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State of Minnesota  
Department of  
Public Safety

# **FIRE IN MINNESOTA 1995**

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*State Fire Marshal Division  
Fire Reporting System*

*Thomas R. Brace  
State Fire Marshal*



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.M61  
M552  
1995

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# ACKNOWLEDGEMENTS

## Fire in Minnesota 1995

### The story of the Minnesota fire problem: incidence, impact, causes, casualties

The annual *Fire in Minnesota* report, now in its seventh year, is a collaborative effort. The participation of the great majority of the state's fire service in the Minnesota Fire Reporting System (MFIRS), has resulted in the collection of significant data describing our fire problem. The dedication and effort by those participating is greatly appreciated.

Within the State Fire Marshal Division, a number of individuals collect, enter and analyze the MFIRS data. Special thanks to Mary Nachbar, Bureau Chief, Nora Gierok, Irene Moore, and Ernie Scheidness, for their commitment and contributions to the report.

By analyzing Minnesota's 1995 fire statistics, the report reveals patterns, and highlights problems and issues of concern to the fire service and citizens of Minnesota.

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





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## From the desk of State Fire Marshal Thomas R. Brace

I am pleased to once again present to you "Fire in Minnesota 1995." We are extremely grateful to the Minnesota fire service for their diligence in capturing information regarding fire and emergency responses in the State. Their incident reports enable us to provide a fairly accurate picture of the fire problem in Minnesota.

In 1995, we collectively achieved the highest level of participation in the Minnesota Fire Incident Reporting System (MFIRS) in the history of the State Fire Marshal Division.



A special thanks to all of the fire departments who see the value in this very necessary activity.

In 1995, reporting fire departments in Minnesota responded to 132,783 calls for assistance; this was an eight percent increase over last year. While this is a significantly large number of fire responses, it should be noted that many fire departments who operate emergency medical systems do not submit their run reports to the State Fire Marshal; therefore, this number is considerably understated. While the EMS reporting is voluntary, it would be beneficial to be able to report the breadth of activity in which the fire service is involved on an annual basis.

### Fire In Minnesota 1995 - Summary

- 86 Minnesotans died in fires, a 72% increase over 1994. There were nine multiple fire fatalities, resulting in 28 deaths, 20 of whom were children. Sadly, alcohol or other drug use was present or identified as an impairing factor in 44% of all fire deaths. This was a factor in 38% of the deaths involving children as well. Additionally, in 60% of the residential fire deaths, smoke detectors were absent or not functioning.
- 328 civilians and 255 firefighters were injured in fires.
- Arson, although decreasing by 5% in 1995, is still 5% above the average number of arsons over the past four years and is a crime to be reckoned with in the future.
- Over \$132 million dollars in property was destroyed in 1995.

One of the major goals of the State Fire Marshal Division is to decrease the number of fire deaths in residences where smoke detectors were not present or not working to 25%, by the year 2000. This is a lofty goal that is part of the Strategic Plan for the Division. To accomplish this goal, we will need assistance and support from the entire fire service and the people who dwell in our communities.

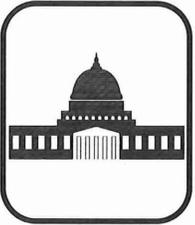
Saving lives is the most important part of our mission and if each of us do just a little, we can accomplish a lot. We cannot change the past, but we can change the future by our actions today. We look forward to working with you to make Minnesota a fire safe place to live, work, and play.



4,521

**RESIDENTIAL**

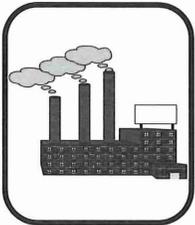
*(Single family dwellings, apartments, mobile homes, hotels, motels, etc.)*



715

**PUBLIC AND MERCANTILE**

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



1,706

**INDUSTRIAL, MANUFACTURING,  
OTHER BUILDINGS**

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



5,158

**MOBILE PROPERTY**

*(Automobiles, trucks, trains, buses, boats)*



7,698

**OUTSIDE AND OTHER**

*(Dumpsters, trash, wild land, grass, trees)*

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19,798

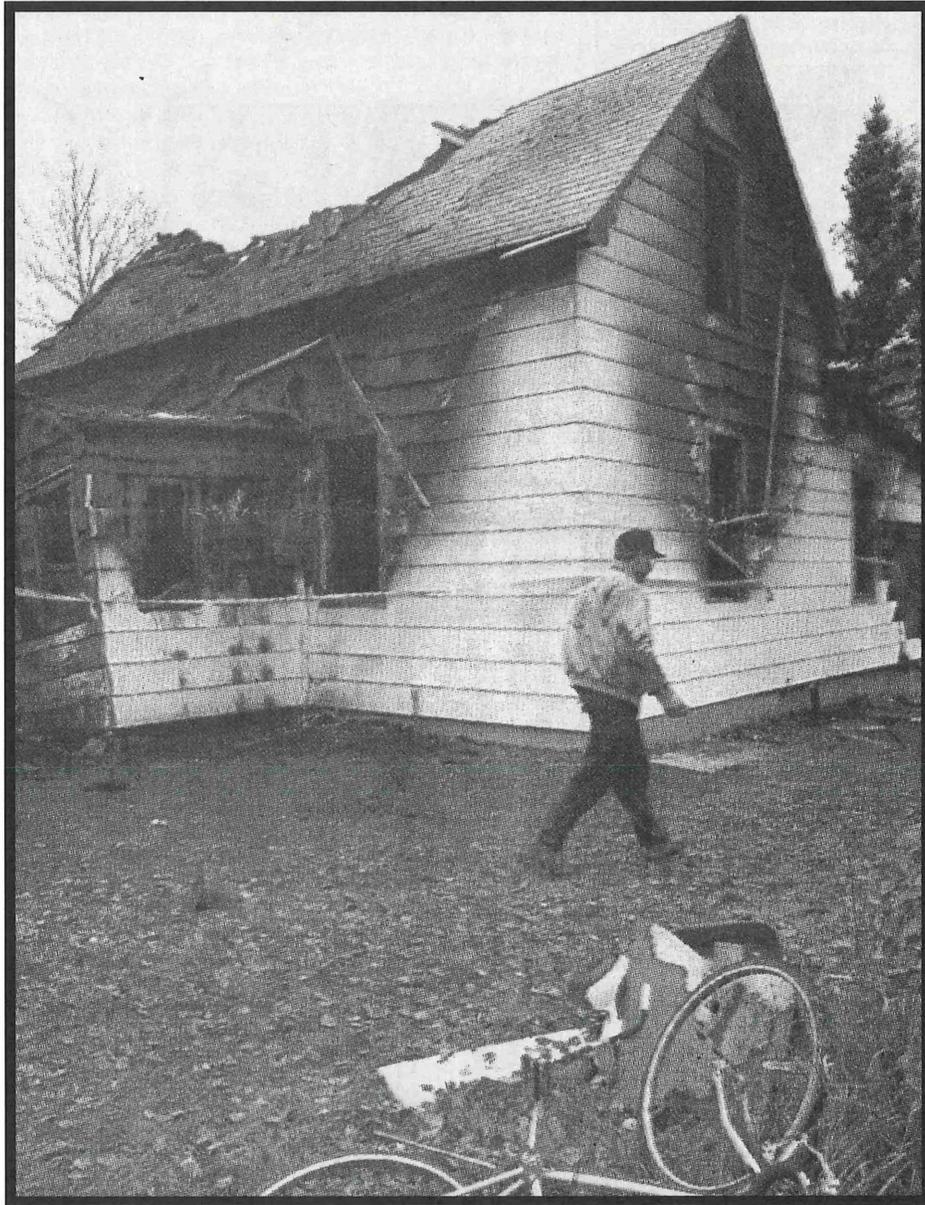
**TOTAL FIRES**

\$131,574,324

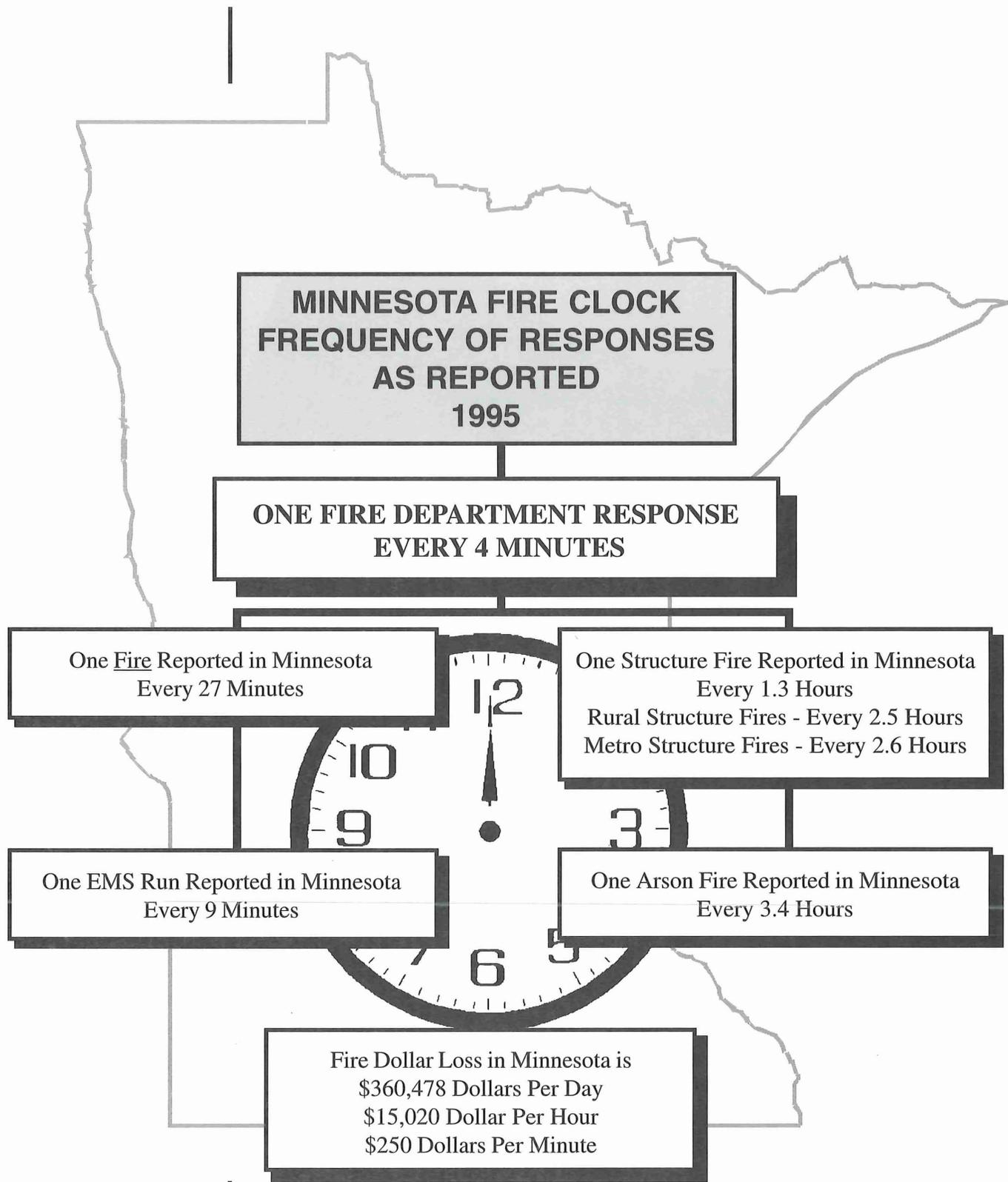
**TOTAL DOLLAR LOSS**

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# TOTAL IMPACT



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*These figures represent the collective incidents reported by 694 of Minnesota's 804 fire departments.*

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

## OVERALL STATE TOTALS

In 1995, 694 fire departments (86%) reported into the Minnesota Fire Incident Reporting System (MFIRS) which provides information on fire incidents and related data. This year's figures represent a slight increase in the participation in MFIRS over last year (when 679 departments reported through MFIRS). (See the section titled "Participation," for a breakdown of reporting and non-reporting departments.)

