporting

*	*	*	*	*	BIRD ISLAND
*		*	*	*	BUFFALO LAKE
*	*	*	*	*	FAIRFAX
	*	*		*	FRANKLIN
*	*	*	*	*	HECTOR
		*	*	*	MORTON
*	*	*	*	*	OLIVIA
*	*	*	*	*	RENVILLE
			*	*	SACRED HEART
					Danube

RICE COUNTY

(5) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	FARIBAULT
	*	*	*	*	LONSDALE
*	*	*	*	*	MORRISTOWN
*	*	*	*	*	NERSTRAND VOL
*	*	*	*	*	NORTHFIELD

ROCK COUNTY

50% Reporting

*	*	*	*	*	BEAVER CREEK
*	*	*	*	*	HILLS
*	*	*	*	*	LUVERNE
*	*	*			Hardwick
	*		*		Kenneth Vol
		*	*		Magnolia

ROSEAU COUNTY

(4) - 100% Reporting

*	*	*	*	*	BADGER
*	*	*	*	*	GREENBUSH
*	*	*	*	*	ROSEAU
*	*	*	*	*	WARROAD

ST LOUIS COUNTY

92% Reporting

*	*	*	*	*	ALBORN
		*	*	*	ARROWHEAD
*	*	*	*	*	AURORA
*	*	*	*	*	BABBITT VOL
*	*	*	*	*	BIWABIK VOL
	*	*	*	*	BIWABIK TWP VOL
*	*	*	*	*	BREITUNG
*	*	*	*	*	BREVATOR
*	*	*		*	BRIMSON AREA VOL
*	*	*	*	*	BUHL VOL
*	*			*	BUYCK COMM VOL
	*		*	*	CANOSIA VOL
*	*	*		*	CENTRAL LKS VOL
*	*	*	*	*	CHERRY TWP
*	*	*	*	*	CHISHOLM
		*	*	*	CLIFTON TWP
*	*	*	*	*	CLINTON VOL
*	*	*	*	*	COLVIN TWP
*	*	*	*	*	COOK
*	*	*	*	*	COTTON VOL
	*	*		*	CRANE LAKE
	*	*	*	*	CULVER

93	94	95	96	97	
*	*	*		*	DULUTH
*	*	*	*	*	EAGLES NEST
*	*	*	*	*	ELLSBURG
*	*	*	*	*	ELMER
*	*	*	*	*	ELY
*	*	*	*	*	EMBARRASS VOL
*	*	*	*	*	EVELETH
*	*	*	*	*	FAYAL
*	*	*	*	*	FLOODWOOD
*	*	*	*	*	FREDENBERG
*	*	*	*	*	FRENCH VOL
*		*	*	*	GNESEN VOL
	*	*	*	*	GRAND LAKE VOL
				*	GREANEY-RAUCH-SILVERDALE
*	*	*	*	*	GREENWOOD TWP
	*	*	*	*	HERMANTOWN VOL
*	*	*	*	*	HIBBING
*	*	*	*	*	HOYT LAKES
*	*		*	*	INDUSTRIAL VOL
*	*	*	*	*	KABETOGAMA
	*	*		*	KELSEY VOL
*	*	*	*	*	KINNEY-GRT SCOTT
*	*	*	*	*	LAKEWOOD TWP
*	*	*	*	*	MAKINEN
*	*	*	*	*	MC DAVITT
	*	*	*	*	MC KINLEY VOL
*	*	*	*	*	MEADOWLNDS AREA
			*	*	MORSE VOL
*	*	*	*	*	MOUNTAIN IRON
			*	*	NORMANNA VOL
*	*	*	*	*	NORTH STAR TWP
*	*	*	*	*	NORTHLAND
*	*	*	*	*	ORR VOL
*	*	*	*	*	PALO TWP
		*		*	PEQUAYWAN LAKE
		*	*	*	PIKE-SANDY BRITT
*	*	*	*	*	PROCTOR
*	*	*	*	*	RICE LAKE VOL
*	*	*	*	*	SILICA AREA
*	*	*	*	*	SOLWAY RURAL
*	*	*		*	STURGEON TWP
*		*	*	*	TOIVOLA TWP
*	*	*	*	*	TOWER
*	*	*	*	*	VERMILLION LAKE
*	*	*	*	*	VIRGINIA
					Bois Forte
*	*				Evergreen
			*		Gilbert
*	*	*	*		Lakeland Vol
					Nett Lake

SCOTT COUNTY

(7) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	BELLE PLAINE
*	*	*	*	*	JORDAN
*	*	*	*	*	NEW MARKET
*	*	*	*	*	NEW PRAGUE
*	*	*	*	*	PRIOR LAKE
*	*	*	*	*	SAVAGE
*	*	*	*	*	SHAKOPEE

SHERBURNE COUNTY

(5) - 100% Reporting

		*	*	*	BECKER VOL
*	*	*	*	*	BIG LAKE
*	*	*	*	*	CLEAR LAKE
*	*	*	*	*	ELK RIVER
*	*	*	*	*	ZIMMERMAN

SIBLEY COUNTY

(7) - 100% Reporting

*	*			*	ARLINGTON
*	*	*	*	*	GAYLORD
*	*	*	*	*	GIBBON
*	*	*	*	*	GREEN ISLE
*	*	*	*	*	HENDERSON
*	*	*	*	*	NEW AUBURN
*	*	*	*	*	WINTHROP VOL

STEARNS COUNTY

(23) - 100% Reporting

*	*	*	*	*	ALBANY
*	*	*	*	*	AVON
*		*	*	*	BELGRADE
*	*	*	*	*	BROOTEN
*	*	*	*	*	COLD SPRING
		*	*	*	ELROSA
*	*	*	*	*	FREEPORT
*	*	*	*	*	HOLDINGFORD
*	*	*	*	*	KIMBALL
*	*	*	*	*	LAKE HENRY
*	*	*	*	*	MELROSE
*	*	*	*	*	NEW MUNICH
*	*	*	*	*	PAYNESVILLE
*	*	*	*	*	RICHMOND
*	*	*	*	*	ROCKVILLE
*	*	*	*	*	SARTELL-LESAUK
*	*	*	*	*	SAUK CENTRE
*	*	*	*	*	ST CLOUD
*	*	*	*	*	ST JOHN'S UNIV

93	94	95	96	97	
*	*	*	*	*	ST JOSEPH VOL
*	*	*	*	*	ST MARTIN
*	*	*	*	*	ST STEPHEN
*	*	*	*	*	WAITE PARK

STEELE COUNTY

75% Reporting

*	*	*	*	*	BLOOMING PRAIRIE
*	*	*	*	*	MEDFORD VOL
*	*	*	*	*	OWATONNA
*	*	*			Ellendale Vol

STEVENS COUNTY

(4) - 100% Reporting

*	*	*	*	*	CHOKIO
*	*	*	*	*	DONNELLY
*	*	*	*	*	HANCOCK
*	*	*	*	*	MORRIS

SWIFT COUNTY

75% Reporting

*	*	*	*	*	APPLETON
*	*	*	*	*	BENSON
*	*	*	*	*	CLONTARF
*	*	*	*	*	DANVERS
	*	*	*	*	HOLLOWAY
	*	*	*	*	KERKHOVEN
					Degraff
					Murdock

TODD COUNTY

88% Reporting

		*	*	*	BERTHA
*	*	*	*	*	BROWERVILLE
*		*	*	*	CLARISSA
*	*	*	*	*	GREY EAGLE
*	*	*	*	*	HEWITT
*	*	*	*	*	LONG PRAIRIE
*	*	*	*	*	STAPLES
*	*	*			Eagle Bend

TRAVERSE COUNTY

50% Reporting

*	*	*	*	*	DUMONT
*		*	*	*	WHEATON
					Browns Valley
					Tintah

WABASHA COUNTY

(7) - 100% Reporting

93	94	95	96	97	
*	*	*	*	*	ELGIN
*	*	*	*	*	KELLOGG
*	*	*	*	*	LAKE CITY
	*	*	*	*	MAZEPPA VOL
*	*	*	*	*	PLAINVIEW
*	*	*	*	*	WABASHA
*	*	*	*	*	ZUMBRO FALLS

WADENA COUNTY

50% Reporting

*	*	*	*	*	VERNDALE
*	*	*	*	*	WADENA
					Menagha
*					Sebeka

WASECA COUNTY

75% Reporting

*	*	*	*	*	JANESVILLE
				*	WALDORF
*	*	*	*	*	WASECA
*	*	*	*		New Richland

WASHINGTON COUNTY

(14) - 100% Reporting

*	*	*		*	BAYPORT
*	*	*	*	*	COTTAGE GROVE
*	*	*	*	*	FOREST LAKE
*	*	*	*	*	HUGO
*	*	*	*	*	LAKE ELMO
*	*	*	*	*	LWR ST CROIX VLY
*	*	*	*	*	MAHTOMEDI
*	*	*	*	*	MARINE ON ST CROIX
*	*	*	*	*	NEW SCANDIA
*	*	*	*	*	NEWPORT
*	*	*	*	*	OAKDALE
*	*	*	*	*	ST PAUL PARK VOL
*	*	*	*	*	STILLWATER
*	*	*	*	*	WOODBURY

WATONWAN COUNTY

63% Reporting

93	94	95	96	97	
*	*	*	*	*	DARFUR
		*	*	*	LEWISVILLE
*	*	*	*	*	MADELIA
*	*	*	*	*	ODIN
*				*	ST JAMES
					Butterfield
	*				LaSalle
			*		Ormsby

WILKIN COUNTY

50% Reporting

				*	FOXHOME
*	*	*	*	*	ROTHSAY
*	*	*	*	*	WOLVERTON
*	*	*	*		Breckenridge
	*	*	*		Campbell
			*		Kent-Abercrombie

WINONA COUNTY

85% Reporting

*	*	*	*	*	ALTURA
*	*	*	*	*	DAKOTA
*	*	*	*	*	GOODVIEW
*	*	*	*	*	LEWISTON
*	*	*	*	*	MINNESOTA CITY
		*	*	*	NODINE VOL
			*	*	PICKWICK AREA
*	*	*	*	*	ROLLINGSTONE
	*	*	*	*	ST CHARLES
		*	*	*	WILSON VOL
*	*	*	*	*	WINONA
*		*	*		Ridgeway Comm
*	*	*			Hidden Valley

WRIGHT COUNTY

86% Reporting

93	94	95	96	97	
*	*	*	*	*	ANNANDALE
*	*		*	*	BUFFALO
*	*	*	*	*	CLEARWATER
*	*	*	*	*	COKATO
*	*	*	*	*	DELANO VOL
	*	*	*	*	HOWARD LAKE
*	*	*	*	*	MAPLE LAKE
*	*		*	*	MONTICELLO
*	*	*	*	*	MONTROSE
*	*	*	*	*	ROCKFORD
*	*	*	*	*	SOUTH HAVEN
*	*	*	*	*	WAVERLY
*	*	*			Albertville
*	*				St Michael

YELLOW MEDICINE COUNTY

88% Reporting

	*	*	*	*	CANBY
*	*	*		*	CLARKFIELD
*	*	*	*	*	ECHO
*	*		*	*	GRANITE FALLS
*	*	*	*	*	HANLEY FALLS
*	*	*	*	*	PORTER
				*	ST LEO
*	*	*	*		Woodlake

Fifty-three fire departments began participating in 1997.

We welcome new and returning departments reporting in 1997:

Almelund
Arco
Arlington
Askov Vol
Bayport
Bigelow
Brimson Area Vol
Buyck Comm Vol
Central Lakes Vol
Ceylon
Clarkfield
Climax
Crane Lake
Dexter Vol
Duluth
Flensburg
Foxhome
Franklin
Glenville
Gonvick
Greaney-Rauch-Silverdale
Hayward
Hendrum
Kelsey Vol
Lamberton
Lismore
Lyle
Maple Hill
Maplewood
Moose Lake
Nassau
Nielsville
Oak Grove
Ogema
Parkers Prairie
Pelican Rapids Vol
Pequaywan Lake
Schroeder
Sedan
Shafer
Shevlin
Springfield Vol
Squaw Lake
St. James
St. Leo
Sturgeon Twp
Taylors Falls
Trimont
Vernon Center
Vining
Waldorf
Welcome
Wilmont
Wright Vol

We lost the following departments in 1997 and encourage them to report next year.

Bear Creek
Bearville Twp
Bigfork Vol
Bluffton
Breckenridge
Campbell
Canton
Garfield
Gilbert
Granada
Grand Meadow
Holyoke Vol
Kandiyohi
Kennedy
Kenneth Vol
Kent-Abercrombie
La Porte/Lakeport
Lake Lillian
Lakeland Vol
Louisburg
Magnolia
Middle River
Milan
New Richland
Nisswa
Northome
Northrop
Odessa
Oklee
Ormsby
Oslo
Perham
Raymond
Ridgeway Comm
Riverton
Round Lake
Russell
Solway
Twin Lakes
Twin Lakes Vol
Woodlake

FIRE DEPARTMENT RUNS, DOLLAR LOSSES, AND FIRE DEATHS PER COUNTY IN ORDER OF TOTAL DOLLAR LOSS

In some instances, the protection district of the reporting fire department goes beyond its county boundary, but the incident will still be recorded within the department's home county. (*Fire rate = one fire for number of persons indicated. For example, in Hennepin County in 1997 there was one fire for every 229 people.)*

County	Population	Total Fire Runs	Total Other Runs	Total Co. Dollar Loss	Fire Rate	Average Dollar Loss/Fire	Fire Deaths
*Hennepin	1,032,431	4,592	49,023	$20,141,027	229	$4,477	10
*Dakota	275,227	1,125	7,367	$15,259,429	255	$14,129	1
St. Louis	198,213	1,291	10,373	$11,521,590	174	$10,089	4
*Ramsey	485,765	2,166	16,481	$9,077,501	226	$4,230	3
*Anoka	243,641	1,252	11,647	$7,657,043	201	$6,307	
Polk	32,498	170	1,054	$6,756,752	207	$43,037	
Benton	30,185	126	174	$5,575,825	254	$46,856	
*Washington	145,896	562	6,093	$4,767,679	283	$9,240	1
*Stearns	118,791	679	1,950	$2,677,704	189	$4,264	2
Cass	21,791	204	173	$2,469,450	110	$12,409	2
*Scott	57,846	284	976	$2,222,650	231	$8,891	2
Ottertail	50,714	192	140	$2,131,250	283	$11,906	1
*LeSueur	23,239	88	199	$1,840,500	290	$23,006	
Crow Wing	44,249	261	501	$1,772,165	183	$7,323	
Steele	30,729	141	181	$1,741,541	242	$13,713	
Wright	68,710	349	1,342	$1,531,551	211	$4,698	
*Carver	47,915	179	1,960	$1,524,708	305	$9,712	
Itasca	40,863	281	602	$1,385,070	168	$5,700	
Jackson	11,677	48	79	$1,331,215	272	$30,958	
Brown	26,984	73	81	$1,274,284	391	$18,468	1
*Olmsted	106,470	367	1,959	$1,240,858	295	$3,437	1
*Rice	49,183	158	304	$1,238,741	335	$8,427	2
*Faribault	16,937	97	78	$1,233,709	212	$15,421	
*Meeker	20,846	146	272	$1,222,280	165	$9,701	
*Blue Earth	54,044	272	1,964	$1,188,145	205	$4,518	
Murray	9,660	47	38	$1,169,050	242	$29,226	
Fillmore	20,777	121	89	$1,119,850	194	$10,466	
Carlton	29,259	253	908	$1,114,330	141	$5,357	1
Morrison	29,604	101	105	$1,063,200	305	$10,961	1
Goodhue	40,690	175	790	$1,057,257	237	$6,147	
Big Stone	6,285	19	15	$1,031,400	349	$57,300	
*Sherburne	41,945	259	702	$949,213	178	$4,039	1
Mower	37,385	103	230	$914,660	374	$9,147	1
*Pennington	13,306	77	143	$903,325	177	$12,044	
Beltrami	34,384	191	645	$898,100	183	$4,777	4
Kandiyohi	38,761	174	363	$898,064	247	$5,720	
Winona	47,828	198	1,350	$892,480	252	$4,697	1
Becker	27,881	222	192	$878,570	158	$4,992	1
Watonwan	11,682	36	64	$846,875	377	$27,319	
Todd	23,363	146	95	$839,050	167	$5,993	
Pine	21,264	139	80	$774,850	197	$7,175	
*Mille Lacs	18,670	261	303	$737,589	83	$3,264	
Nobles	20,098	85	112	$698,640	248	$8,625	
Douglas	28,674	151	346	$684,445	202	$4,820	
*Dodge	15,731	62	60	$683,119	262	$11,385	1

County	Population	Total Fire Runs	Total Other Runs	Total Co. Dollar Loss	Fire Rate	Average Dollar Loss/Fire	Fire Deaths
*Wabasha	19,744	128	242	$673,675	173	$5,909	
Pope	10,745	67	78	$671,300	189	$11,777	
*Roseau	15,026	51	42	$629,600	301	$12,592	1
McLeod	32,030	69	273	$617,850	517	$9,965	1
*Chisago	30,521	279	238	$614,463	121	$2,438	1
Freeborn	33,060	124	307	$599,205	285	$5,166	1
Koochiching	16,299	56	18	$576,695	308	$10,881	
Martin	22,914	92	104	$513,210	279	$6,259	
*Aitkin	12,425	66	112	$510,000	200	$8,226	
*Isanti	25,921	146	109	$496,040	195	$3,730	
Lyon	24,789	93	123	$494,003	349	$6,958	
*Nicollet	28,076	98	209	$483,930	319	$5,499	
*Redwood	17,254	102	52	$426,800	182	$4,493	
Waseca	18,079	52	174	$423,500	369	$8,643	1
Houston	18,497	62	234	$410,450	319	$7,077	
Renville	17,673	60	37	$401,750	300	$6,809	1
*Cottonwood	12,694	59	13	$401,500	240	$7,575	
*Kanabec	12,802	94	24	$400,000	145	$4,545	
Marshall	10,993	51	108	$387,800	220	$7,756	1
Clay	50,422	131	1,933	$377,030	391	$2,923	
*Lake of the Woods	4,076	20	0	$377,000	204	$18,850	
Hubbard	14,939	56	22	$365,799	277	$6,774	
Swift	10,724	51	44	$363,000	262	$8,854	
Clearwater	8,309	52	64	$357,500	193	$8,314	
*Lake	10,415	38	75	$335,700	298	$9,591	1
*Pipestone	10,491	53	32	$328,927	223	$6,998	
*Sibley	14,366	61	94	$294,250	266	$5,449	
Lincoln	6,890	27	12	$229,050	265	$8,810	
Mahnomen	5,044	31	22	$216,600	240	$10,314	
Traverse	4,463	12	10	$196,500	372	$16,375	
*Grant	6,246	30	18	$184,900	208	$6,163	
Wilkin	7,516	14	22	$168,000	537	$12,000	
Wadena	13,154	35	43	$155,700	376	$4,449	
Yellow Medicine	11,684	34	26	$154,350	344	$4,540	
Cook	3,868	16	2	$149,450	242	$9,341	
*Norman	7,975	46	26	$149,110	195	$3,637	
Rock	9,806	44	71	$148,650	272	$4,129	
Chippewa	13,228	53	34	$100,070	259	$1,962	
*Stevens	10,634	28	12	$80,750	425	$3,230	
Kittson	5,767	34	64	$26,000	180	$813	
Lac Qui Parle	8,924	16	36	$23,700	686	$1,823	1
Red Lake**	4,525	0	0	$0	0	$0	
TOTAL		20,554	126,762†	$141,450,541	226	$7,312	50

*Indicates counties with 100% participation.

**Red Lake County did not have any participating fire departments.

†Total may not equal "other non-fire" run totals due to statistical inconsistencies in elements from the Minnesota Fire Incident Reporting System.

FIRE DEPARTMENT RESPONSES AND DOLLAR LOSS AS REPORTED BY MFIRS DATA

City	Total Fire Runs	Total Other Runs	Dollar Loss
ADA	10	1	$45,200
ADAMS VOL	10	19	$20,600
ADRIAN	8	17	$188,000
AITKIN	39	52	$436,000
ALASKA	9	0	$110,500
ALBANY	19	85	$0
ALBERT LEA	55	232	$244,855
ALBERT LEA TWP	12	3	$3,200
ALBORN	11	36	$141,000
ALDEN	8	44	$9,450
ALEXANDRIA	67	138	$214,245
ALMELUND	13	29	$6,000
ALPHA	3	2	$0
ALTURA	1	0	$0
ALVARADO VOL	6	14	$55,000
AMBOY	3	31	$53,600
ANDOVER	9	281	$43,136
ANNANDALE	35	113	$164,800
ANOKA-CHAMPLIN	136	608	$421,600
APPLE VALLEY	118	802	$295,735
APPLETON	1	0	$170,000
ARCO	1	0	$0
ARGYLE	6	57	$10,700
ARLINGTON	14	21	$23,500
ARROWHEAD	18	9	$10,000
ASHBY	2	0	$40,100
ASKOV VOL	4	1	$58,000
ATWATER	5	34	$10,000
AUDUBON	23	15	$110,020
AURORA	10	21	$51,100
AUSTIN	66	207	$342,185
AVON	32	33	$45,240
BABBITT VOL	11	43	$0
BACKUS VOL	14	5	$79,700
BADGER	5	0	$160,000
BAGLEY	29	15	$206,500
BALATON	15	1	$216,800
BALSAM VOL	10	54	$196,400
BARNESVILLE	6	15	$10,500
BARNUM VOL	17	40	$96,900
BARRETT	7	0	$0
BAUDETTE	18	0	$371,000
BAYPORT	36	267	$735,050
BEAVER BAY VOL	1	0	$0
BEAVER CREEK	6	9	$20,000
BECKER VOL	37	191	$56,000
BELGRADE	10	0	$100,000
BELLE PLAINE	27	53	$202,780
BELLINGHAM	6	19	$8,300
BELTRAMI	3	7	$6,500
BELVIEW	9	2	$3,500
BEMIDJI	153	638	$481,400
BENSON	29	27	$123,000
BERTHA	13	0	$15,000
BETHEL	5	9	$0
BIG FALLS	1	0	$37,000
BIG LAKE	61	51	$241,650
BIGELOW	5	0	$211,000
BIRCHDALE RURAL	2	0	$20,080
BIRD ISLAND	5	3	$8,500
BIWABIK TWP VOL	2	2	$0
BIWABIK VOL	8	3	$10,000
BLACKDUCK	7	0	$116,200
BLACKHOOF	19	12	$41,600
BLOMKEST	13	4	$0
BLOOMING PRAIRIE	26	15	$538,650
BLOOMINGTON	284	1,163	$671,750
BLUE EARTH	31	27	$331,100
BORUP	2	0	$8,600
BOVEY	20	54	$4,500
BOWLUS	5	0	$26,100
BRAHAM	5	0	$0
BRAINERD CITY	123	276	$745,140
BRANDON	9	29	$70,200
BREITUNG	7	3	$10,000
BREVATOR	35	12	$308,000
BREWSTER	8	14	$3,500
BRICELYN	5	0	$1,500
BRIMSON AREA VOL	7	18	$40,000
BROOK PARK	11	1	$20,000
BROOKLYN CENTER	139	650	$297,770
BROOKLYN PARK	200	1,140	$1,322,950
BROOTEN	18	16	$10,000
BROWERVILLE	19	7	$90,500
BROWNSDALE	7	1	$8,025
BROWNSVILLE	2	31	$21,000
BROWNTON VOL	7	57	$5,000
BRUNO	11	1	$15,600
BUFFALO	49	130	$266,151
BUFFALO LAKE	4	0	$188,000
BUHL VOL	3	0	$63,000
BURNSVILLE	187	1,899	$1,224,375
BUYCK COMM VOL	3	0	$8,000
BYRON	11	34	$85,000
CALEDONIA	12	30	$15,250
CALLAWAY	9	0	$78,500
CALUMET	9	60	$0
CAMBRIDGE	64	51	$223,700
CANBY	7	2	$8,100
CANNON FALLS	28	226	$339,251
CANOSIA VOL	7	23	$1,000
CARLOS	6	60	$28,500
CARLTON VOL	32	23	$63,500
CARSONVILLE VOL	46	61	$8,000
CARVER	10	85	$49,505
CASS LAKE	75	28	$0
CENTENNIAL	71	753	$2,110,060
CENTER CITY	5	10	$210
CENTRAL LAKES VOL	2	1	$0
CEYLON	9	0	$90,050
CHANDLER	11	17	$12,800
CHANHASSEN	22	618	$530,200
CHASKA	27	320	$75,500
CHATFIELD	21	12	$379,300
CHERRY TWP	5	35	$0
CHISAGO CITY	22	9	$3
CHISHOLM	57	75	$495,100
CHOKIO	17	1	$55,100
CLARA CITY	9	10	$15,000
CLAREMONT	8	0	$1,519
CLARISSA	6	37	$0
CLARKFIELD	11	5	$5,000
CLEAR LAKE	33	103	$110,000
CLEARBROOK	12	48	$95,000
CLEARWATER	29	94	$31,000
CLEMENTS	2	3	$2,500
CLEVELAND	4	40	$206,000
CLIFTON TWP	6	2	$72,700
*CLIMAX	0	0	$0
CLINTON	7	2	$21,000
CLINTON VOL	4	0	$60,000
CLONTARF	3	0	$10,000
CLOQUET	66	492	$216,080
COHASSET	28	97	$48,400
COKATO	31	38	$395,500