1995 REPORTED FIRE INCIDENTS					
Incidents Reported	7 County Metro Area	% State Total	Balance of State	% State Total	State Total
Structure Fires	3,408	49%	3,534	51%	6,942
Vehicle Fires	2,927	57%	2,231	43%	5,158
Other Fires	4,619	60%	3,079	40%	7,698
<b>TOTAL FIRES</b>	<b>10,954</b>	<b>55%</b>	<b>8,844</b>	<b>45%</b>	<b>19,798</b>
Rescue / EMS	46,652	80%	11,427	20%	58,079
Other Emergencies	4,146	68%	1,930	32%	6,076
<b>TOTAL RESCUE</b>	<b>50,798</b>	<b>79%</b>	<b>13,357</b>	<b>21%</b>	<b>64,155</b>
<b>FALSE CALLS</b>	<b>16,000</b>	<b>79%</b>	<b>4,328</b>	<b>21%</b>	<b>20,328</b>
<b>MUTUAL AID GIVEN</b>	<b>1,283</b>	<b>51%</b>	<b>1,211</b>	<b>49%</b>	<b>2,494</b>
<b>OTHER INCIDENTS</b>	<b>20,042</b>	<b>77%</b>	<b>5,956</b>	<b>23%</b>	<b>26,008</b>
<b>TOTAL CALLS</b>	<b>99,087</b>	<b>75%</b>	<b>33,696</b>	<b>25%</b>	<b>132,783</b>
<b>Estimated Direct Dollar Loss Due to Fire</b>	<b>\$54,866,433</b>	<b>42%</b>	<b>\$76,707,891</b>	<b>58%</b>	<b>\$131,574,324</b>

*Total fire incidents decreased by 7%. The number of total calls responded to by the fire service increased by 8% in 1995.*

## ACTUAL FIRES

The total number of fire incidents reported by participating Minnesota fire departments in 1995 decreased by 7% from 1994. However, the average numbers of fires calculated over the past 5 years is equalled to 19,343, making 1995 totals 455 incidents above the five-year average.

*Total number of incident runs increased by over 10,000 incidents in 1995.*

Even with minor fluctuation in reporting by fire departments, fires in structures have remained quite consistent in the last five years. When the difference in total structure fires is taken, minus the 33 fewer arson fires in 1995, the difference becomes 248. That number represents only an actualized difference of 3% from the preceding year. However, 1995 total structure fires are 43 more than the past five-year average, with the total number of overall incidents increasing by 10,000.

**FIVE-YEAR OVERALL INCIDENT COMPARISONS**  
**1991-1995**

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>94/95 Change + (-)</u>	<u>94/95 % Change + (-)</u>
<b>FIRES</b>							
Structure	6,598	6,824	6,910	7,223	6,942	(281)	(4%)
Vehicle	4,733	4,397	4,746	5,477	5,158	(319)	(6%)
Other Fires	6,784	7,396	7,220	8,612	7,698	(914)	(11%)
<b>TOTAL FIRES</b>	<b>18,115</b>	<b>18,617</b>	<b>18,876</b>	<b>21,312</b>	<b>19,798</b>	<b>(1,514)</b>	<b>(7%)</b>
<b>OVERPRESSURE RUPTURES</b>	<b>309</b>	<b>299</b>	<b>385</b>	<b>520</b>	<b>627</b>	<b>107</b>	<b>21 %</b>
<b>RESCUE CALLS</b>							
Emergency	42,809	42,164	46,560	52,193	58,079	5,886	11%
All Others	2,323	2,950	3,827	5,762	6,076	314	5%
<b>TOTAL RESCUE CALLS</b>	<b>45,132</b>	<b>45,114</b>	<b>50,387</b>	<b>57,955</b>	<b>64,155</b>	<b>6,200</b>	<b>11 %</b>
<b>HAZARDOUS CONDITION CALLS</b>	<b>4,937</b>	<b>5,121</b>	<b>5,618</b>	<b>6,448</b>	<b>7,132</b>	<b>684</b>	<b>11 %</b>
<b>SERVICE CALLS</b>	<b>4,487</b>	<b>4,790</b>	<b>4,547</b>	<b>5,265</b>	<b>6,847</b>	<b>1,582</b>	<b>30 %</b>
<b>GOOD INTENT CALLS</b>	<b>6,195</b>	<b>6,622</b>	<b>7,499</b>	<b>9,451</b>	<b>10,537</b>	<b>1,086</b>	<b>11 %</b>
<b>FALSE CALLS</b>							
Malicious	1,173	1,308	1,278	1,445	1,456	11	13%
Other False	14,773	14,133	15,477	16,782	18,872	2,090	8%
<b>TOTAL FALSE CALLS</b>	<b>15,946</b>	<b>15,441</b>	<b>16,755</b>	<b>18,227</b>	<b>20,328</b>	<b>2,101</b>	<b>9 %</b>
<b>MUTUAL AID GIVEN</b>	<b>1,916</b>	<b>2,108</b>	<b>2,556</b>	<b>2,557</b>	<b>2,494</b>	<b>(63)</b>	<b>(2%)</b>
<b>ALL OTHER</b>	<b>524</b>	<b>425</b>	<b>550</b>	<b>673</b>	<b>865</b>	<b>192</b>	<b>29 %</b>
<b>TOTAL CALLS</b>	<b>97,561</b>	<b>98,537</b>	<b>107,173</b>	<b>122,408</b>	<b>132,783</b>	<b>10,375</b>	<b>8 %</b>
<b>TOTAL DOLLAR LOSS</b>	<b>\$110.1M</b>	<b>\$122.4M*</b>	<b>\$109.0M</b>	<b>\$153.1M**</b>	<b>\$131.6M†</b>	<b>(\$21.5M)</b>	<b>(14%)</b>

\*Includes two \$10 million dollar fires.

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

†Includes one \$15 million dollar fire.

*Overall dollar loss decreased by \$21.5 million, but still exceeds that in 1991-1993.*

Overall, dollar losses decreased by 14%, however, a \$12 million school fire in Burnsville and dollar loss experienced during the northwest suburban serial arsonist problem totalled over \$20 million - making 1995 losses extremely high.

*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. In 1995, residential structure fires decreased in number from the previous two years. On average, 4,575 fires have occurred in residential structures each of the past five years. This is roughly equivalent to 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 1991 - 1995						% increase (decrease) 1994-1995
	1991	1992	1993	1994	1995	
<b>Residential</b>	4,457	4,515	4,650	4,741	4,521	(5%)
<b>Educational/ Institutional</b>	204	258	272	234	240	3%
<b>Public Assembly/ Commercial</b>	439	510	474	512	475	(7%)
<b>Industrial/ Manufacturing</b>	362	336	353	380	449	18%
<b>Storage</b>	871	990	944	1,053	1,009	(4%)
<b>Special/Other</b>	214	170	156	215	203	(6%)
<b>Unclassified</b>	51	45	61	88	45	(49%)
<b>TOTAL</b>	<b>6,598</b>	<b>6,824</b>	<b>6,910</b>	<b>7,223</b>	<b>6,942</b>	<b>(4%)</b>

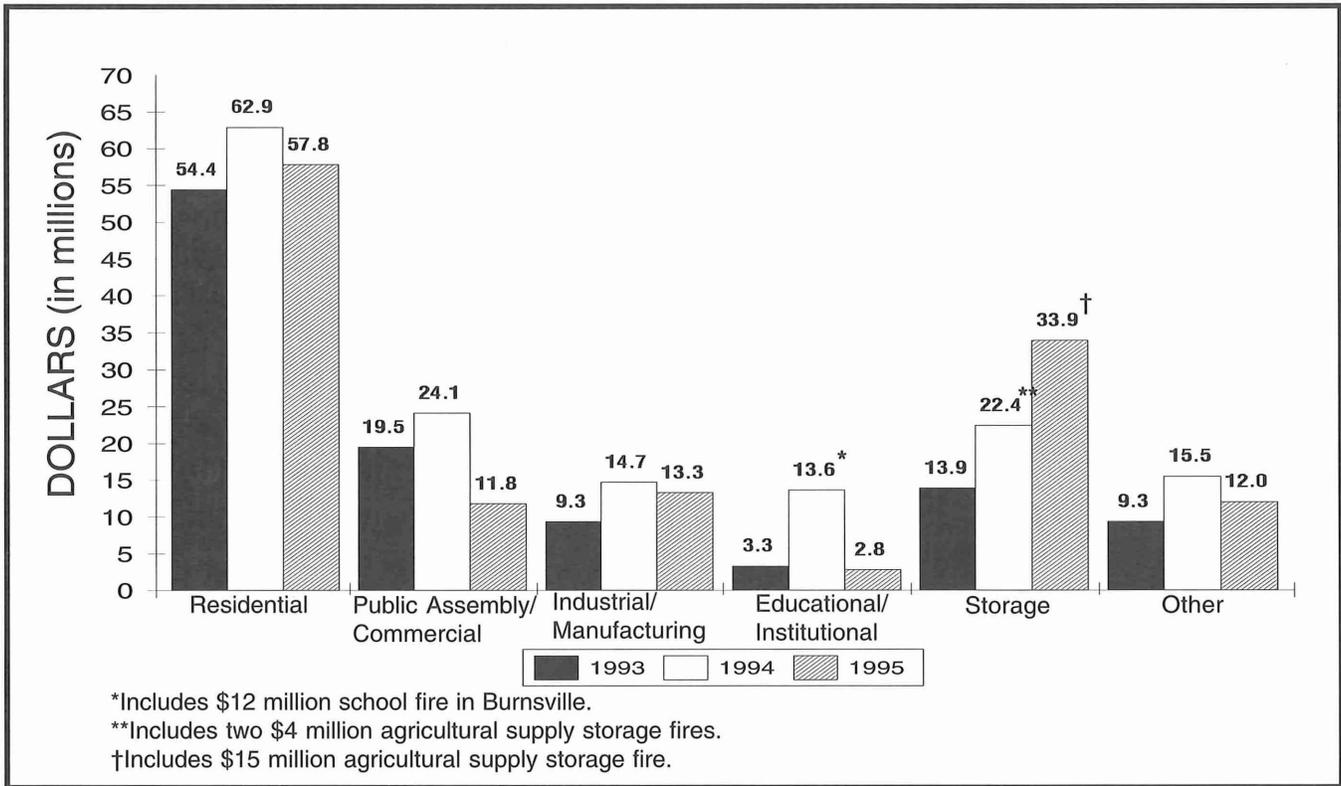
*The number of reported fires in residential occupancies showed a 5% decrease. However, deaths in residential structures increased by 72%.*

While the total number of reported structure fires decreased in 1995 from the five-year high reached in 1994, based on average, the status quo was maintained. While fires and dollar loss in residential properties declined by 5%, it should be noted that 1995 was one of the deadliest years on record since 1989. Eighty-six Minnesotans lost their lives from these deadly, costly fires and there was 1 death per every 60 residential fires reported.