City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss
COLD SPRING	22	15	$165,400	EAGAN	108	698	$1,618,310	FOLEY	65	71	$395,425
COLERAINE	6	28	$0	EAGLE LAKE VOL	14	74	$0	FORADA TWP	2	16	$400
COLOGNE	8	67	$25,000	EAGLES NEST	2	2	$0	FOREST LAKE	64	136	$393,950
COLUMBIA HEIGHTS	82	1,918	$1,004,900	EAST BETHEL	55	328	$68,100	FORESTON	21	31	$1,050
COLVIN TWP	5	1	$0	EAST GRAND FORKS	41	644	$230,510	FORT SNELLING	16	366	$500
COMFREY	10	2	$41,220	EAST HUBBARD CO	15	2	$0	FOSSTON	30	38	$5,802,040
COOK	31	21	$105,000	EASTON VOL	7	20	$5,100	FOUNTAIN	4	6	$150
COON RAPIDS	254	3,417	$1,269,312	ECHO	3	0	$9,000	*FOXHOME	0	0	$0
COSMOS	11	10	$121,600	EDEN PRAIRIE	106	1,060	$736,856	FRANKLIN	7	0	$0
COTTAGE GROVE	62	1,449	$191,980	EDEN VALLEY	31	32	$183,000	FRAZEE	29	7	$266,100
COTTON VOL	10	10	$52,000	EDGERTON	11	4	$68,000	FREDENBERG	12	50	$140,000
COURTLAND	13	20	$120,100	EDINA	93	3,798	$946,571	FREEBORN	2	0	$0
CRANE LAKE	8	0	$20,000	ELBOW LAKE	9	0	$21,500	FREEPORT	5	0	$35,200
CROMWELL VOL	13	1	$54,000	ELBOW-TULABY LKS	7	0	$115,000	FRENCH TWP VOL	9	11	$65,700
CROOKED LAKE VOL	4	8	$34,050	ELGIN	7	10	$74,200	FRIDLEY	135	2,194	$423,920
CROOKSTON	46	257	$36,652	ELIZABETH	12	3	$41,500	FROST	2	0	$100,000
CROSBY VOL	35	40	$384,000	ELK RIVER	89	313	$346,963	FULDA	8	13	$33,500
CROSSLAKE	2	0	$2,500	ELLSBURG VOL	9	5	$95,000	GARRISON	39	101	$25
CRYSTAL	91	857	$396,612	ELLSWORTH	10	16	$60,490	GARVIN	12	0	$2,400
CULVER	27	1	$5,000	ELMER	2	0	$0	GARY VOL	9	11	$23,500
CURRIE VOL	8	0	$106,500	ELMORE	5	4	$66,509	GAYLORD	10	10	$55,150
*CUYUNA	0	0	$0	ELROSA	6	14	$51,500	GHENT	5	10	$13,500
DAKOTA	6	2	$0	ELY	21	15	$625,650	GIBBON	7	3	$49,900
DALBO	31	53	$122,000	ELYSIAN	18	42	$333,200	GLENCOE	32	85	$535,900
DALTON	12	4	$16,500	EMBARRASS VOL	11	47	$63,000	GLENVILLE	12	5	$0
DANVERS	5	7	$40,500	EMILY VOL	12	7	$46,500	GLENWOOD	32	49	$333,000
DARFUR	2	4	$0	EMMONS	16	23	$189,500	GLYNDON VOL	6	2	$113,500
DASSEL	31	166	$78,230	ERSKINE	11	52	$64,300	GNESEN VOL	8	6	$0
DAWSON	2	0	$0	EVANSVILLE	9	44	$0	GOLDEN VALLEY	84	543	$367,367
DAYTON	19	158	$38,650	EVELETH	15	63	$7,550	GONVICK	2	0	$8,000
DEER CREEK	11	36	$68,000	EXCELSIOR	32	611	$64,700	GOOD THUNDER	17	45	$222,500
DEER RIVER	48	39	$87,170	EYOTA VOL	12	14	$60,100	GOODHUE	1	0	$0
DEERWOOD	14	9	$219,000	FAIRFAX	9	0	$62,500	GOODLAND	6	18	$3,500
DELANO VOL	36	231	$167,500	FAIRMONT	58	93	$267,160	GOODRIDGE AREA	7	0	$5,100
DELAVAN VOL	1	0	$200,000	FALCON HEIGHTS	7	332	$7,250	GOODVIEW	7	28	$2,900
DENNISON	1	0	$80,000	FARIBAULT	95	189	$708,390	GRACEVILLE	8	12	$1,010,400
DETROIT LAKES	77	90	$207,750	FARMINGTON	51	113	$675,128	GRAND LAKE VOL	24	66	$70,500
DEXTER VOL	2	0	$0	FAYAL	11	67	$65,000	GRAND RAPIDS	98	136	$568,600
DILWORTH	14	33	$0	FEDERAL DAM	4	0	$0	GRANITE FALLS	6	2	$1,500
DODGE CENTER	19	20	$265,350	FERGUS FALLS	66	63	$1,676,900	*GRASSTON	0	0	$0
DONNELLY	1	0	$0	FERTILE	19	16	$542,700	GREANY-RAUCH-SILVER	2	0	$2
DOVER	4	2	$4,000	*FIFTY LAKES	0	0	$0	GREEN ISLE	7	20	$24,500
DOVRAY	1	0	$2,000	FINLAND	1	6	$0	GREENBUSH	12	7	$134,500
DULUTH	441	4,972	$5,102,056	FINLAYSON	17	44	$203,500	GREENWOOD TWP VOL	12	103	$50,000
*DUMONT	0	0	$0	FISHER	2	0	$0	GREY EAGLE	26	2	$660,750
DUNDEE	1	2	$0	*FLENSBURG	0	0	$0	GROVE CITY	9	0	$108,500
DUNNELL-LK FREMONT	4	9	$1,000	FLOODWOOD	22	11	$376,850	GUNFLINT TRAIL VOL	5	0	$29,250

City	Total Fire Runs	Total Other Runs	Dollar Loss
HACKENSACK AREA	8	4	$28,000
HALLOCK	8	26	$0
HALSTAD	9	8	$25,000
HAM LAKE	61	469	$125,630
HAMBURG	7	48	$16,000
HAMEL	14	120	$27,850
HAMPTON	2	0	$0
HANCOCK	10	7	$25,650
HANLEY FALLS	3	0	$0
HANOVER	23	60	$0
HARMONY	11	3	$6,500
HARRIS	21	6	$24,100
HARTLAND	4	0	$43,700
HASTINGS	115	352	$708,046
HAYFIELD	10	17	$14,000
HAYWARD	5	0	$30,000
HECTOR	6	10	$35,000
HENDERSON	11	37	$1,800
HENDRUM	6	0	$510
HENNING VOL	18	6	$76,500
*HERMAN VOL	0	0	$0
HERMANTOWN VOL	26	270	$267,500
HERON LAKE VOL	7	5	$8,000
*HEWITT	0	0	$0
HIBBING	117	1,913	$436,487
HILL CITY	10	21	$0
HILLS	8	12	$5,000
HINCKLEY VOL	37	18	$154,050
*HITTERDAL	0	0	$0
HOFFMAN	6	1	$122,200
HOKAH VOL	7	5	$0
HOLDINGFORD	15	61	$72,100
HOLLAND	2	0	$0
HOPKINS	42	389	$342,150
HOUSTON	14	12	$29,000
HOVLAND	3	1	$40,000
HOWARD LAKE	25	52	$194,000
HOYT LAKES	8	5	$34,500
HUGO	13	181	$71,500
IDEAL TWP	9	9	$12,500
INDUSTRIAL VOL	11	28	$10,000
INTERNATIONAL FLLS	30	11	$333,590
INVER GROVE HGTS	121	670	$897,420
*IONA	0	0	$0
IRONTON	0	1	$0
ISANTI VOL	46	5	$150,340
ISLE	39	26	$293,500
*ITASCA TWP	0	0	$0
IVANHOE	6	0	$0
JACKSON	24	61	$1,208,215
JACOBSON	6	18	$72,000
JANESVILLE	15	83	$68,500
JASPER	7	4	$55,000
JEFFERS	5	1	$8,300
JORDAN	35	47	$160,150
KABETOGAMA	5	1	$300,000
KARLSTAD VOL	13	26	$10,500
KASOTA	5	0	$175,000
KASSON	6	11	$168,050
KEEWATIN VOL	19	59	$306,700
KELLIHER VOL	5	7	$21,000
KELLOGG	14	2	$0
KELSEY VOL	1	0	$0
KENSINGTON	12	4	$79,500
KERKHOVEN	13	10	$19,500
KETTLE RIVER	12	0	$30,600
KIESTER	5	0	$64,000
KILKENNY	3	5	$0
KIMBALL	20	132	$36,500
KINNEY-GREAT SCOTT	2	0	$70,000
LACRESCENT	18	146	$210,000
LAFAYETTE	12	6	$66,200
LAKE BENTON	9	1	$116,000
LAKE BRONSON	8	11	$0
LAKE CITY	36	64	$305,875
LAKE CRYSTAL	18	37	$6,500
LAKE ELMO	42	275	$475,600
LAKE GEORGE	8	0	$4,399
LAKE HENRY	1	0	$0
LAKE JOHANNA VOL	80	410	$631,915
LAKE PARK	16	12	$146,700
LAKE WILSON	2	2	$908,000
LAKEFIELD	14	11	$115,000
LAKEVILLE	114	542	$7,911,530
LAKEWOOD TWP	20	57	$127,700
LAMBERTON	14	4	$101,500
LANCASTER	5	1	$15,500
LANESBORO	13	11	$114,500
LE CENTER	8	9	$102,200
LEAF VALLEY TWP	4	1	$0
LESTER PRAIRIE	9	75	$17,550
LESUEUR	20	8	$845,100
LEWISTON	28	14	$93,500
LEWISVILLE	1	0	$50,000
LEXINGTON	18	67	$46,100
LINDSTROM	26	18	$26,300
LINWOOD VOL	22	132	$25,000
LISMORE	4	0	$8,000
LITCHFIELD	44	61	$187,200
LITTLE CANADA	38	109	$226,100
LITTLE FALLS	11	0	$290,000
LITTLEFORK	23	7	$186,025
*LOMAN RURAL	0	0	$0
LONDON	1	0	$5,000
LONG LAKE	19	302	$285,000
LONG PRAIRIE	44	36	$0
LONGVILLE VOL	11	5	$0
LONSDALE	21	96	$117,051
LORETTO VOL	19	134	$166,000
LOWER ST CROIX VLY	22	258	$49,750
LOWRY	4	3	$0
LUCAN	1	0	$0
*LUTSEN TWP VOL	0	0	$0
LUVERNE	30	50	$123,650
LYLE	13	3	$530,350
LYND	2	0	$1,000
MABEL VOL	10	1	$26,000
MADELIA	14	23	$160,600
MADISON	8	17	$15,400
MADISON LAKE	12	42	$78,050
MAHNOMEN	24	22	$101,600
MAHTOMEDI	16	69	$22,500
MAHTOWA	11	2	$18,000
MAKINEN	1	0	$0
MANCHESTER	7	0	$9,500
MANKATO	164	1,584	$481,945
MANTORVILLE	10	12	$169,200
MAPLE GROVE	150	689	$894,027
MAPLE HILL	2	0	$40,000
MAPLE LAKE	31	21	$98,700
MAPLE PLAIN	32	273	$42,200
MAPLETON	5	45	$141,850
MAPLEWOOD	97	2,354	$398,552
MARBLE	8	33	$0
MARINE ON ST CROIX	5	35	$0
MARSHALL	27	80	$93,703
MAYER	11	55	$2,000
MAYNARD	6	0	$5,500
MAZEPPA VOL	7	43	$2,700
MC DAVITT	13	15	$45,500
MC GREGOR VOL	1	0	$2,000

City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss
MC KINLEY VOL	1	0	$0	NEW MUNICH	3	6	$750	PILLAGER AREA	18	82	$1,054,000
MCGRATH	1	0	$0	NEW PRAGUE	35	54	$225,451	PINE ISLAND	26	141	$112,106
MCINTOSH	9	17	$2,700	NEW SCANDIA	14	113	$27,710	PINE RIVER	41	22	$160,500
MEADOWLANDS AREA	12	0	$98,000	NEW ULM	49	75	$353,406	PIPESTONE	24	23	$102,327
MEDFORD VOL	12	28	$71,600	NEW YORK MILLS	17	10	$77,500	PLAINVIEW	16	12	$69,500
MEDICINE LAKE	4	16	$280,000	NEWFOLDEN	17	7	$280,900	PLATO	3	29	$2,000
MELROSE	21	47	$51,750	NEWPORT	35	50	$196,100	PLYMOUTH	163	958	$893,925
MENDOTA HEIGHTS	41	254	$201,300	NICOLLET	17	66	$91,000	PORTER	2	15	$27,750
MENTOR	7	23	$53,200	NIELSVILLE	2	0	$18,150	PRESTON	6	4	$30,000
MIESVILLE VOL	8	24	$25,000	NODINE VOL	17	26	$57,550	PRINCETON	124	153	$178,350
MILACA	46	66	$75,689	NORMANNA VOL	6	0	$0	PRINSBURG	4	4	$38,500
MILLERVILLE	2	0	$3,500	NORTH BRANCH	77	57	$311,200	PRIOR LAKE	69	406	$676,119
MILROY	2	5	$30,000	NORTH MANKATO	17	78	$51,950	PROCTOR	37	19	$58,300
MILTONA	17	37	$143,700	NORTH ST PAUL	30	486	$277,665	RAMSEY	73	278	$349,500
MINNEAPOLIS	2,321	25,352	$9,050,978	NORTH STAR TWP	2	9	$35,500	RANDALL	20	3	$290,400
MINNEOTA	16	13	$78,100	NORTHFIELD	20	9	$41,300	RANDOLPH	20	4	$97,500
MINNESOTA CITY	4	1	$0	NORTHLAND	1	3	$0	RED LAKE	17	0	$169,000
MINNESOTA LAKE	2	0	$3,000	NORWOOD-YNG AMER	30	166	$399,100	RED WING	100	395	$342,400
MINNETONKA	101	648	$1,033,120	OAK GROVE	24	120	$127,450	REDWOOD FALLS	37	27	$2,000
MISSION TWP	8	41	$42,000	OAKDALE	56	1,063	$465,650	REMER	11	2	$131,200
MONTEVIDEO	31	22	$39,120	ODIN	7	0	$18,000	RENVILLE	14	11	$0
MONTGOMERY	17	15	$70,000	OGEMA	4	0	$0	REVERE	1	1	$0
MONTICELLO	49	227	$80,400	OGILVIE	27	4	$36,000	RICE LAKE VOL	31	84	$70,000
MONTROSE	19	119	$17,000	OLIVIA	4	10	$84,500	RICHFIELD	133	1,463	$296,885
MOORHEAD	89	1,860	$183,430	ONAMIA	31	27	$189,000	RICHMOND	9	0	$317,500
MOOSE LAKE	25	181	$46,000	ORONOCO	7	23	$1,000	ROBBINSDALE	44	261	$109,730
MORA	67	20	$364,000	ORR VOL	6	4	$17,000	ROCHESTER	253	1,664	$612,398
MORGAN	7	1	$38,500	ORTONVILLE	4	1	$0	ROCHESTER AIRPRT	0	34	$0
MORRIS	0	4	$0	OSAKIS	23	17	$144,400	ROCHESTER RURAL	57	170	$233,860
MORRISTOWN	19	9	$372,000	OSSEO	1	0	$2,200	ROCKFORD	17	208	$0
MORSE TWP VOL	12	5	$311,000	OSTRANDER	5	0	$5,400	ROCKVILLE	28	78	$221,500
MORTON	5	1	$16,250	OTTERTAIL	10	4	$46,000	ROGERS	44	184	$1,000
MOTLEY	20	92	$64,200	OWATONNA	103	138	$1,131,291	ROLLINGSTONE	9	18	$33,600
MOUND	50	677	$781,250	PALISADE VOL	9	21	$0	ROSE CREEK AREA	5	0	$13,500
MOUNTAIN IRON	15	22	$94,000	PALO REGIONAL	7	41	$22,600	ROSEAU	18	10	$0
MOUNTAIN LAKE	2	1	$107,000	PARK RAPIDS	33	20	$361,400	ROSEMOUNT	56	257	$1,226,800
MPLS/ST PAUL AIRPRT	60	2,300	$0	PARKERS PRAIRIE	8	1	$26,000	ROSEVILLE	110	568	$602,502
MYRTLE	2	0	$64,000	PAYNESVILLE	22	0	$119,000	ROTHSAY	11	22	$168,000
NASHWAUK	19	23	$162,300	PELICAN RAPIDS VOL	2	0	$12,000	ROYALTON	5	10	$114,000
NASSAU	0	0	$0	PEMBERTON	8	0	$9,300	RUSH CITY	31	26	$62,850
NERSTRAND VOL	3	1	$0	*PEQUAYWAN LK AREA	0	0	$0	RUSHFORD	21	24	$476,000
NEW AUBURN	3	0	$40,800	PEQUOT LAKES	19	17	$320,500	RUSHMORE	4	5	$4,500
NEW BRIGHTON	65	249	$46,265	PERCH LAKE VOL	9	27	$40,000	RUTHTON	6	1	$3,600
NEW GERMANY	10	32	$20,000	*PERLEY-LEE TWP	0	0	$0	SABIN-ELMWOOD	8	19	$10,000
NEW HOPE	68	555	$284,421	PICKWICK AREA	6	2	$70,000	SACRED HEART	6	2	$7,000
NEW LONDON	50	29	$568,050	PIERZ	25	7	$194,000	SANBORN	10	3	$85,500
NEW MARKET	22	98	$493,510	PIKE-SANDY-BRITT	4	1	$200	SANDSTONE VOL	25	13	$210,000

City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss
SARTELL	34	67	$63,303	ST PETER	39	39	$154,680	WALDORF	6	0	$55,000
SAUK CENTRE	41	30	$167,900	ST STEPHEN	16	50	$150,800	WALKER	18	17	$982,000
SAUK RAPIDS	61	103	$5,180,400	STACY-LENT	25	18	$115,700	WALNUT GROVE	11	4	$140,800
SAVAGE	9	70	$33,900	STAPLES	38	13	$72,800	WALTERS VOL	5	0	$151,500
SCANDIA VALLEY	6	3	$1,800	STARBUCK	27	26	$107,200	WANDA	3	0	$22,500
SCANLON VOL	9	29	$3,250	*STEPHEN*	7	5	$700	*WARBA-FEELEY-SAGO	0	0	$0
SCHROEDER	1	0	$0	STEWART	7	0	$20,000	WARREN	15	25	$40,500
*SEAFORTH	0	0	$0	STEWARTVILLE	23	18	$244,500	WARROAD	16	25	$335,100
SEDAN	1	0	$0	STILLWATER	71	599	$748,139	WASECA	31	91	$300,000
SHAFER	13	3	$0	STORDEN	7	1	$79,500	WATERTOWN	27	197	$175,501
SHAKOPEE	87	248	$430,740	STURGEON LAKE	13	1	$600	WATERVILLE	13	80	$109,000
SHELLY	1	12	$4,500	STURGEON TWP	1	0	$20,000	WATKINS	20	3	$543,750
SHERBURN	8	1	$10,000	SUNBURG	14	0	$5,800	WATSON	7	2	$40,450
SHEVLIN	9	1	$48,000	SWANVILLE	9	0	$82,700	WAVERLY	13	78	$45,000
SILICA AREA	3	8	$0	TACONITE	3	0	$0	WAYZATA	35	226	$25,705
SILVER BAY	8	22	$2,600	*TAUNTON	0	0	$0	WELCOME	2	0	$85,000
SILVER LAKE	10	27	$27,400	TAYLORS FALLS	10	0	$0	WELLS	15	13	$82,000
*SKYLINE	0	0	$0	THIEF RIVER FALLS	58	95	$858,525	WENDELL	6	17	$1,100
SLAYTON	17	6	$106,250	THOMPSON TWP	26	77	$504,400	WEST CONCORD	9	0	$65,000
SLEEPY EYE	2	0	$575,000	TOFTE	5	1	$40,200	WEST ST PAUL	89	482	$186,165
SOLWAY TWP	15	41	$120,000	TOIVOLA TWP	1	0	$80,000	WESTBROOK	11	0	$12,850
SOUTH BEND	16	29	$5,500	TOWER	2	0	$25,000	WHEATON	12	10	$196,500
SOUTH HAVEN	15	31	$71,500	TRACY	16	19	$88,500	WHITE BEAR LAKE	93	466	$414,660
SOUTH ST PAUL	95	1,270	$192,120	TRIMONT	4	1	$60,000	WILLIAMS	2	0	$6,000
SPICER	18	30	$59,000	TRUMAN	7	0	$0	WILLMAR	70	262	$216,714
SPRING GROVE	9	10	$135,200	TWIN VALLEY	9	4	$41,800	WILLOW RIVER	21	1	$113,100
SPRING LAKE PARK	277	849	$1,599,835	TWO HARBORS	28	47	$333,100	WILMONT	1	0	$300
SPRING VALLEY	18	27	$62,000	TYLER	11	11	$113,050	WILSON VOL	7	28	$0
SPRINGFIELD VOL	12	4	$304,658	ULEN	8	4	$59,600	WINDOM	34	11	$193,850
SQUAW LAKE	7	1	$7,500	UNDERWOOD	20	1	$87,650	WINNEBAGO VOL	19	14	$229,000
ST ANTHONY	23	671	$12,475	VADNAIS HEIGHTS	37	496	$89,250	WINONA	98	1,223	$587,730
ST BONIFACIUS	21	150	$159,000	VERGAS	11	1	$2,700	WINSTED	1	0	$10,000
ST CHARLES	15	8	$47,200	VERMILLION LAKE	6	3	$0	WINTHROP VOL	9	3	$98,600
ST CLAIR	15	77	$188,900	VERNDALE	14	38	$118,500	WOLF LAKE	18	7	$61,500
ST CLOUD	289	1,040	$849,161	*VERNON CENTER	0	0	$0	WOLVERTON	3	0	$0
ST FRANCIS	30	224	$42,500	VESTA	1	2	$0	WOODBURY	95	1,520	$712,450
ST HILAIRE	12	48	$39,700	VICTORIA	7	143	$6,500	WOODSTOCK	3	0	$100,000
ST JAMES	12	37	$618,275	VILLARD VOL	3	0	$231,100	WORTHINGTON	44	58	$222,850
ST JOHN'S UNIVRSTY	5	18	$1,500	VINING	5	11	$0	WRENSHALL	10	24	$0
ST JOSEPH VOL	31	182	$93,600	VIRGINIA	46	2,110	$1,140,095	WRIGHT VOL	4	0	$0
ST LEO	2	2	$103,000	WABASHA	28	42	$92,500	WYKOFF	12	1	$20,000
ST LOUIS PARK	161	3,249	$609,385	WABASSO VOL	4	0	$0	WYOMING	36	62	$68,100
ST MARTIN	6	6	$4,500	WACONIA	20	229	$225,402	ZIMMERMAN	39	44	$194,600
ST PAUL	1,599	11,011	$6,157,342	WADENA	21	5	$37,200	ZUMBRO FALLS	20	69	$128,900
ST PAUL PARK VOL	31	78	$677,300	WAITE PARK	26	70	$120,500	ZUMBROTA VOL	19	28	$183,500

*These fire departments reported as having no fire/nonfire runs for 1997.

NON-REPORTING FIRE DEPARTMENTS

ALBERTVILLE
AVOCA
BATTLE LAKE
BEAR CREEK
BEARDSLEY
BEARVILLE TWP.
BENA
BIGFORK VOL.
BLUFFTON
BOIS FORTE
BOYD
BRECKENRIDGE
BROWNS VALLEY
BUTTERFIELD
CAMPBELL
CANTON
CLARKS GROVE VOL.
CONGER
CORRELL
COTTONWOOD
CYRUS
DANUBE
DEGRAFF
DENT
EAGLE BEND
EITZEN
ELLENDALE VOL.
EVERGREEN
FELTON COMM.
GARFIELD
GENEVA
GILBERT
GRANADA
GRAND MARAIS VOL.
GRAND MEADOW
GRAND PORTAGE
GRYGLA
HANGAARD TWP.
HANSKA
HARDWICK
HAWLEY
HENDRICKS
HIDDEN VALLEY
HOLLANDALE
HOLYOKE VOL.
HUTCHINSON
KANDIYOHI
KENNEDY
KENNETH VOL.
KENT-ABERCROMBIE
KENYON
KERRICK
LAKE LILLIAN
LAKELAND VOL.
LAPORTE/LAKEPORT
LASALLE
LE ROY
LOUISBURG
MAGNOLIA
MAPLEVIEW
MARIETTA
MENAGHA
MIDDLE RIVER
MILAN
MURDOCK
NETT LAKE
NEVIS
NEW RICHLAND
NISSWA
NORTHOME
NORTHROP
ODESSA
OKABENA
OKLEE
ORMSBY
OSLO
PENNOCK
PERHAM
PINE CITY
PLUMMER
RAYMOND
RED LAKE FALLS
RICE
RIDGEWAY COMM.
RIVERTON
ROUND LAKE
RUSSELL
SEBEKA
SOLWAY
ST. MICHAEL
TINTAH
TWIN LAKES
TWIN LAKES VOL.
UPSALA
WANAMINGO
WAUBUN
WHITE EARTH VOL.
WINGER
WOODLAKE

STATE FIRE MARSHAL ANNUAL REPORT

SFMD 97

TO: All Minnesota Fire Chiefs, Fire Service, State and Local Officials

FROM: Thomas R. Brace, Minnesota State Fire Marshal TRB

SUBJECT: State Fire Marshal Division – Annual Report 1997

The State Fire Marshal Division experienced many changes during 1997, new positions were created, restructuring of top management continued, natural disasters affected Division workload and our offices were moved. As part of Public Safety's consolidation efforts, offices in Town Square were remodeled to accommodate increased space needs. The State Fire Marshal Division remained on the second floor of Town Square, but physically moved to another location.

The Division was impacted by several pieces of legislation passed in 1997, this included:

- Arson Task Force – The Attorney General convened an arson task force to study the arson impact in Minnesota. As a result of this task force, legislative initiatives created two new positions – arson prevention trainer and juvenile firesetter interventionist.

- Fire Protection Systems (Sprinkler Program) – Funding was appropriated to hire one sprinkler inspector.

- Welfare Reform/Day Care – The State Fire Marshal Division entered into an inter-agency agreement with the Department of Human Services (DHS) to fund two day care inspectors. As part of the welfare reform legislation, several thousand children were added to the day care demand, which created the need for more licensed facilities. This agreement with DHS provides two deputy positions for two years.

Single National Fire Code – An agreement on the development of a single national fire code to be jointly published by the International Codes Council (ICC) and the National Fire Protection Association (NFPA) was dissolved in February of 1998. The MN State Fire Marshal Division had representation on the Drafting and Scoping Committees for the International Fire Code. With the dissolution of the agreement, we will continue to monitor the various fire codes being developed and select, in concert with the MN fire service, the one that best suits the fire and life safety needs of our citizens.

Flooding in Minnesota – Severe flooding in Northwest and Southern Minnesota impacted our Division. Inspecting flood-damaged buildings, from a fire safety perspective, presented the Division with unique circumstances dealing with the total devastation of some areas.

State Fire Code Adoption (1998) – In the first half of 1998, we adopted an updated edition of the Minnesota Uniform Fire Code (MUFC). This was a cooperative venture with the Minnesota State Fire Chiefs Association, the Fire Marshals Association of MN and the MN Building Officials.

Management Changes (1998) -The first three months of 1998 brought several top management changes to our Division. Chief Investigator David Bahma was promoted to Bureau Chief, Investigations in February 1998. In March 1998, Bureau Chief Mary Nachbar, Public Fire Safety Education, Data & Training accepted a position with the State of Washington as their State Fire Marshal; with this appointment Mary became the first woman State Fire Marshal in the U.S. Mary's significant accomplishments in Minnesota will long be remembered and recognized. In June, Bob Dahm, Hazmat Operations Manager, was promoted to the Bureau Chief position vacated by Mary Nachbar. Bob brings over 23 years of fire and EMS field service experience to this position.