OVERALL STATEWIDE DOLLAR LOSS

65% of all structure fires were in residences.

DOLLAR LOSS BY PROPERTY TYPE



Residential fires caused 44% of total dollar loss in 1995.

The 1995 dollar loss in residential property decreased by \$5.1 million. However, 1995 dollar losses are still higher by several million dollars than the previous four years. Residential fires accounted for 65% of all structure fires and 44% of total dollar loss.

Although the number of fires reported in educational/institutional properties increased by 3%, the dollar loss decreased by \$10.8 million in 1995, due to the 1994 high school fires. Therefore, the 1995 dollar loss remains consistent with previous years.

Fires in storage facilities decreased by 4% in 1995 from 1994, yet there is a 51% increase in dollar loss. This increase was due to one \$15 million agricultural storage fire, therefore, actual 1995 dollar loss is closer to the \$18.4 million three-year average.

Average dollar losses per structure fire in 1995 resulted in dollar losses in excess of \$19,000 per incident.

## SUMMARY

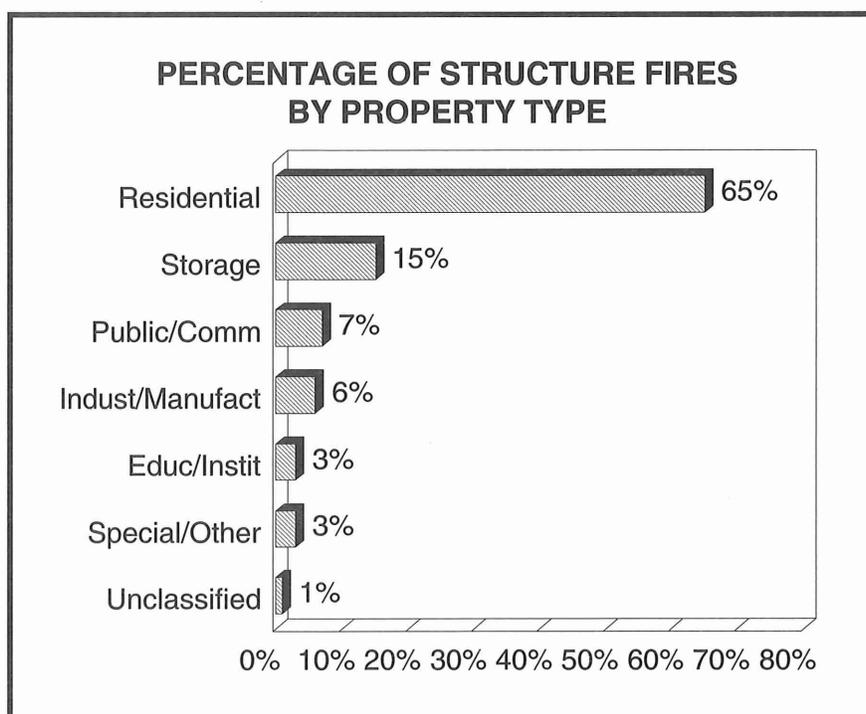
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*In the past eight years residential dollar loss amounted to over \$414 million dollars.*

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Participation in MFIRS increased in 1995 with a total number of reported incidents increasing by 8%. Dollar loss was in excess of \$131 million.

Fires occurred most frequently in residential-type properties and in significantly higher percentages than the next most reported property type: storage facilities. **Residential fires accounted for 65% of all structure fires and were responsible for 44% of total dollar loss and 78% of all fire deaths, making the home one of the most dangerous places to be in regard to fire.**



In the last 8 years, of the \$907.1 million in dollar loss caused by fire, over \$414 million (46%) has been the result of fires in residences.

Dollar loss from fires remain high in Minnesota and continue to be a significant problem. Commitment to stop fires before they occur is the only way to stop the significant loss of life and property from fire. This can only occur if there is a recommitment to public education and fire prevention efforts.



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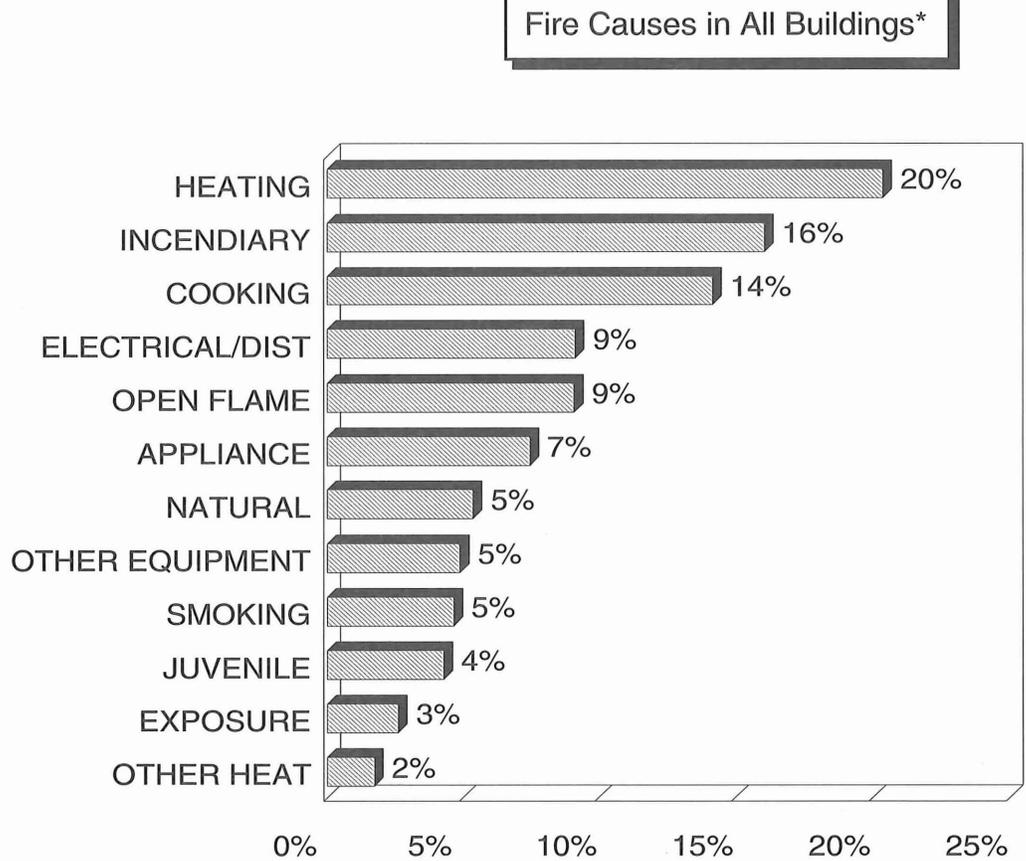
# CAUSES



*Photo-Associated Press*

## CAUSES

For the 7th year in a row, heating, arson, 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.

When fire causes in all types of buildings are combined, heating, arson, and cooking emerge as the first, second and third overall leading causes of structure fires. In residential structures, looked at alone, heating leads, followed by cooking, then arson fires. Residential fires represent 65% of structure fires. In educational and storage/office properties, arson was the leading known cause of fire with 48% in educational and 16% in storage/office properties. Even though arson as a cause remained at 10% of residential fires, the dollar loss from those fires rose 29% over 1994.

Even though arson as a cause remained at 10% of residential fires, the dollar loss from those fires rose 29% over 1994.

The overall pattern of heating/incendiary/cooking as leading identified causes has been consistent for the past several years. Heating fires are 20% of the total identified fires. Arson, however, has increased as a percentage of total structure fires, from 11.6% in 1989 to 12.1% in 1990, to 13% in 1991 and 1992, and jumped to 16% in 1993, 17% in 1994, then dropped back to 16% in 1995. It should be noted, however, the cause of 22% of all structure fires was reported as unknown.

## A Closer Look at Major Fire Causes . . .

*Nine people perished in heating-related fires -- the majority of which were due to central heating systems.*

### . . . Heating Fires

The majority of heating-related fires occurred in residential property. Heating-related fires increased by 2%, with dollar loss over \$7 million. Fifty-nine percent of these fires involved fireplaces or chimneys. Nine people died in heating type fires, a 200% increase over 1994 heating-related fire fatalities.

#### DOLLAR LOSS FROM HEATING FIRES IN RESIDENTIAL PROPERTIES ONLY

<u>Equipment</u>	<u># of Fire Incidents</u>	<u>% of Total</u>	<u>Dollar Loss</u>	<u>% of Total</u>	<u>Civ. Deaths</u>	<u>Civ. Injuries</u>	<u>Firefighter Injuries</u>
Fireplace/Chimney	519	59%	\$3,121,597	40%	--	4	1
Fixed Heating Units	128	15%	1,063,926	14%	2	6	--
Central Heating Units	90	10%	1,023,675	13%	6	3	2
Portable Heaters	47	5%	1,023,550	13%	1	4	2
Water Heaters	60	7%	978,387	13%	--	4	--
Other	47	5%	604,160	8%	--	--	--
<b>Total</b>	<b>876</b>	<b>100%</b>	<b>\$7,815,295</b>	<b>100%</b>	<b>9</b>	<b>21</b>	<b>5</b>

*In 1995, cooking-related fires accounted for 20% of all fire injuries.*

### . . . Cooking Fires

Unattended cooking resulted in 37% of cooking-related fires and 29% of the dollar loss. One fire death occurred in 1995 and 51 civilians and 2 firefighters were injured in these fires, a 28% increase from 1994. Dollar loss totaled over \$2 million. Cooking fires continue to represent approximately 20% of all fire injuries.