Once again, the dedicated staff at the State Fire Marshal Division successfully accomplished our mission and goals for 1997 and continues to serve the citizens of Minnesota to protect life and property from fire. For updated news and information about our Division, contact us at our web site: www.dps.state.mn.us/

BRIEF HISTORY OF THE STATE FIRE MARSHAL DIVISION

1905 4/19/05 - Legislation authorizing Governor to appoint State Fire Marshal for two-year term. Funding through tax levy on Insurance companies. (Town Mutuals Exempt)

1907 Amendment authorizing two deputy State Fire Marshals. Authorization to pay fire departments $1 for reports submitted to the State Fire Marshal.

1913 All former acts repealed and new State Fire Marshal Department was created. Governor appointed Fire Marshal and two deputies.

1919 The Appointing Authority was given to the Commissioner of Insurance.

1925 Legislative action made the Commissioner of Insurance the Ex-Officio State Fire Marshal.

1937 Tax levy to fund the State Fire Marshal Department was raised to ½% of all insurance premiums to include Town Fire Insurance Company and Farmers Mutuals.

1941 Legislature directed all monies collected by the State Fire Marshal for tax and license fees, etc., to be turned over to the General Fund. Fire Marshal Department to be operated under an appropriation by legislative action.

1969 Legislative action created a Department of Public Safety.

1970 The State Fire Marshal Department moved into the Department of Public Safety to be known as the State Fire Marshal Division (SFMD).

1975 Legislature authorized adoption of the Minnesota Uniform Fire Code (MUFC).

1978-79 Legislative action enabled local fire departments to enforce the MUFC without local adoption.

1978 Ten positions added to implement hotel/motel/resort inspection program.

1980 Minnesota is the first state in the nation to require smoke detectors in new and rental residential properties.

1989 10/2/89 – the 1988 MUFC was adopted. Three more positions were added to the SFMD: Two day care inspectors and one public educator/data.

1990 Legislation added five new positions to the SFMD to conduct school inspections in Minnesota.

1992 New program added to license fire sprinkler contractors, designers, and fitters. New program to develop operation of Hazardous Material Response Teams.

1993 Legislative action updated arson statutes. Legislation requires a smoke detector in every dwelling.

1995 Licensing of operators of public fireworks displays. One fire investigator position added.

1996 The Attorney General formed a task force to study the crime of arson in Minnesota. The Division received a grant of $400,000 to study arson as it relates to the criminal or abusive use of alcohol and/or drugs.

1998 As a result of the Arson Task Force, two new positions were added to the SFMD: One arson investigation trainer and one juvenile firesetter interventionist.

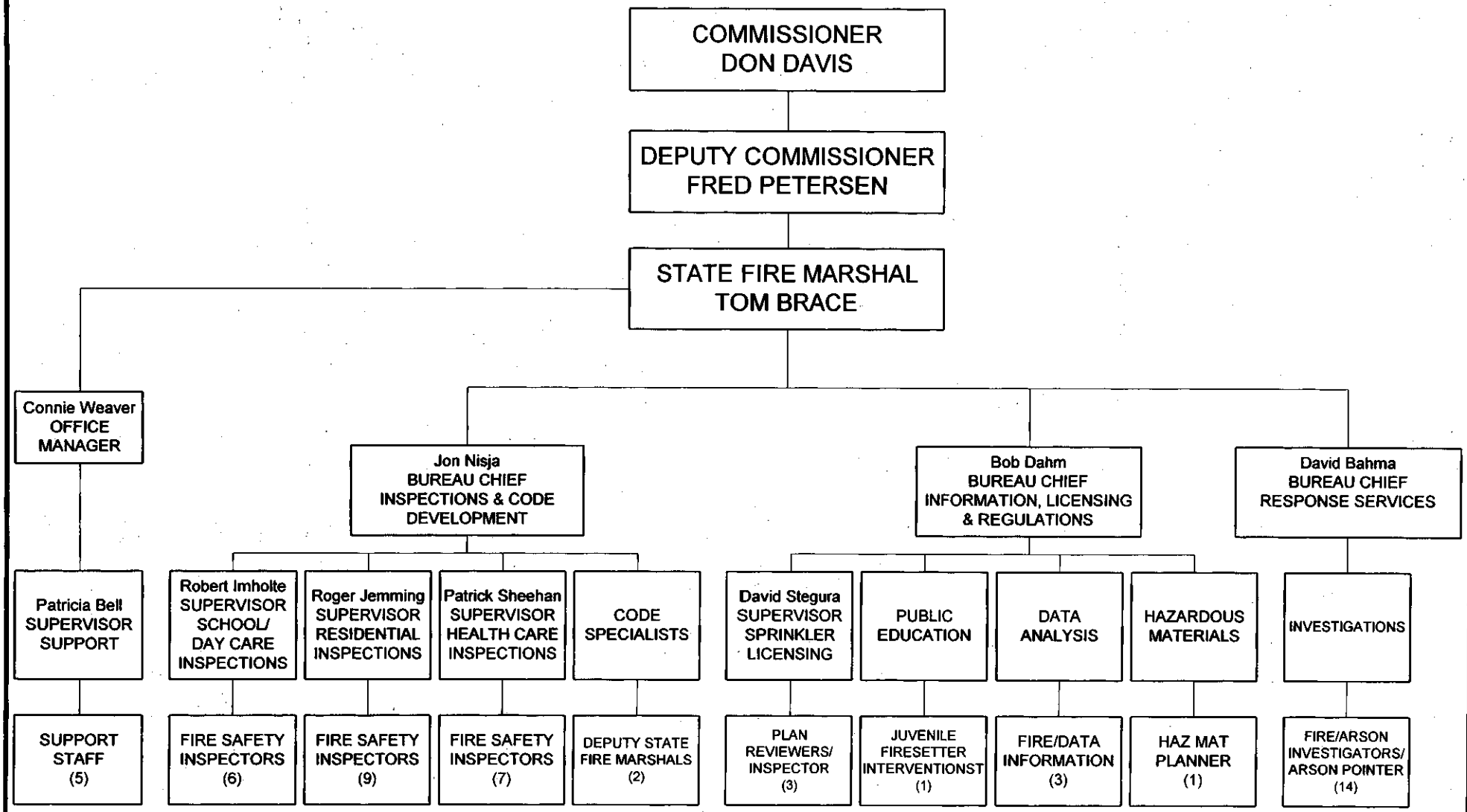
1998 One inspector for the Fire Protection Team was added to start July 1, 1998.

1998 Legislature approved the position of arson data specialist to begin the next fiscal year.

STATE OF MINNESOTA

DEPARTMENT OF PUBLIC SAFETY

STATE FIRE MARSHAL DIVISION



Four vacancies at the time of printing.

STATE FIRE MARSHAL DIVISION

444 Cedar Street, Suite 145
St. Paul, MN 55101-5145
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FAX: (651) 215-0525 or (651) 215-0541

ACKERMAN, Doug
Deputy – Inspector
651-215-0518

BAHMA, David
Bureau Chief – Investigations
651-215-0507

BERGSTRAND, Glen
Deputy – Inspector
651-215-0518

BERNARDY, Dan
Juvenile Firesetter Interventionist
651-215-1754

BRACE, Tom
State Fire Marshal
651-215-0500

BROLSMA, Dick
Deputy – Investigator
651-215-0500

CHEVALLIER,Thierry
Deputy – Inspector
651-215-0521

CHRISTENSEN, Terry
Deputy – Investigator
651-215-0500

DAHM, Bob
Bureau Chief
651-215-0505

DE MARS, Denise
Deputy – Investigator
651-215-0500

EDGERLY, Linton
Deputy – Inspector
651-215-0518

EIBNER, John
Deputy – Sprinkler Plan Reviewer
651-215-0515

GEFFRE, Ray
Deputy – Inspector
651-215-0502

GERMAIN, Mark
Deputy – Investigator
651-215-0500

HALVORSON, Clint
Deputy – Inspector
651-215-0502

HEFTI, Hal
Deputy – Inspector
651-215-0518

IMHOLTE, Bob
Deputy – Supervisor
651-215-0518

JEMMING, Roger
Deputy – Supervisor
651-215-0518

JUNTUNEN, Jeff
Deputy – Inspector
651-215-0502

KASTELLA, Kurt
Deputy – Inspector
651-215-0502

KEEPERS, David
Deputy – Inspector
651-2151-0518

KELLEN, Steve
Deputy – Investigator
651-215-0500

KELLY, Kevin
Deputy – Code Specialist
651-215-0516

KLEIS, Richard
Deputy – Investigator
651-215-0500

KREYE, Nathan
Deputy – Investigator
651-215-0500

LARSON, Richard
Deputy – Inspector
651-215-0521

LEGER, Robert
Deputy – Inspector
651-215-0518

LeTOURNEAU-BJORGE, Katie
Deputy – Sprinkler Plan Reviewer
651-215-0508

LINHOFF, Tom
Deputy – Inspector
651-215-0502

McLAUGHLIN, Bruce
Deputy – Investigator
651-215-0500

NEUDAHL, Tom
Deputy – Investigator
651-215-0500

NISJA, Jon
Bureau Chief
651-215-0506

PEHRSON, Richard
Deputy – Code Specialist
651-215-0513

PETERSON, Ralph
Deputy – Inspector
651-215-0523

PLAGGE, Jerry
Deputy – Inspector
651-215-0502

REINTJES, William
Deputy – Inspector
651-215-0518

SCHEIDNESS, Ernie
Deputy – Information Specialist
651-215-0512

SHEEHAN, Patrick
Deputy – Supervisor
651-215-0509

SORENSEN, Richard
Deputy – School Plan Reviewer
651-215-0511

SOUTH, Patricia
Deputy – Inspector
651-215-0518

STEGURA, David
Deputy – Supervisor
651-215-0514

STEINBACH, John
Deputy – Investigator
651-215-0500

STOTTS, Casey
Deputy – Investigator
651-215-0500

VOLSTAD, Dale
Deputy – Investigator
651-215-0500

WATSON, Christie
Deputy – Inspector
651-215-0518

WEAVER, Connie
Office Operations Manager
651-215-0504

WENDT, Carl
Deputy – Inspector
651-215-0518

WHITE, Jerome
Deputy – Inspector
651-215-0502

WOLF, Steven
Deputy – Investigator
651-215-0500

ZIELIN, Francis "Skip"
Deputy – Inspector
651-215-0518

CLERICAL SUPPORT STAFF

BELL, Patricia
Supervisor
651-215-0522

DuBAY, Andrea
Support – Sprinkler Team
651-215-0519

FLOYD, Robbie
Support – Residential/Schools
651-215-0518

GEHRKE, Randi
Receptionist
651-215-0500

GIEROK, Nora
Support – Data/MFIRS
651-215-0529

MOORE, Irene
Support – Data/MFIRS
651-215-0528

WHITNEY, Marian
Support – Health Care Team
651-215-0502

FIRE/ARSON INVESTIGATION TEAM

Education continues to be a priority for the fire/ arson investigator team.

The fire/arson investigation team is made up of twelve deputy investigators, one trainer and one arson data specialist who are supervised by David Bahma, Bureau Chief – Investigations. Investigators are subject to call 24 hours a day, seven days a week and work from their home offices in their assigned territories.

The 1997 legislature passed key legislation as a direct result of the Attorney General's Task Force on Arson. A full-time trainer position was authorized for the Division to coordinate the Bureau of Criminal Apprehension Fire/Arson courses offered to law enforcement and fire personnel. Funding was provided that enables the Division to proceed with on-going training and continuing course development such as: county prosecutor courses, fire scene preservation and recognizing arson. We also plan to develop a one-day refresher course for law enforcement; P.O.S.T. accreditation for this course is anticipated.

The full-time juvenile firesetter interventionist position, authorized and funded by 1997 legislation, works closely with the fire/arson investigation team. As juvenile firesetting numbers continue to increase, this position provides the Division with valuable tools and resources to address this critical problem.

The arson data specialist position, authorized in 1997 but not funded until July 1998, will serve the Division as the recognized department expert who administers and maintains a computerized arson investigative data system for the purpose of assisting criminal justice agencies in the investigation and prosecution of suspected arson violations. This established data system is known as a "pointer" system, which provides links to detailed information maintained by local criminal justice agencies. This position will also provide administrative expertise relative to fire arson investigation reports, interviews, statistical data, and report analysis regarding arson investigation. We anticipate filling this position by October 1998.

The State Fire Marshal Division purchased a gas chromatograph/mass spectrometer for the Bureau of Criminal Apprehension. The purchase of this equipment will reduce the time involved in analyzing evidence taken from fire scenes, which will greatly benefit our Division and, ultimately, will benefit insurance companies and others.

The fire/arson investigation team is committed to providing timely and thorough response to fire service and law enforcement requests for assistance, to pursue legislation and training opportunities that will assist us in identifying arsonists and to reduce the number of arson related fires in Minnesota.

Arson fire dollar loss increased by nearly $2.5 million from 1996.

State Fire Marshal investigators assisted fire officials and law enforcement agencies by investigating 582 fires in 1997, which resulted in nearly $65 million in property loss. Of the 582 fires investigated, 200 were determined to be arson. Total fires investigated in 1997 are down from 1996, but arson fires continue to increase.

FIRE/ARSON INVESTIGATIONS BY PROPERTY TYPE

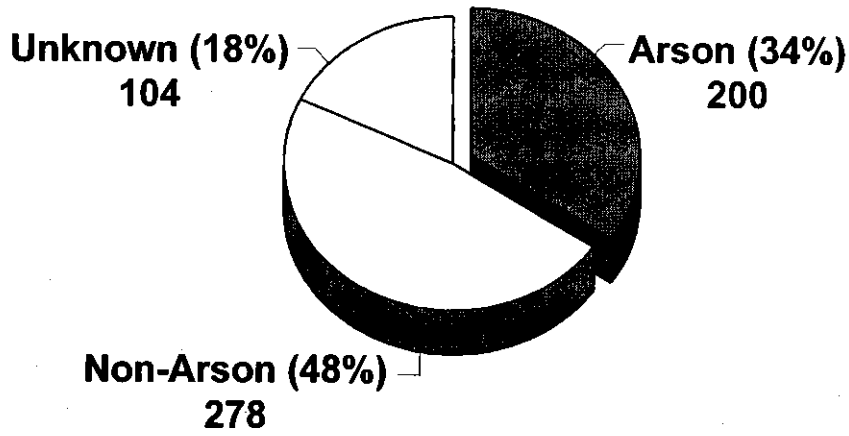
	1995 Causes		1996 Causes		1997 Causes			
	Total Fires	Total Arson	Total Fires	Total Arson	Total Fires	Total Dollar Loss	Total Arson	Arson Dollar Loss
One/Two Family Dwellings	346	76	371	111	338	$19,260,408	100	$ 4,192,580
Apartments	25	12	35	10	23	2,392,500	9	1,321,500
Hotels/Motels/Resorts	7	2	2	0	8	1,102,000	4	225,000
Dormitories	2	2	0	0	0	0	0	0
Institutional	7	4	0	0	6	2,078,000	3	1,602,000
Educational	10	6	7	3	2	500,400	1	400
Places of Assembly	7	3	15	6	14	1,281,000	8	426,000
Restaurants	7	0	6	1	9	3,200,000	5	850,000
Retail/Office	30	8	28	7	30	2,388,100	9	270,100
Industrial/Manufacturing	19	1	21	2	16	22,958,450	5	415,000
Agricultural	10	0	9	0	14	1,695,825	1	500
Storage Facilities	8	19	86	20	66	6,293,100	18	359,950
Special Structures	8	5	12	8	17	1,179,900	15	1,178,900
Mobile/Vehicle Property	37	12	41	18	38	339,300	22	196,000
Other	6	4	3	2	1	100,000	0	0
TOTAL	603	154	636	188	582	$64,768,983	200	$11,037,930

Over $11 million in property loss is attributed to arson, nearly a $2.5 million increase from 1996. Arson vehicle fires have increased by 75% since 1991; while the number of vehicle fires decreased in 1997, dollar losses continue to increase. Time spent on each case is increasing; advanced technology and more in-depth investigations allow for a full effort to increase the number of arson convictions.

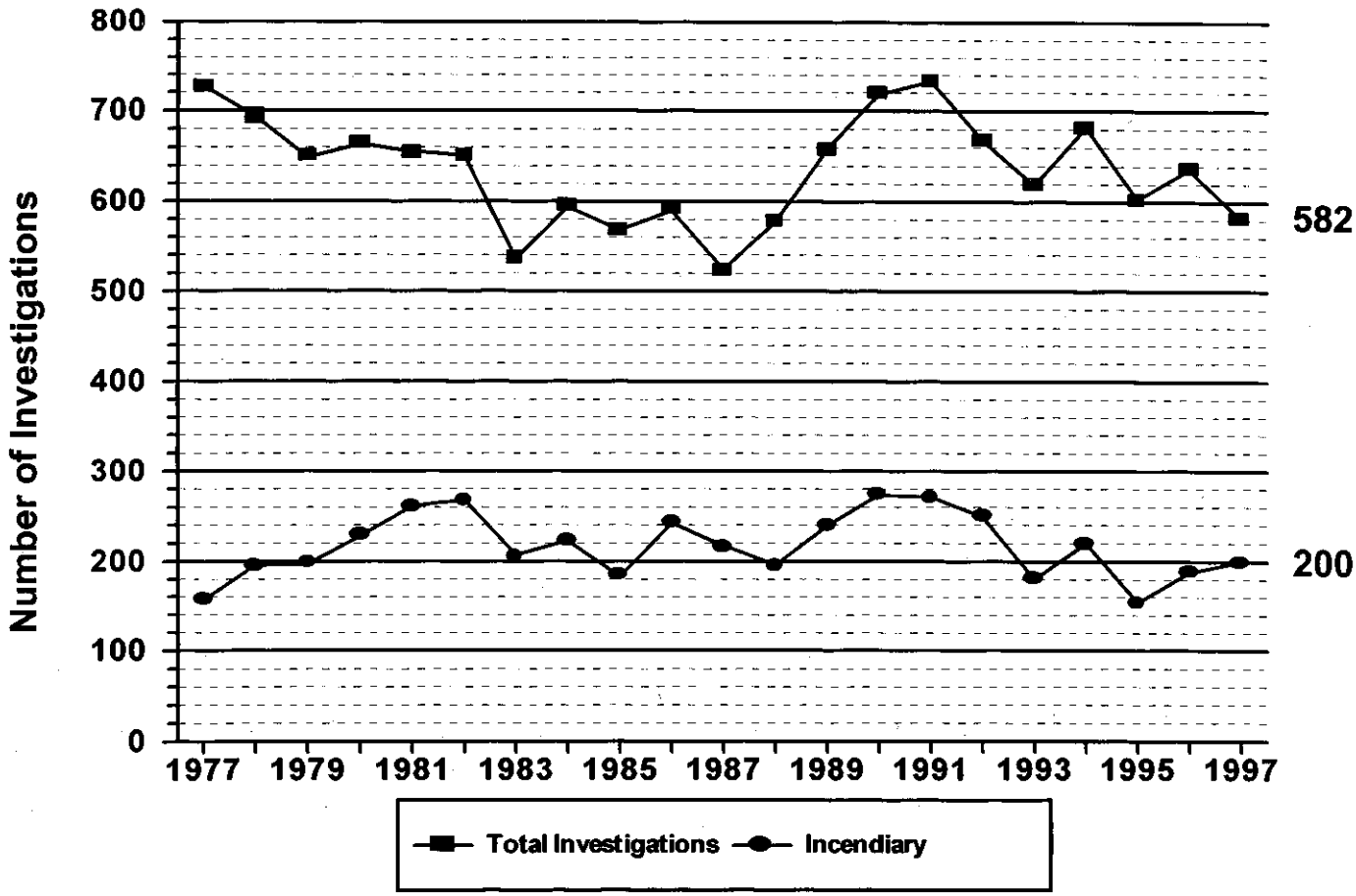
1997 Fire Investigation Accidental vs. Incendiary

Breakdown of Arson Investigations:

	Arson	Non-arson	Unknown	Total
Structure	178	267	98	543
Vehicle	22	10	6	38
Other	0	1	0	1
Total	200	278	104	582



Fire Investigation 1977 - Present



17,063 violations were found in 7,780 inspections in 1997.

FIRE SAFETY INSPECTIONS

Deputy State Fire Inspectors conducted a total of 7,780 inspections and follow-up inspections in 1997.

SFMD FIRE SAFETY INSPECTIONS 1997, BY TYPE OF OCCUPANCY

	No. of Facilities	No. of Follow-ups	No. of Bldg. Inspections	No. of Orders	No. of Violations
CHILD CARE	1,798	254	1,798	221	7,486
Foster child care	424	113	425	115	1,679
Child care centers	84	22	84	17	426
	2,306	**389**	**2,307**	**353**	**9,591**
LICENSED HEALTH CARE FACILITIES					
Nursing homes	529	177	538	15	334
Supervised living facilities >7	232	42	245	16	107
Adult foster care facilities	509	37	509	43	1,611
Class B nursing homes	46	12	49	1	17
Supervised living facilities <6	103	21	104	2	35
Group homes	3	0	3	0	0
Adult day care facilities	16	4	16	3	36
	1,438	**293**	**1,464**	**80**	**2,140**
HOTELS/MOTELS/RESORTS					
Resorts	367	387	512	206	876
Motels	303	287	328	183	748
Hotels	103	128	105	53	381
	773	**802**	**945**	**442**	**2,005**
RESIDENTIAL					
Boarding/Lodging	68	36	73	15	217
Apartments	53	66	59	29	228
One/two family dwellings	11	3	11	3	51
Dormitories	22	10	24	10	76
	154	**115**	**167**	**57**	**572**
MEDICAL FACILITIES					
Hospitals	66	21	66	12	92
Surgical centers	6	1	6	2	1
	72	**22**	**72**	**14**	**93**
EDUCATIONAL FACILITIES					
Schools	**311**	**633**	**318**	**108**	**1,767**
COMMERCIAL					
Public assembly	28	25	30	10	109
Offices	32	7	34	10	66
Restaurants	9	6	9	3	15
Industrial/Manufacturing	22	10	22	6	76
Service stations	5	7	5	5	20
Retail	18	21	18	7	42
	114	**76**	**118**	**41**	**328**
OTHER PROPERTY					
Flammable/Combustible liquid	64	50	64	36	67
Prisons/Jails	52	38	135	31	308
Special properties	8	2	16	0	121
Special structures	4	0	7	0	3
Storage	1	0	3	0	0
L.P. facilities	3	2	3	1	3
Other properties	38	17	38	8	65
Fire stations	3	0	3	0	0
	173	**109**	**269**	**76**	**567**
TOTAL INSPECTIONS	**5,341**	**2,439**	**5,660**	**1,171**	**17,063**

FIRE AND LIFE SAFETY INSPECTION

- **Residential Team**

The Residential Inspection Team is responsible for fire safety inspections in three main areas. First, hotels and motels are mandated by statute to be inspected at least once every three years; resorts, by Division policy, are inspected at least once every four years. Initial fire and life safety inspections are also conducted for the Department of Health prior to the licensing of bed and breakfast facilities.

A second major responsibility is the inspection of day care and foster care facilities for initial licensure by the Department of Human Services. The day care/foster care field experiences a high turnover rate, which results in many new facilities to be inspected each year. In response to the identified need for more day care facilities, the State Legislature provided for the addition of two residential inspectors, funded through Human Services. This program is now in its second year, and has demonstrably reduced the waiting time for day care inspections.

Finally, the residential inspectors respond to the majority of referral inspection requests and complaints regarding life safety. These mandates include inspections within all 87 counties of the State of Minnesota. The Residential Inspection Team consists of Supervisor Roger Jemming and nine Deputy Fire Marshal Inspectors, who are stationed throughout the state.

The vast majority of residential inspections are for day care and child care facilities.

Despite the recurring cycle of mandatory inspections and the ever-increasing workload, the Residential Team continues its efforts to keep current and to provide a timely response to requests for new day care/foster care inspections.

By request, this team also inspects a majority of county jails within the state, as well as inspecting aboveground tank dispensing operations for compliance with the Minnesota Uniform Fire Code (MUFC). Various types of other properties are inspected at the request of local or county authorities; the team acts as consultants to property owners, architects, contractors, public officials and the general public regarding the requirements of the MUFC.

- **Health Care Team**

The Health Care Section of the State Fire Marshal Division has the responsibility for conducting annual fire and life safety inspections in 1,150 health care facilities licensed by the Minnesota Department of Health, as well as approximately 100 residential group homes licensed by the Minnesota Department of Human Services. In addition, the Health Care Team is responsible for inspecting, on a one-time-only basis, adult day care,

Every hospital, health care facility, and licensed residential group home in Minnesota is inspected annually.

adult foster care, and developmental achievement centers. When necessary, the Health Care Section also assists the residential team with inspections of home-based day care facilities.

This section includes Supervisor Patrick Sheehan and one clerical staff person in the headquarters office, and seven Deputy State Fire Marshal Inspectors located throughout the state.

The Health Care Team enforces the Minnesota Uniform Fire Code (MUFC) as a part of the Minnesota Department of Health licensing requirements for health care facilities. This team also enforces the fire safety requirements of the Federal Health Care Financing Administration for those hospitals, nursing homes, and supervised living facilities that receive Medicare/Medicaid reimbursement for the patients and residents of these facilities. These federal inspections are conducted under a contract with the Department of Health which administers the federal enforcement program in Minnesota.

In addition to inspection duties, the health care inspectors regularly provide fire safety inservice training to facility staff, give presentations at health care associations' conferences, and provide demonstrations on sprinkler systems using the fire sprinkler demonstration trailer that is now owned by the State Fire Marshal Division.

In 1996, the responsibility for inspecting state-owned prisons was added to the Health Care Section. With 10 state-owned correctional facilities, one privately owned facility, and one additional state-owned prison now nearing completion, these facilities were put on a rotating schedule that includes one prison facility inspection each month. Throughout 1997, this additional work was performed by one inspector specifically assigned to inspect these facilities. Other health care inspectors helped with health care inspections in his territory, to allow sufficient time for the prison inspections. The inclusion of prison inspections in the Health Care Section has proved to be a positive change, with the key to its continued success being the teamwork of the health care inspectors and the health care section secretary.

During 1997, the Health Care Team inspected 1,536 buildings in 1,510 hospitals and health care facilities, as well as buildings in the eleven prison facilities.

PUBLIC SCHOOL INSPECTION PROGRAM

The Public School Inspection Program completed seven years of operation in 1997. This program, established by the state legislature in 1990, requires the State Fire Marshal to inspect each of the state's roughly 1,500 public schools once every three years. Included in this mandate are all of the state's public elementary, middle/junior high and high schools, charter schools, and area learning centers.

School inspections revealed 1,767 fire code violations in 311 schools in 1997.

The primary focus of this program is to eliminate the fire and life safety violations found in many of the public schools. Emphasis is placed on the fire/life safety of the school's occupants: students, teachers, other staff and community members. Because of the age, construction, and use of many of the state's school buildings, policies were developed which allow the installation of automatic fire protection systems (primarily automatic sprinklers and automatic fire alarms) as alternatives to correct many of the fire and life safety problems found in these buildings. Because of the expenses associated with major construction or remodeling projects, many school buildings are being "retroactively" equipped with automatic sprinkler systems and automatic fire alarms. Over 40 percent of the state's public schools have already installed automatic sprinkler protection in at least a portion of the building. This percentage should go up significantly as more school districts correct cited violations by installing sprinklers, and as sprinklers are included in new construction.