#### MOST COMMON CAUSES AND DOLLAR LOSS FOR ALL COOKING FIRES

<u>Cause</u>	<u># of Fire Incidents</u>	<u>% of Total</u>	<u>Dollar Loss</u>	<u>% of Total</u>	<u>Civ. Deaths</u>	<u>Civ. Injuries</u>	<u>Firefighter Injuries</u>
Unattend./Fell Asleep	329	37%	\$697,144	29%	--	19	2
Mechanical Failure	176	20%	353,644	15%	--	3	--
Operational Deficiency	79	9%	306,041	13%	--	7	--
Combustibles Too Close	75	8%	290,679	12%	1	7	--
Abandon. Material (Charcoal)	18	2%	129,515	5%	--	1	--
Other Causes	165	18%	557,186	23%	--	12	--
Undetermined	58	6%	59,590	2%	--	2	--
<b>Total</b>	<b>900</b>	<b>100%</b>	<b>\$2,393,799</b>	<b>100%</b>	<b>1</b>	<b>51</b>	<b>2</b>

## AGRICULTURAL PROPERTIES

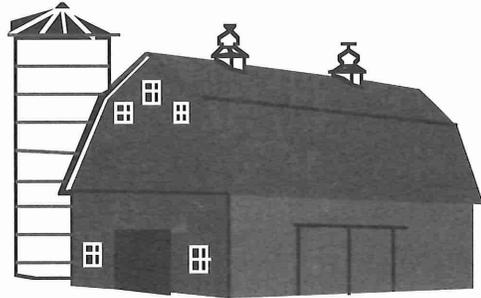
*Total dollar loss in agricultural properties reached over \$10 million.*

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.

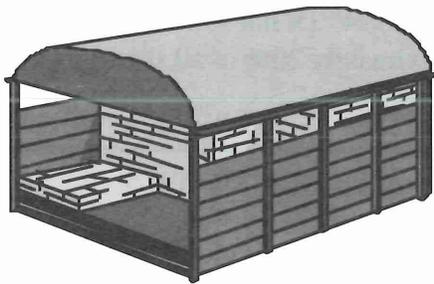
Dollar loss in production facilities increased by nearly \$500,000 (11%), however, decreased by \$7.8 million in agriculture storage facilities.

### AGRICULTURE PRODUCTION

Type of Facility	No. of Incidents	Dollar Loss
Poultry, Egg	12	\$ 674,850
Cattle	44	1,594,822
Hog	30	662,400
Other Livestock	14	454,000
Crop/Orchards	108	527,188
Unclassified Ag.	231	1,097,954
<b>TOTAL</b>	<b>439</b>	<b>\$5,011,214</b>



Barns and stables continue to account for the largest dollar losses in 1995.



*While number of fires decreased slightly in 1995, dollar loss still remains high.*

### AGRICULTURE STORAGE

Type of Facility	No. of Incidents	Dollar Loss
Seed, Silage	64	\$1,262,030
Barns, Stables	159	2,749,076
Grain Elevators	22	566,500
Livestock	8	112,100
Ag. Supply Storage	58	559,905
Boxed, Bagged Prop.	4	63,750
Unclassified Ag.	23	312,602
<b>TOTAL</b>	<b>338</b>	<b>\$5,625,963</b>

Overall fire incidents in agricultural-related properties decreased by 8 million dollars in 1995. This is due, in large part, by 2 fires in 1994 totalling \$8 million.

## | AGRICULTURAL PROPERTY FIRE CAUSES...

### Agriculture Production and Storage Facilities

<u>Ignition Factors</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>		
	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>Dollar Loss</u>	<u>% Total Dollar Loss</u>
Mech. Failure/Malfunct.	145	172	181	\$3,410,110	32%
Lightning/Other Natural Conditions	16	36	19	282,600	3%
Combustibles Too Close to Heat/Exposure	49	73	75	569,415	5%
Spontaneous Heating	38	42	51	771,752	7%
Open Flame/Inadeq. Ctrl.	93	89	80	80,875	1%
Incendiary	25	40	27	199,360	2%
Operational/Design Defic.	32	28	33	225,150	2%
Misuse of Heat	21	40	25	159,100	1%
Other	33	20	32	166,002	2%
Lack of Maintenance	14	19	19	149,250	1%
Unattended	9	10	9	112,600	1%
Children Playing w/Fire	8	21	19	273,075	3%
Design, Construction, Installation Defic.	7	5	7	73,000	1%
Fuel Spill	1	4	6	20,100	<1%
Ignited Material Misuse	15	8	5	55,720	1%
Undeter./Not Class. Above	213	233	189	4,089,068	38%
<b>TOTAL</b>	<b>719</b>	<b>840</b>	<b>777</b>	<b>\$10,637,177</b>	<b>100%</b>

*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, 24% of the incidents and 38% of the dollar loss was attributed to an undetermined, unclassified cause.

If we are to address the root cause of fires in agricultural properties, every effort must be made to thoroughly investigate to determine the cause of these fires.



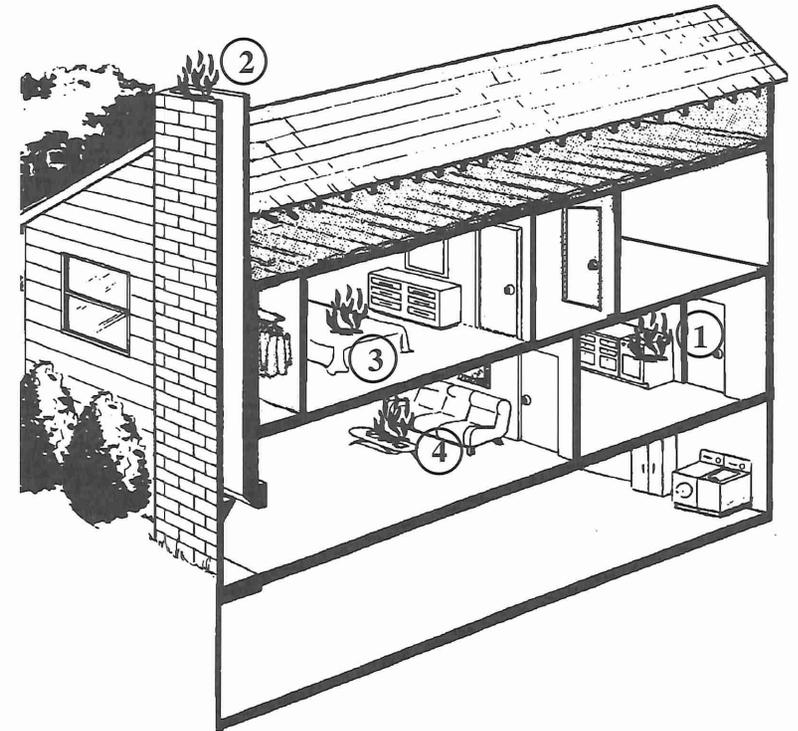
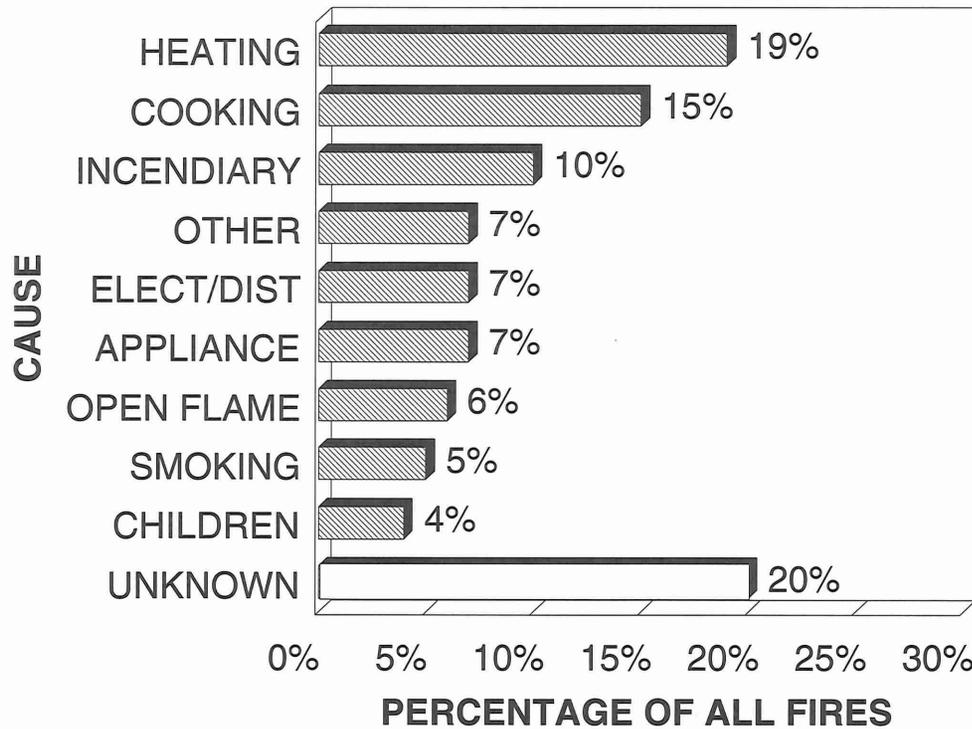
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# Fire Cause and Areas of Origin by Occupancy Class

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, arson, etc.).

# RESIDENTIAL PROPERTY

## LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	4,521	121	259	--	66	\$57,816,310
% of Total	65%*	61%	79%	--	77%	44%

\*Percent of structure fires

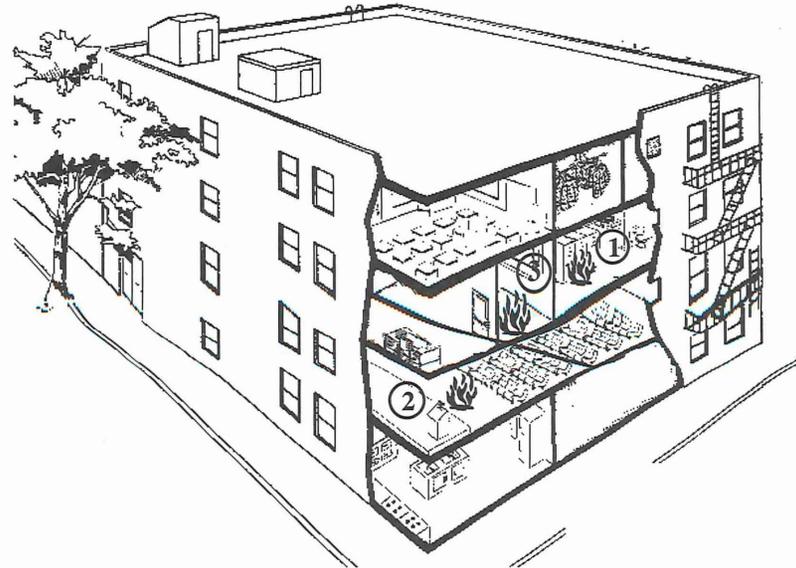
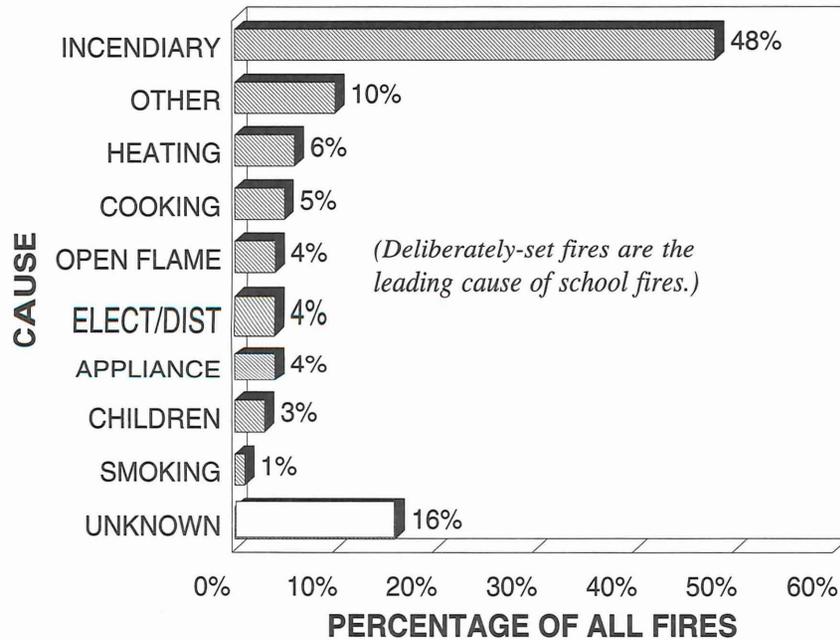
### AREA OF FIRE ORIGIN

- 1. Kitchen/Cooking Area ..... 19%
- 2. Chimney ..... 11%
- 3. Sleeping Area ..... 9%
- 4. Living/Family Room ..... 6%

Other Areas of Fire Origin: 55%

# EDUCATIONAL PROPERTY

## LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	147	--	--	--	--	\$2,322,885
% of Total	2%*	--	--	--	--	2%

\*Percent of structure fires

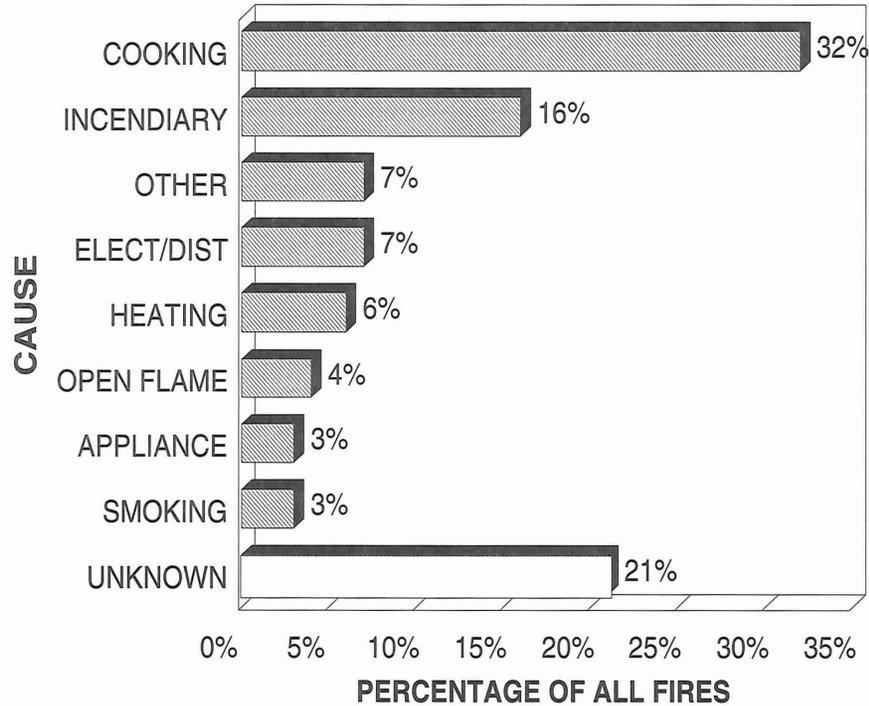
### AREA OF FIRE ORIGIN

- 1. Lavatory/Locker Room ..... 33%
- 2. Small Assembly ..... 10%
- 3. Hallway/Corridor/Mall ..... 5%

Other Areas of Fire Origin: 52%

# PUBLIC ASSEMBLY PROPERTY

## LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	194	1	5	--	--	\$3,617,245
% of Total	3%*	1%	2%	--	--	3%

\*Percent of structure fires

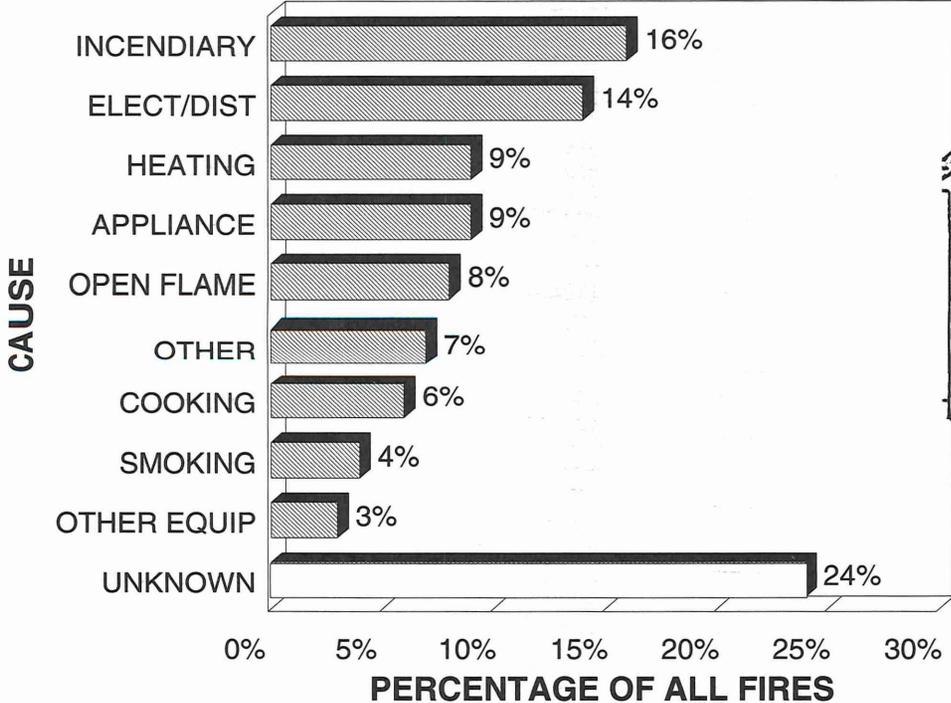
### AREA OF FIRE ORIGIN

- 1. Kitchen/Cooking Area ..... 36%
- 2. Lavatory/Locker Room ..... 7%
- 3. Heating Equipment Room ..... 6%
- 4. Supply Storage Room/Area ..... 4%

Other Areas of Fire Origin: 47%

# STORE AND OFFICE PROPERTY

## LEADING FIRE CAUSES



### AREA OF FIRE ORIGIN

- 1. Exterior Wall Surface ..... 6%
- 2. Sales/Showroom Area ..... 5%
- 3. Kitchen/Cooking Area ..... 5%

Other Areas of Fire Origin: 84%\*

	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	281	9	6	--	--	\$8,217,919
% of Total	4%*	5%	2%	--	--	6%

\*Percent of structure fires

\*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.

## SUMMARY

Heating, arson, and cooking are again the leading identified causes of structure fire in Minnesota. These three causes resulted in 16 fire deaths and 169 injuries (both civilian and firefighter). A breakdown of fires by major property type gives additional insights into cause.

The leading cause of fires in residential properties (which accounted for 65% of total structure fires) was identified as heating and cooking. Residential fires also accounted for 78% of all fire deaths, 61% of firefighter injuries, and 79% of civilian injuries.

Safety around heating equipment and appliances is an important first step in reducing the number of fires that occur annually.