The program is staffed by three field deputies, a field supervisor, a plan reviewer and a part-time clerical support person. The plan review and clerical support functions operate out of the Division's St. Paul headquarters office. Robert Imholte serves as the team's supervisor. This staff works closely with the Minnesota Department of Children, Families and Learning (formerly the Department of Education), which controls funding for many school facility upgrades and safety improvements.

The 1990 legislation also allowed fire departments who had been inspecting the schools within their jurisdictions to continue their inspection programs under contract with the State Fire Marshal. In 1997, 20 fire departments contracted to conduct their own school inspections; 168 schools were inspected under these contracts.

In the 1996-97 school year, there were 355 school districts in the state and 34 Charter Schools. These school districts serve over 837,000 students in grades K through 12. Their safety is directly enhanced by the school inspection program. Also affected are some 48,200 teachers. With support personnel and community usage of school buildings added in, the school inspection program impacts the fire/ life safety of well over one million persons.

In 1993 the State Fire Marshal Division entered into the original contract with the Department of Education (now known as the Minnesota Department of Children, Families and Learning) for conducting plan reviews on school projects that exceeded $10,000.00. The Division's plan reviewer is responsible for checking plans for construction or remodeling of existing buildings to ensure that the code requirements are met, that outstanding violations are corrected, and that state dollars are used effectively. For new construction, plans for fire alarm and sprinkler system installations are reviewed and plans are also checked to ensure that the fire department access and water supply requirements of the code are met. In 1997, 115 school plans were reviewed. The plan reviewer maintains a close

working relationship with the State Building Codes and Standards Division and spends many hours each week serving in a consultant capacity to school district officials, architects and contractors in the areas of building and fire codes.

Roughly 57 percent of the schools inspected throughout the state have upgraded to conform to the minimum standards of the Minnesota Uniform Fire Code. Acceptable plans of correction are in place, which will bring many others into full compliance in the coming year. It is expected that the next year and a half will be devoted primarily to conducting follow-up inspections on buildings with outstanding corrective orders.

CODE DEVELOPMENT/PLAN REVIEW

The Code Development/Plan Review Section of the State Fire Marshal Division is staffed by two Deputy State Fire Marshal – Code/Plans Specialists. These two deputies provide consultation and technical assistance in matters related to fire safety to local/state fire and building officials, property owners/managers, architects, engineers, contractors, and the general public. In an average month, the code/plans specialists handle approximately 500 requests for information regarding fire safety statutes, fire code requirements, and fire safe practices.

The code/plans specialists also conduct plan reviews of certain types of hazardous installations, particularly aboveground fuel storage tanks and liquefied petroleum gas installations. There were 566 plan reviews conducted in 1997.

In addition to these duties, the code/plans specialists conduct fire safety training for fire service groups, safety professionals and the public. Each year, fire safety information is provided to hundreds of people at dozens of presentations.

In 1997, the code/plans specialists assisted other State Fire Marshal Division personnel in the adoption of an updated version of the state fire code (called the Minnesota Uniform Fire Code). This code was formally adopted in the first half of 1998 but most of the work developing the proposals and drafting the rules took place in 1997.

As a normal part of their duties, the code/plans specialists interact with many other safety officials. They frequently represent the State Fire Marshal Division on committees and task forces. As such, they are an integral part of the Division and are very knowledgeable about emerging trends and new technologies in fire protection.

FIRE PROTECTION LICENSING SECTION

Program calls for licensing fire protection contractors who sell, design, install, modify, or inspect fire protection systems.

The Minnesota Fire Protection Contractor Licensing Law (Minnesota Statute 299M.01-12) authorizes the State Fire Marshal to regulate the fire sprinkler industry. The law requires the licensing of contractors and certification of sprinkler fitters. The rules that were promulgated as a result of the law require fees to be collected for licensing and permitting of fire protection-related work. The Fire Protection Licensing Section also investigates complaints, inspects sprinkler installations and provides education and information services to the sprinkler industry, public officials and the public.

The Fire Protection Licensing Section is headed by Bob Dahm, supervised by Dave Stegura, and includes two plan review/code specialists, one field inspector and one clerical support person.

Licensing of fire sprinkler contractors and certifying journeyman sprinkler fitters began on February 21, 1994. In 1997, 59 contractors and 4 design contractors were licensed. In addition, 490 journeyman sprinkler fitters and 61 limited journeyman sprinkler fitters were certified during the year. Litigation was filed on February 22, 1994, that restricted the state rule requiring apprentice sprinkler fitter participation in a federal or state approved training program. In March of 1996, the federal ruling eliminated the ability of the State Fire Marshal Division to register and/or require federal or state approved training of apprentices.

The State Fire Marshal Division performs sprinkler system plan review and issues permits for 640 communities in Minnesota. Cities may issue fire protection system permits if they meet program and training documentation requirements. The Division issues fire protection system permits for all installations not performed by cities and the State Building Codes Division. In 1997, the Fire Protection Licensing Section performed the following activity:

	1994	1995	1996	1997
Sprinkler Contractors	57	58	56	59
Design Contractors	7	7	3	4
Journeymen	464	457	476	490
Limited Journeymen	87	87	68	61
Permits Issued	116	275	352	327
School Review Assistance	91	42	25	11
Complaint Investigation	20	81	62	13
Field Inspections	17	45	34	17
Generated Revenue:				
Permits	$ 21,360	$ 89,016	$102,756	$119,465
Surcharges	27,185	113,031	106,951	119,889
Licenses	79,795	80,985	78,460	79,900
TOTAL	**$128,340**	**$283,002**	**$288,167**	**$319,254**

345 Fireworks Operators have been certified since the certification program began.

The Fire Protection Licensing Section supports training and education through seminars and presentations. The Advisory Council on Fire Protection Systems provides input regarding training and education needs. In 1997, the council met two times. In 1997, there was one meeting held with the contractors concerning licensing issues. In addition, the staff provided presentations at six association conferences.

PUBLIC DISPLAY FIREWORKS OPERATOR CERTIFICATION

As a result of a study conducted by the State Fire Marshal Division concerning safety aspects of public fireworks displays and fireworks display operator qualifications, the Minnesota Legislature passed a new fireworks law in 1995. That law required that the State Fire Marshal adopt reasonable guidelines on fireworks display safety and also certify fireworks operators.

The fireworks law (MN Statute 624.22) requires all fireworks displays conducted in the State of Minnesota on or after January 1, 1996 to be supervised by a fireworks operator certified by the State Fire Marshal Division. An operator may be certified by passing a written examination administered or approved by the State Fire Marshal. The examination satisfactorily demonstrates the applicant's knowledge of statutes, codes, and nationally recognized standards of safe practice for the discharge and display of fireworks.

Fireworks operator certification began in January, 1996 with testing locations throughout the state. After the initial testing period, applicants could come to the State Fire Marshal Division headquarters to take the examination. As a result of the certification process, there are currently 345 licensed fireworks display operators. Of those, 232 are certified for outdoor fireworks displays, 8 are certified for indoor (proximate) fireworks displays, and 105 are certified to conduct both outdoor and indoor fireworks displays.

After every display, the certified operator must submit a Fireworks Display Report to the State Fire Marshal Division. In 1997, 428 reports have been received, with information on type and number of shells used, property damage, injuries, and product defects. Although twenty-five instances of firework malfunction were recorded in display reports, only one bystander injury was reported. Analysis of these reports will make it possible to assess the impact of controlled fireworks displays, and help identify any consistently defective products or operational problems.

In Minnesota, a state where fireworks are illegal, *fireworks losses since 1989 caused:*
- *over $1.2 million loss*
- *339 injured*
- *61% of the injuries were children*

The display report information becomes particularly important when we consider that 339 people have been injured by illegal fireworks since 1989. Sixty-one percent (61%) of these were children from infants to age nineteen. During the same period, over $1.2 million in property was destroyed. Most of the incidents, and the majority of property damage each year occurs during June and July. From 1989-1997, 78% of those injured were male. The type of illegal firework cited most often in injury reports was the bottle rocket.

Minnesota State Statute specifically states that "it shall be unlawful for any person to offer for sale, expose for sale, sell at retail or wholesale, possess, advertise, use, or explode any fireworks." The term "fireworks" includes all firecrackers, bottle rockets, roman candles, sparklers, party poppers, whipper snappers, and snap-n-pops. The only legal items in the state are fireworks for public display (for which a permit is required), and caps for toy guns.

HAZARDOUS MATERIALS REGIONAL RESPONSE TEAM PROGRAM

The Hazardous Materials Regional Response Team Program utilizes local public and private sector organizations, under contract with the Minnesota Department of Public Safety, to provide specially trained and equipped personnel who respond to support local authorities during hazardous materials incidents. The Hazardous Materials Section of the State Fire Marshal Division is responsible for the development, implementation, and administration of the operational components of the program.

A total of ten public and private agencies serve as regional teams. Emergency Response Teams (which also serve as Chemical Assessment Teams) include the Duluth Fire Department, Moorhead / Fargo Fire Departments, Rochester Fire Department, and the St. Paul Fire Department. Chemical Assessment Teams include the Arrowhead HazMat Team (Grand Rapids Fire Department), North Metro HazMat Team (Fridley, Coon Rapids, and Spring Lake Park / Blaine / Mounds View Fire Departments), Hopkins Fire Department, Mankato Fire Department, St. Cloud Fire Department, and one private entity: West Central Environmental Consultants, Inc.- Morris. A new contract cycle began on July 1, with each team electing to renew its contract for a two-year period.

Hazardous Material Response Team Program calls for statewide system of 4 Emergency Response Teams supported by 6 Chemical Assessment Teams.

The teams began their first full year of operation by responding to numerous incidents throughout the state. Transportation system responses were made to train derailments, natural gas leaks, and highway accidents involving a variety of hazardous materials. Fixed facility responses were made for chemical fires, uncontrolled reactions, and chemical spills. Other types of incidents included clandestine drug labs and controlling gasoline vapors in sewer systems. The most common types of assistance requested were air monitoring, substance identification, and technical advice.

The Team Advisory Committee continued to be an integral part of the program. Committee work groups were also formed to address specific program areas including training, equipment, suggested operating guidelines, and team medical support.

The teams were active in providing hazardous materials training to departments within their primary response areas, either on their own or in conjunction with community college fire training programs. In addition, the teams participated in numerous hazardous materials exercises conducted at various locations throughout the state. These activities will continue during 1998 in an effort to fully integrate the regional team program with local response capabilities.

FIRE DATA

Departments reporting by electronic means provided 85% of all reports in 1997.

The Fire Data Analysis team is headed by Bob Dahm, newly appointed Bureau Chief, and includes Ernie Scheidness, Nora Gierok, and Irene Moore. This team collects and analyzes over 146,000 incident reports annually. They also provide technical assistance to 794 Minnesota fire departments. This team tracks major incidents as they occur and begins the process of providing data and information to local fire service leaders and the media regarding similar incidents and/or trends as they develop.

This team also provides special reports to local fire departments that request comparative data for budget justifications, public education, or community efforts to further the adoption of local codes or ordinances. Additionally, arson fires in Minnesota have been watched very closely and data is being used to develop strategic plans and trend analysis to combat this problem. In addition, incidents in the high-risk fire death groups (such as elderly, disabled, and young children) are being monitored to provide information on how best to address the fire safety concerns of these target groups.

Data collection through the Minnesota Fire Incident Reporting System (MFIRS) is a major program in the Division. Data is critical in determining where efforts and resources should be placed. Efforts to pass legislation relating to the life safety of Minnesotans have been greatly assisted by the data received from the fire service through MFIRS reporting. The number of fire departments participating in MFIRS has increased significantly in the past five years, and has provided a wealth of information which exerts a major influence on the direction of statewide fire and emergency response efforts.

There were 695 fire departments that reported in 1997, a slight increase in MFIRS participation. Of the reporting departments, 176 did so electronically, and they provided 85% of all reports in 1997. Quality assurance and blank fields continue to be major concerns with reporting. Again in 1997, 20% of structure fires were reported as "cause unknown." Reporting of smoke detector and sprinkler performance also needs improvement. We sincerely encourage each fire department to join our efforts and support the MFIRS system. The data we collect can assist departments in justification of staffing, equipment, training, and prevention needs for their communities. Please contact our office for assistance in getting started with MFIRS reporting. The Fire Data Team members are always ready to help with technical and other reporting questions.

The New National Reporting System Update

The specification for the new NFIRS 5.0 is nearing completion. When the new system is released by the United States Fire Administration, many vendors will begin to develop their own software programs to meet the new specification to either sell as a new package or to upgrade current users' software.

As the new NFIRS version gets closer to reality, fire departments will be kept apprised of any changes which may affect them.

Current Users of Commercial Software:

If you already using a software program in your department you may wish to contact your software vendor and question them about their intentions to upgrade to the new NFIRS specification. The costs for upgrading and the timelines for implementation should also be discussed with your vendor.

Those Considering New or Upgraded Software:

If you are considering the purchase of new or replacement software in the near future, you may wish to inquire about your prospective vendor's policy on upgrades to meet the new NFIRS requirements.

In either case, you may wish to have this information in writing.

For Users of the NFIC-NFIRS SOFTWARE:

If you are using the generic NFIRS program received from the State Fire Marshal Division, you may wish to begin considering your options:

1. Remaining on a generic system if it is again available
2. Exploring a commercial vendor's software

Although you may continue to report using the current system for a period of time, it is anticipated by the year 2000 you may experience trouble doing multi-year data comparisons. It would be best for your department to upgrade to NFIRS 5.0 software.

The generic data entry tool that will be available from the USFA through our office will be a data entry tool only. There will be no data analysis tools provided with it. Also, if data is kept locally, there is a need to have Microsoft Access 97 software installed in the local computer in order to have a locally-held data base.

The new and old systems may be used simultaneously for a transition period; however, it may be to your advantage to move to the new MFIRS program right away. This would allow you to implement all the changes at once and avoid making several changes over time.

For those submitting incidents on the State MFIRS paper forms:

You will be asked to change forms and report on the new NFIRS 5.0. The new report forms will be actually somewhat simplified compared to those in use today. The Division will supply the forms, training and handbooks that will be needed to switch to the new system. It is our plan to conduct training throughout the state on the new NFIRS system and we will announce training opportunities as they become available.

PUBLIC EDUCATION

As in previous years, our Division has worked very hard in conjunction with the many proactive fire departments in our state. The dedication and confidence in public fire and life safety education within the Minnesota Fire Service is increasing and expanding to meet the needs of our citizens. These collaborative efforts have great results, with statistics showing a reduction in fire incidents and property loss. Fire deaths have also been decreasing from the 1970's and 1980's. Nationally, fire deaths continue to rise.

In 1996 and '97, 104 fire departments have distributed 123,000 smoke detector brochures from the State Fire Marshal Division. Additionally, the Division was able to purchase, at a reduced rate, over 6,000 smoke detectors. Twenty-eight fire departments alone ordered 4,467 smoke detectors for give-a-way programs. The fire departments were: Austin, St. Paul, Farmington, International Falls, Red Lake, Goodhue, Hutchinson, S. St. Paul, Alexandria, Northfield, Stewartville, Glenwood, Chisholm, North St. Paul, Dassel, Forest Lake, Thief River Falls, Lismore, Victoria, Dovray, Rush City, Round Lake, Spring Lake Park-Blaine-Moundsview, Apple Valley and Mankato. Three social service agencies also received smoke detectors: Grand Portage Reservation, American Red Cross Youth Services and the MN Department of Health.

The Division donated 250 smoke detectors to the Grand Forks area for flood relief along with 3,000 batteries to ensure that those moving back into their homes who could not afford a detector would have access to one.

The Division was also the recipient of a $60,000 gift to purchase smoke detectors for those most at risk from fire. Fifty percent of the funding was to purchase smoke detectors for the hearing impaired. These units cost over $220 each and are equipped with a remote strobe that flashes in the sleeping room when the smoke detector sounds.

We worked with the Faribault, Austin, St. Paul, and Northfield Fire Departments as well as the American Red Cross Youth Services in Minneapolis and the Albert Lea Human Services Division to distribute the hearing impaired detectors. Additionally, the program generated interest in other communities, and we were able to distribute other detectors directly to those who called for assistance.

Another successful program in which the Division engaged was with the Eastern Star Chapter in Minnesota. This effort took place over a two-year period of time. Planning, training and a resource plan were established and in 1996 the program had a kick-off event at their annual meeting in Rochester. The Eastern Star volunteers attended two days of training on the Learn Not To Burn, NFPA Preschool Program in order to work with Headstart programs in Minnesota. The Eastern Star volunteers placed and trained over 800 Headstart program members. This effort had an impact on the fire safety education of over 10,000 preschool children in Minnesota. The Division feels strongly that collaborative efforts with community members and agencies who have an interest in safety is critical to reaching greater numbers of citizens.

The Division worked with the Family Alternatives Agency in Minneapolis to teach three-hour courses in home fire safety to parents and families who would be taking in "kids in crisis" and providing foster care and homes. We trained over 100 families through this program. The classes were offered in the evenings.

"Risk Watch" is a new "All Injury" safety curriculum designed for teachers to teach in the classroom. The program addresses eight key injury areas, which are: Fire and Burns, Water Safety, Falls, Poisoning, Choking, Bike and Pedestrian Safety, Firearms, and Car and Bus Safety. This concept had been discussed at the Division and in the Fire Service community for a number of years. In 1995, National Injury Prevention groups came together from all over the country to begin the work of establishing such a curriculum. The recently-released curriculum is designed to be taught in preschool through the eighth grade.

The Division assisted five fire departments with implementation of the Learn Not To Burn program for their school systems by providing inservice training. These cities are Learn Not To Burn Champion communities who successfully applied for grants from the NFPA and were given materials for 100 classrooms. The fire departments were West St. Paul--Daniel Bernardy, Waite Park--Rick Allen, St. Cloud--Jeff Howe, Alexandria--Dennis Stark, and the Minneapolis
school system. In addition, the Hastings Fire Department sponsored a training and luncheon for their school teachers, unrelated to the Champion Program. These fire departments deserve special recognition for their efforts. A great deal of work went into preparing to meet the challenge of providing fire safety education in a new way, by utilizing the school system. These fire department efforts began long before the implementation of the project, which began with the 1997-98 school year.

We are still actively involved with the MN State Fire Chiefs and the Fire Marshals Association of Minnesota public education committees. The groups jointly sponsored a Juvenile Firesetter Conference in September, 1997 and have many other valuable events planned for next year.

The Division hosts media events and press conferences throughout the year. We continually utilize the window of opportunity in fire incidents to provide the public information necessary to avoid such events. We receive a lot of feedback from the public, who, in turn, call their local fire departments for additional information or assistance.

State Fire Marshal remains committed to public education efforts to reduce the Minnesota fire problem.

The Division continues to make educating the public a priority and to make Minnesota a fire safe community for all who live, work, or play in our great state.

JUVENILE FIRE SETTING

Children using fire inappropriately is still a major cause for concern.

The problem we face with juvenile firesetting has no simple solution. In fact, the majority of the issues are not with the children at all, but with the perspective of society. Once we stop sweeping this behavior under the rug with beliefs that "it's just a phase they're in" or "it's normal; we all did it and we turned out just fine," then we can move forward with the solution. People inside and outside the fire service may be unaware of the complex issues that are behind juvenile firesetting.

Children who start fires are categorized in one of four general areas. The areas begin with curiosity, a normal but still dangerous fascination with fire. Next is the crisis category; in this category a child is attempting to reach out due to some traumatic occurrence in his or her life. The delinquent category occurs when a child has set the fire with intent to draw attention from peers or authorities to his/her "power" through destruction. Finally, the pathological category is a truly psychological disorder with a variety of symptoms and other problems. No matter what the reason for this unlawful behavior, the result is the same -- injury, death, and property loss.

Fires Involving Children Playing With Fire

	1997
Fires	559
Deaths	3
Civilians Injured	27
Firefighters Injured	6
Dollar Loss	$3.9 Million

Within which category they belong is determined through a structured interview and assessment process. It is extremely critical to perform a thorough and complete interview of the child and their parents, as well as to examine their environment, to come to an appropriate conclusion of their situation.

What is principally important is that every child who has set a fire is identified, taken through a comprehensive fire safety program, is made accountable to the justice system, receives the appropriate referral, and complies with a restitution plan. Referral may be made to one of many agencies (mental health, social services, child protection, etc.). The available statistical data shows that up to 81% of the children who set fires will repeat this behavior if proper intervention is not attained. This leads us to conclude that early intervention and treatment will prevent future criminal behavior and save countless injuries, lives, and dollars of property loss.

New to the State Fire Marshal Division is the position of Deputy State Fire Marshal – Juvenile Firesetter Interventionist. This accomplishment sincerely reflects a dedicated and committed attitude by State Fire Marshal Tom Brace and the State Legislature toward combating this growing problem. This position was filled in the spring of 1998 and the program will be introduced during fire prevention week of that year. The strategic plan includes developing regional task forces that will provide all of the components necessary for successful intervention. Regions will be prioritized for implementation by statistics and demographics, striving to have all regions operational by the end of the year 2000. Once in place, these coalitions must continually evaluate and modify their programs to ensure their effectiveness.

What can be done by the parents/caregivers?

Teaching the child about his/her role with fire and the dangers of it must be done at the very earliest opportunity. Children usually begin to grasp this type of information at about age three. As children grow older, the messages will grow with them: Not touching matches and lighters, advancing to stop, drop & roll, crawling low under smoke, and home escape drills. Adults must take this initiative and not expect that a child will learn it somewhere else.

Taking responsibility by setting a good example is also very important. Using fire starting devices properly and controlling a child's access to these devices will greatly reduce the risk. Parents/Caregivers should point out how they use safety rules in everything they do; this will help to make fire safety "second nature" to the child.

Remember, a single match can be as deadly as a loaded gun in the hands of a child. It can destroy lives, property and dreams at an incredibly rapid speed.

ADMINISTRATIVE SUPPORT SERVICES

The Administrative Support Staff for the Division is second to none. They are dedicated to assuring the internal functions of the central office run smoothly and efficiently. Although the "professional" staff has increased over the last several years, with the exception of a new receptionist position shared with the Minnesota Office of Pipeline Safety, the support staff has remained at the same level and continues to provide exceptional service to the following teams:

Fire Protection Licensing – Andrea DuBay provides support for this section. The number of licenses issued and revenues generated by this section continues to increase annually.

Residential and School Inspections – Robbie Floyd generates the inspection reports and corrective orders for this team, assists staff with special projects, and provides support to fire service organizations (i.e., Governor's Council on Fire Prevention).

Health Care Inspections – Marian Whitney is responsible for the support functions of this team. She liaisons with the Health Department and is responsible for scheduling inspections to health care facilities to meet federal inspection guidelines.

Day Care and Foster Care Inspections – this position is vacant at this time.

Receptionist – Randi Gehrke is the main receptionist for Fire Marshal and Pipeline Safety and, as time allows, provides back-up support and assistance to all teams.

Arson Investigation Reports – clerical support is provided by Pat Bell, who is also the support staff supervisor. Pat also keeps Division payroll records and is familiar with all aspects of office functions.

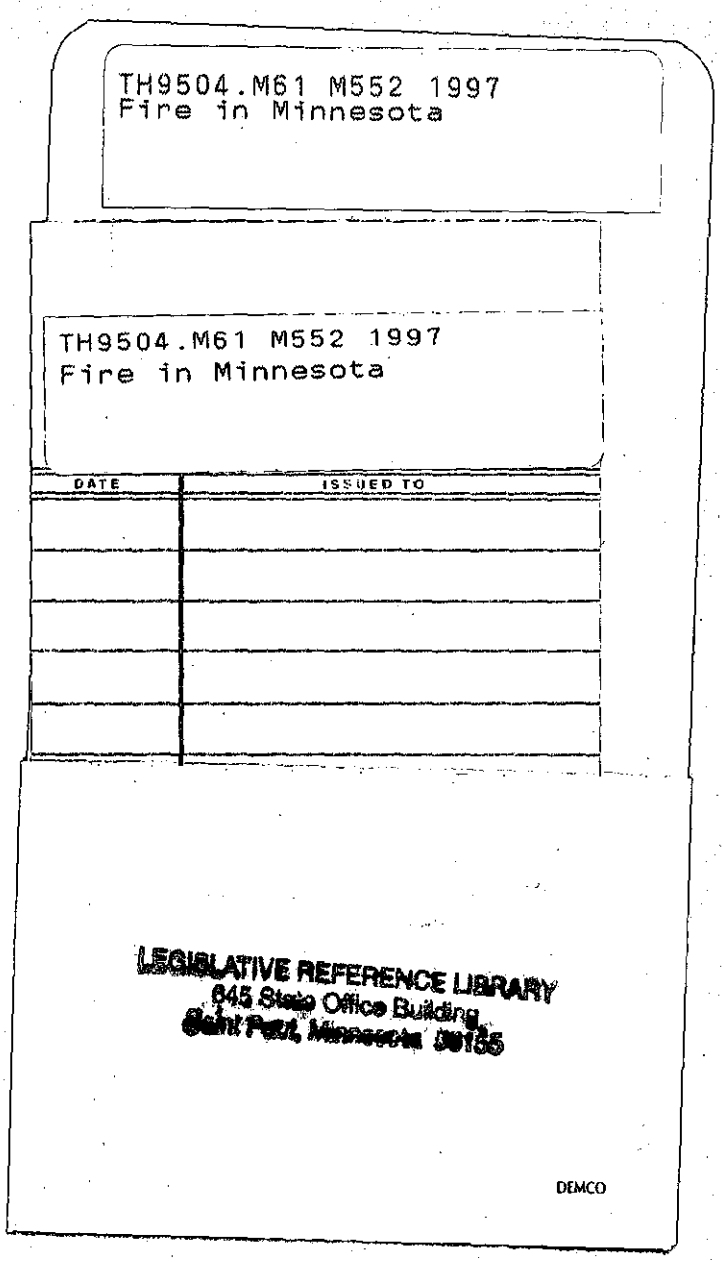
While this description cannot begin to cover the variety and scope of duties performed by Fire Marshal support staff, we want to acknowledge the importance of these individuals. Central office functions and field team operations would be unable to complete their duties and assignments without the competent assistance of these exceptional employees.

SUMMARY

The mission of the State Fire Marshal Division is to protect lives and property by fostering a fire safe environment through investigation, enforcement, regulation, hazardous materials response, data collection and public education.

We hope this report will assist you in identifying the services, programs and resources available through our Division and encourage you to contact us with any comments or concerns you may have regarding this information.

We look forward to working with the fire service, law enforcement agencies and other organizations as we continue to address the fire safety issues facing the citizens of Minnesota.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