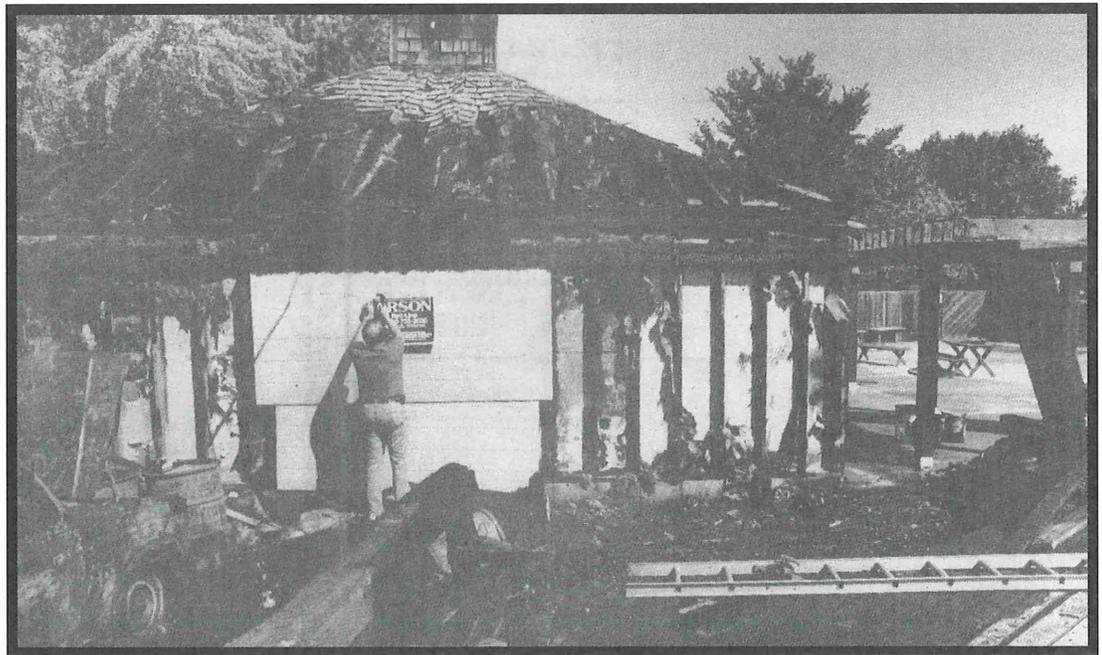
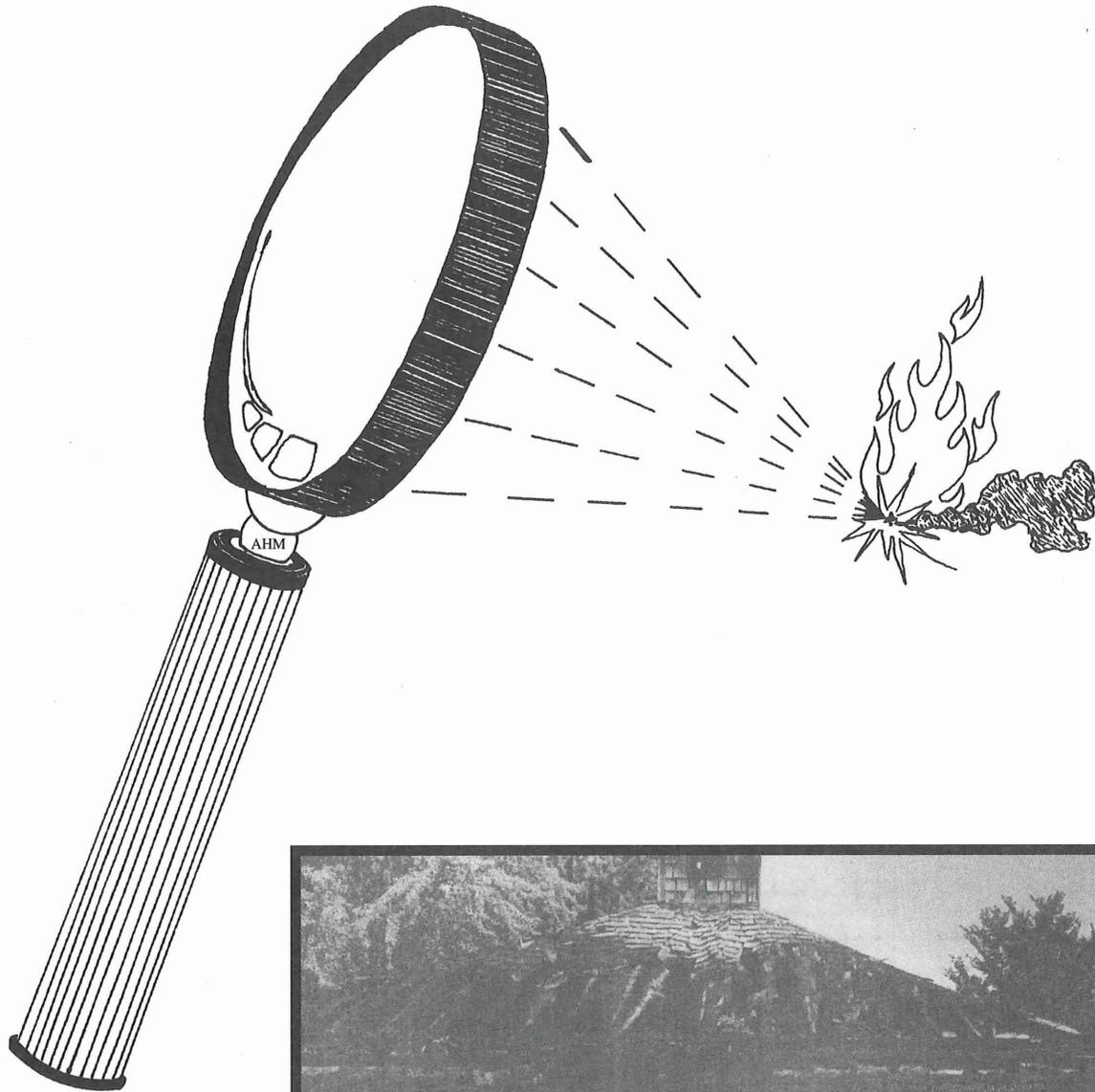
**The most dangerous place to be, in regard to fire, continues to be the home. Fire prevention efforts relating to heating and cooking safety in residences must be one of our top priorities. While careless smoking accounts for only 5% of overall fires, it represents 32% of all fire fatalities.**

The 1996 National Fire Prevention Week theme is "Let's hear it for fire safety...Test your smoke detectors." Early warning to the event of fire is critical to life safety and conservation of property. Minnesota state law requires smoke detectors in every home or dwelling. These should be installed outside of the sleeping areas of the home on the ceiling for maximum effect.

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

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# INCENDIARY TRENDS



*Reprinted With Permission of Oakdale-Lake Elmo Review/Photo by Linda Baumeister*

## INCENDIARY TRENDS

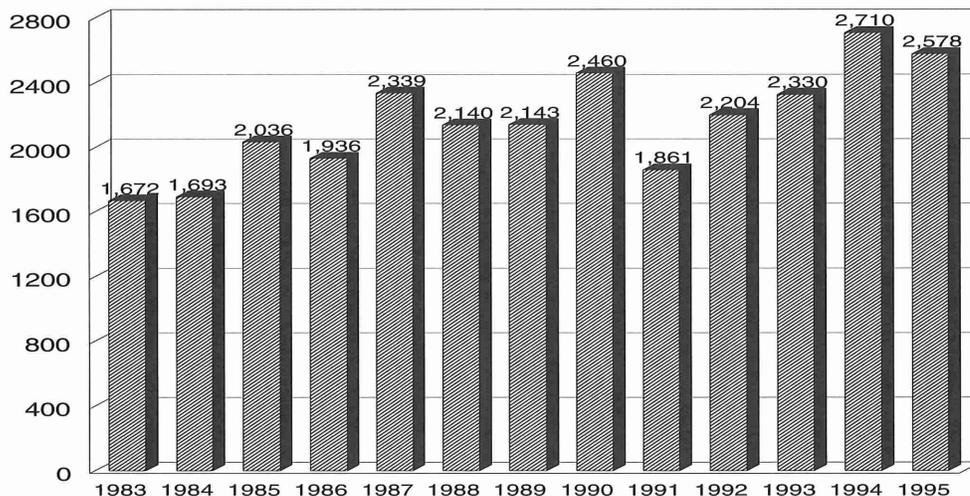
In 1995, arson fires decreased slightly, although arson was identified as the second leading cause of all reported fires in Minnesota. Additionally, another 1,505 (22%) fires were reported as undetermined and experts agree that many of these fires were probably incendiary in nature.

*In 1995, arson fires showed a slight decrease in numbers.*

### Arson Dollar Loss (In Millions)

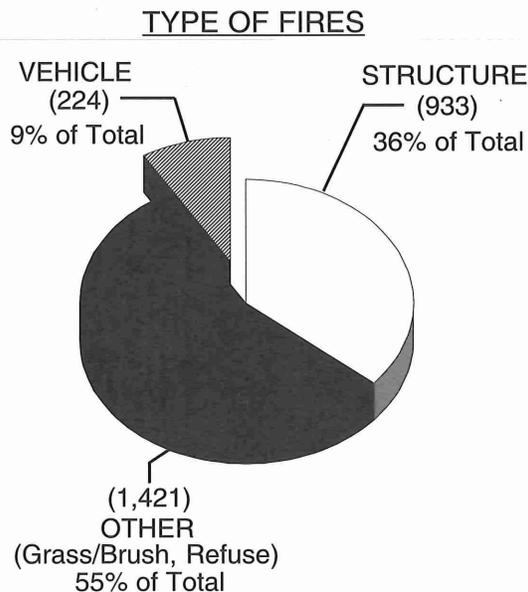
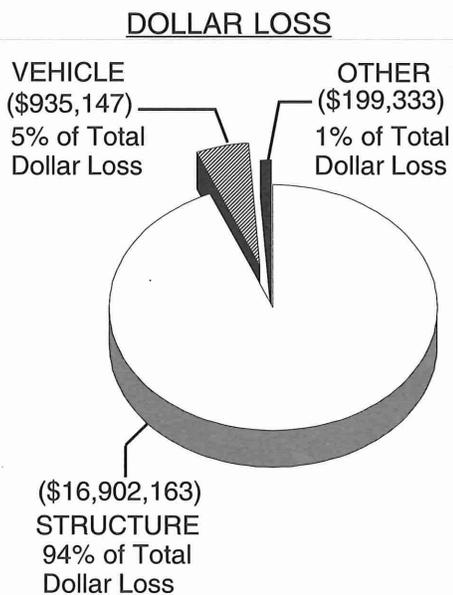
	Structure	Vehicle
1991	\$13.4	\$.5
1992	\$16.3	\$.5
1993	\$20.6	\$.8
1994	\$42.2	\$.8
1995	\$16.9	\$.9

### ARSON IN MINNESOTA

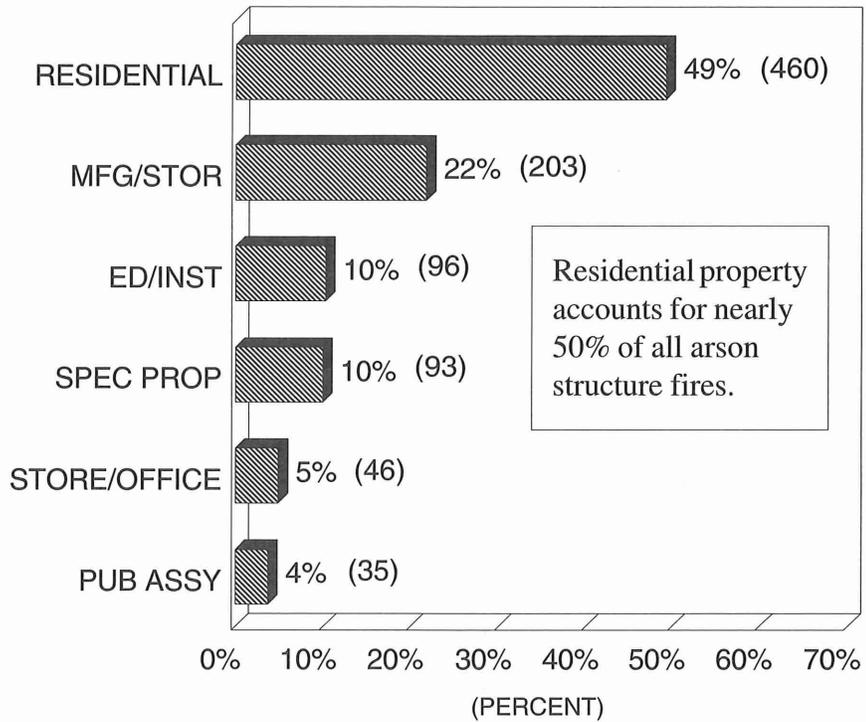


There were a total of 2,578 identified incendiary fires, a 5% decrease from 1994. The value of property destroyed was estimated at over \$18 million. The majority of the dollar loss (94%) occurred in structures which represents 36% of the total incidents of arson reported in 1995. There were 2 reported fire deaths directly attributable to arson.

### INCENDIARY FIRES BY DOLLAR LOSS AND TYPE



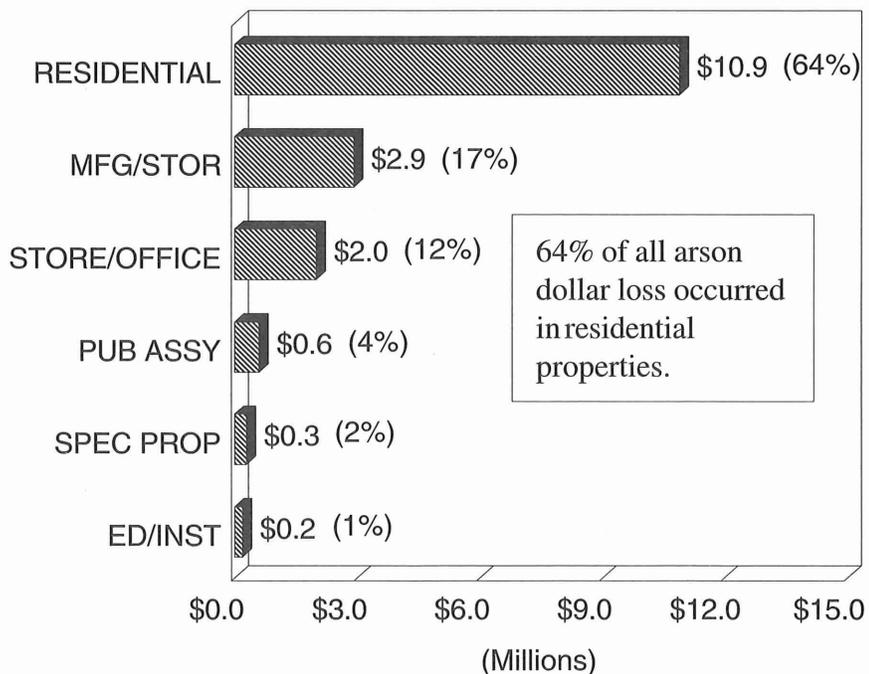
### Arson Fire Incidents By Structure Type



Average dollar loss in arson-related residential structure fires is nearly \$24,000, compared to \$13,000, relating to all other residential fire causes.

Nearly half of arson fires in structures (49%) occurred in residential properties where dollar loss was \$10.9 million or 64% of all structure arson dollar losses. The average loss for residential arson fires was nearly \$24,000 per fire, compared to an average dollar loss of \$13,000 for non-arson residential structure fires.

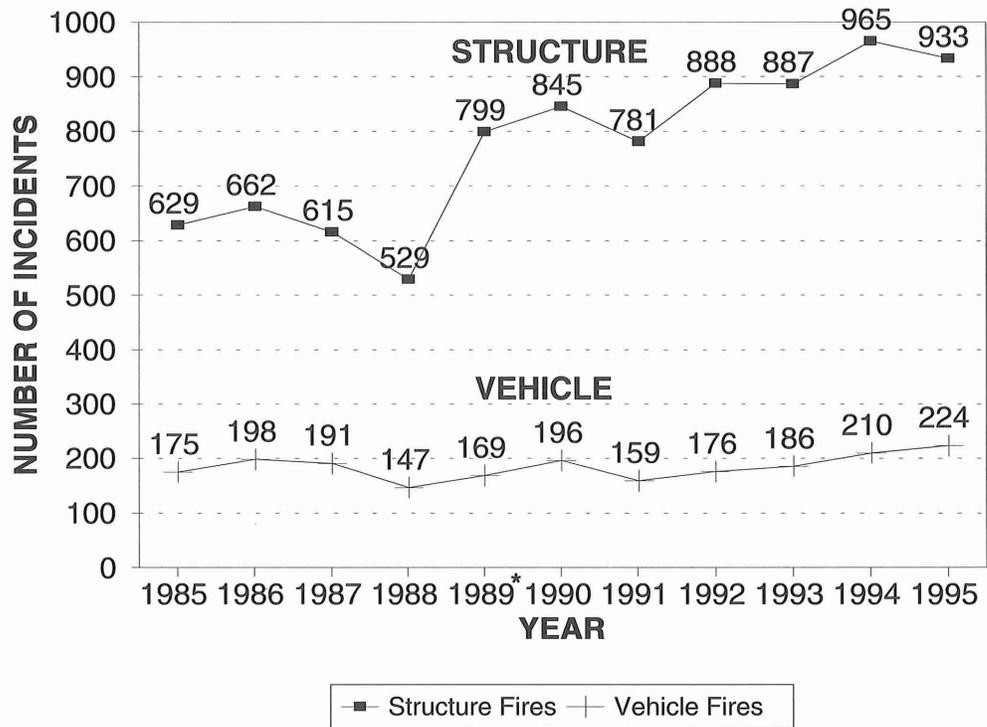
### Arson Fire Dollar Loss By Structure Type



**ARSON TREND IN STRUCTURE AND VEHICLE FIRES, 1985-1995**

**Arson Structure Fires  
by Time of Day**

0001-0400	228
0401-0800	99
0801-1200	93
1201-1600	137
1601-2000	161
2001-2400	210
Time - Blank	5
<b>Total</b>	<b>933</b>



In 1995, arson was listed as the cause of 16% of all reported structure fires with known causes and 4% of all reported vehicle fires in Minnesota. Vehicle arson dollar loss represented 7% of total vehicle fire dollar loss, with an average dollar loss per arson vehicle fire of \$4,175.

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

**RESIDENTIAL STRUCTURE ARSON FIRES**

Property Type	1994		1995		
	Incidents	Dollar Loss	Incidents	Dollar Loss	% of Total Dollar Loss
One-Two Family Dwelling	328	\$6.0M	294	\$7.1M	65%
Apartment/Tenement/Flat	127	\$2.3M	134	\$3.6M	33%
Other Residential Occupancy	5	\$.004M	6	\$.060M	1%
Hotel/Motel/Inn/Lodge	6	\$.045M	16	\$.120M	1%
Dormitories	7	\$.002M	8	\$.002M	<1%
Rooming/Boarding/Lodging/Housing	2	\$.001M	2	\$.025M	<1%
<b>TOTAL</b>	<b>475</b>	<b>\$8.4M</b>	<b>460</b>	<b>\$10.9M</b>	<b>100%</b>

As is the case with overall fire totals, residential structures are at greatest risk from arson. The 460 residential arson incidents reported in 1995 accounted for 10% of all reported residential fires and 19% of the dollar loss for this property type.

## ARSON 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 arson fires per 100,000 people.

<u>County</u>	<u>Arson Incidents</u>	<u>Arson Fires/ 100,000 Pop.</u>	<u>Arson Dollar Loss</u>	<u>County</u>	<u>Arson Incidents</u>	<u>Arson Fires/ 100,000 Pop.</u>	<u>Arson Dollar Loss</u>
Aitkin	3	24	\$5,000	Marshall	4	36	\$225,500
Anoka	185	76	\$911,460	Martin	5	22	\$600
Becker	14	50	\$40,500	Meeker	5	24	\$26,500
Beltrami	29	84	\$342,420	Mille Lacs	11	59	\$11,000
Benton	3	10	\$27,500	Morrison	2	7	\$15,000
Big Stone	3	48	\$0	Mower	15	40	\$40,380
Blue Earth	43	80	\$135,840	Murray	5	52	\$25,000
Brown	12	44	\$5,810	Nicollet	20	71	\$5,848
Carlton	26	89	\$269,200	Nobles	4	20	\$16,075
Carver	16	33	\$277,000	Norman	0	0	\$0
Cass	12	55	\$760,000	Olmsted	46	43	\$74,350
Chippewa	0	0	\$0	Ottertail	14	28	\$1,010,990
Chisago	5	16	\$150,000	Pennington	4	30	\$3,050
Clay	15	30	\$182,160	Pine	7	33	\$8,000
Clearwater	11	132	\$7,150	Pipestone	2	19	\$23,000
Cook	0	0	\$0	Polk	29	89	\$31,750
Cottonwood	3	24	\$360,000	Pope	4	37	\$131,000
Crow Wing	23	52	\$411,120	Ramsey	471	97	\$2,167,917
Dakota	167	61	\$1,419,806	Red Lake	1	22	\$300
Dodge	5	32	\$3,350	Redwood	3	17	\$100
Douglas	1	3	\$10,000	Renville	9	51	\$113,700
Faribault	4	24	\$100	Rice	21	43	\$13,950
Fillmore	3	14	\$3,000	Rock	1	10	\$0
Freeborn	21	64	\$63,906	Roseau	0	0	\$0
Goodhue	56	138	\$42,250	St. Louis	226	114	\$1,235,870
Grant	0	0	\$0	Scott	40	69	\$577,061
Hennepin	654	63	\$3,749,030	Sherburne	17	41	\$217,602
Houston	0	0	\$0	Sibley	2	14	\$0
Hubbard	5	33	\$11,450	Stearns	59	50	\$487,705
Isanti	7	27	\$33,500	Steele	7	23	\$125,800
Itasca	19	46	\$340,000	Stevens	2	19	\$10,000
Jackson	2	17	\$21,000	Swift	2	19	\$500
Kanabec	2	16	\$70,000	Todd	1	4	\$0
Kandiyohi	19	49	\$108,175	Traverse	0	0	\$0
Kittson	0	0	\$0	Wabasha	6	30	\$23,000
Koochiching	2	12	\$0	Wadena	1	8	\$14,000
Lac Qui Parle	0	0	\$0	Waseca	1	6	\$5,000
Lake	2	19	\$5,000	Washington	94	64	\$1,282,052
Lake of the Woods	2	49	\$92,500	Watsonwan	0	0	\$0
LeSueur	2	9	\$10,000	Wilkin	0	0	\$0
Lincoln	0	0	\$0	Winona	28	59	\$102,516
Lyon	6	24	\$2,500	Wright	11	16	\$3,800
McLeod	2	6	\$0	Yellow Medicine	2	17	\$96,000
Mahnomen	12	238	\$41,000				
				<b>TOTAL</b>	<b>2,578</b>	<b>60</b>	<b>\$18,036,643</b>

\* Based on data received from 694 departments. See pages 45-52 for MFIRS participation by county.

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

## JUVENILE FIRE SETTING

Children playing with fire resulted in \$3.3 million in property loss in 1995, a 27% decrease under 1994, but still a very significant property loss. These fires resulted in an average dollar loss per fire of \$5,600 each. There was one fatality due to children playing with fire. Additionally, 28 injuries to civilians and 7 injuries to firefighters were a direct result of child-set fires.



### Fires Involving Children Playing With Fire

	<u>1995</u>
Fires	580
Deaths	1
Civilians Injured	28
Firefighters Injured	7
Dollar Loss	\$3.3 Million

Over the past seven years, 3,940 child-set fires accounted for \$20.9 million in property damage, 29 fire deaths and 220 civilian and firefighter injuries.

**The question must be: “How did these children gain access to matches, lighters, and fire materials?”**

It must be the responsibility of every parent and/or caregiver to keep these devices out of reach of children. This dangerous activity puts children at risk. It also puts family members at risk.

Parents and caregivers must take the initiatives to teach children, starting at age three, about their role with fire. Parents must be prepared to deal with a child’s natural curiosity about one of the most deadly and powerful elements: fire. When children are older, parents/caregivers need to teach children the proper way to use fire, light matches, and build a campfire.

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

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## SUMMARY

Arson has remained one of the top three causes of fire in Minnesota for the past seven years.

Although arson declined slightly in 1995, it should be noted that in 1994, the northwest suburban arson ring was solved as well as three major high school arson fires. The arson fires accounted for over 20 million dollars in loss, making losses for 1995 at levels equal to or higher than previous years.

The average dollar loss of a residential arson fire in 1995 was nearly \$24,000 per incident, compared to \$13,000 average loss in all other residential fire causes.

**Nearly half of all arson structure fires were in residential type dwellings where people sleep. These fires accounted for 64% of dollar loss from arson.**

Extremely alarming is the fact that 48% of all fires in educational facilities were determined to be deliberately set.

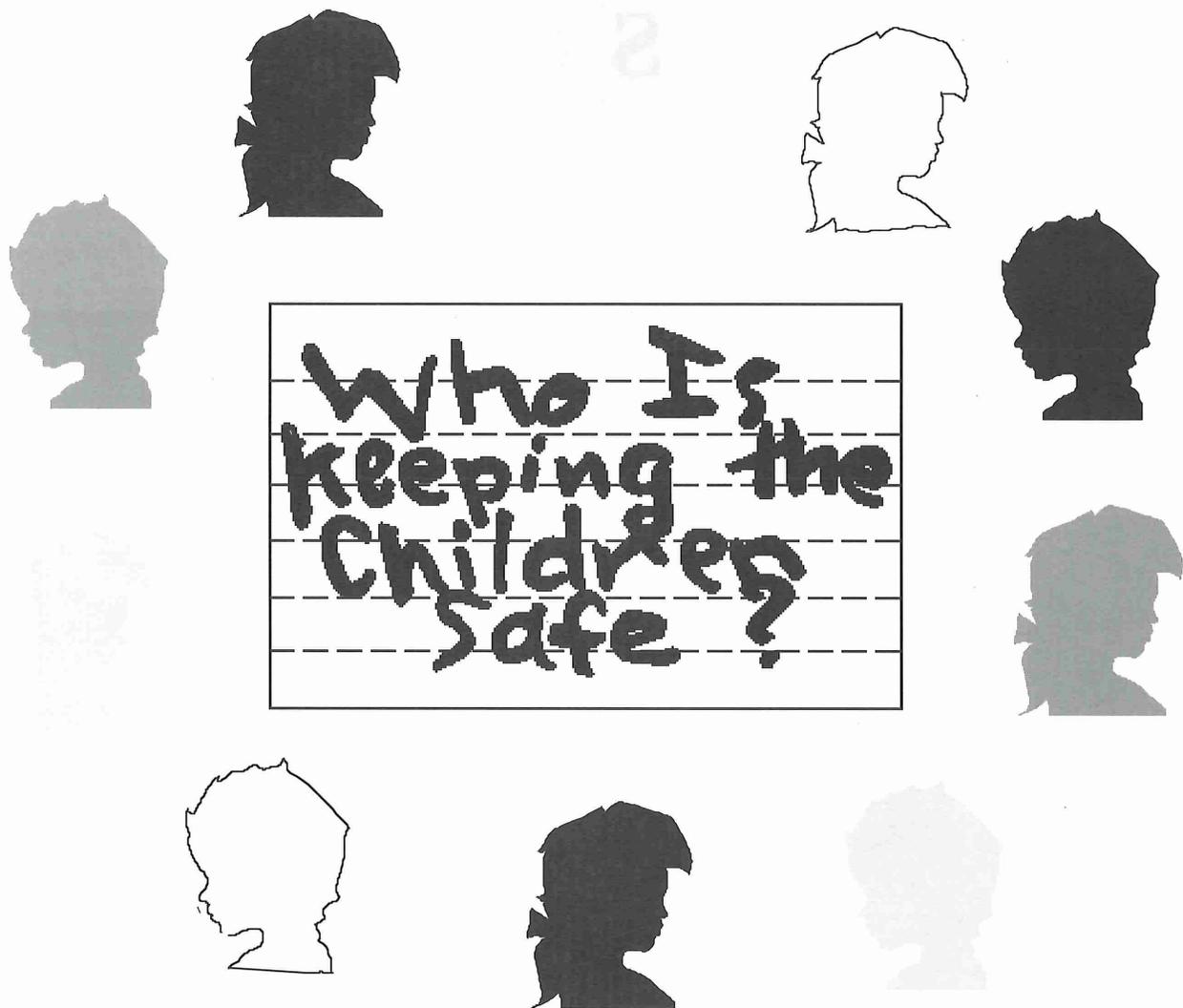
In the past seven years, arson-related fires caused 20 deaths and over \$142 million in property loss. Arson prevention must continue to be a priority; it kills, maims, and destroys at an alarming rate. **It is a crime against every Minnesotan.**



# CASUALTIES



*Photo-Tom McCarthy/NFPA Journal*



### THE "ACCIDENTAL" FIRE....

In the cold pre-dawn hours of a Minnesota winter night, six children under ten years of age lost their lives to smoke inhalation. Such an occurrence is tragic enough in itself, but the real tragedy is that those deaths came about as a result of the irresponsible behavior of an adult caregiver (who also died in the fire).

The fire investigation report is now closed; the cause of the fire was found to be "accidental," in that it was not arson. There is nothing "accidental" about the careless discard of smoking materials, with a .30 blood alcohol level as a contributing factor. Removal of the batteries in the apartment's smoke detectors was not accidental, either. The batteries are sometimes purposely removed because they go off frequently. Avoidable, preventable behaviors are a world away from "accidental."

Neither the fire service nor the State Fire Marshal Division is in the business of legislating lifestyles. Nevertheless, our work as professionals and as citizens will not be done until we have educated, influenced, and motivated everyone in Minnesota to their responsibility to create and maintain a fire-safe environment for themselves, their children, and their community.

## Fire Deaths and Smoke Detector Performance

*Fire deaths up by 87% in 1995.*

Fire deaths increased overall by 87% in 1995. This very dramatic increase is due, in great part, to nine multiple death fires where a total 28 fatalities occurred. Among the fatalities in those nine fires were 20 children. Sixty-seven Minnesota fire deaths (78%) occurred in residential settings. These figures represent a 72% increase in deaths in residential dwellings. In 60% of the dwelling fatalities, smoke detectors were either non-operating or absent altogether. In another 16% of the dwelling cases, it is not known whether a smoke detector was present or operating.

*Nine incidents resulted in 28 fatalities, 20 of whom were children.*

### FIRE DEATHS IN DWELLINGS

	<u>Fatalities</u>	<u>% of Dwell. Fires</u>	<u>% of Total Deaths</u>
No Smoke Detectors Present	21	31%	24%
Inoperable Smoke Detectors Present	19	29%	22%
Working Smoke Detectors Present	7	10%	8%
Unk. if Detectors Present/Working	11	16%	13%
Not a Factor/Suicides, Explosions	<u>9</u>	<u>13%</u>	<u>11%</u>
<b>Total Deaths in Dwellings</b>	<b>67</b>	<b>100%</b>	<b>78%</b>
Other Fire Deaths	<u>19</u>	<u>--</u>	<u>22%</u>
<b>Total Fire Deaths</b>	<b>86</b>	<b>--</b>	<b>100%</b>

What can be said of the 7 people who died in dwellings equipped with working smoke detectors? The following additional factors have been identified.

### SEVEN FATALITIES WITH WORKING SMOKE DETECTORS: WHY DIDN'T THEY GET OUT?

	<u>Fatalities</u>	<u>Percent</u>
Alcohol or Drug Impaired	3	43%
Children Too Young	2	29%
Elderly/Mobility Impaired	1	14%
Unknown	<u>1</u>	<u>14%</u>
<b>TOTAL</b>	<b>7</b>	<b>100%</b>

*In 60% of fatalities in residential occupancies, smoke detectors were improperly maintained or absent altogether.*

In the above 7 cases, although a working smoke detector was present, victims were unable to react effectively.

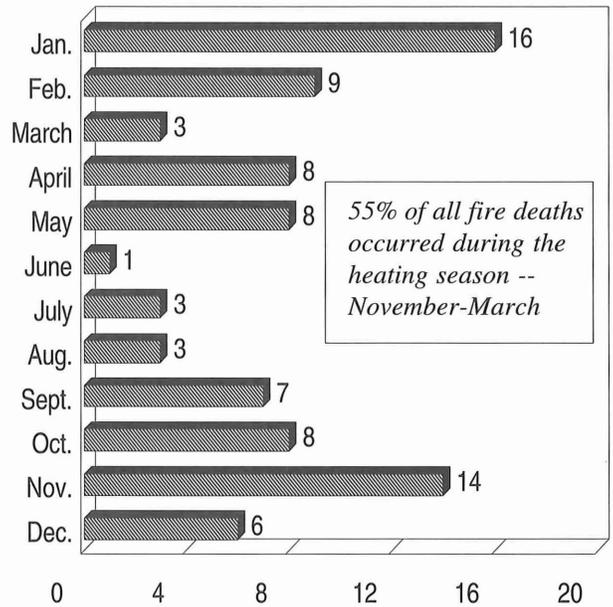
## CIVILIAN FIRE DEATHS: WHO AND WHEN

Forty-three percent of fire deaths occurred between the hours of midnight and 6:00 a.m. The two high-risk months of year were January and November, the height of and beginning of the heating season.

### FIRE DEATHS BY TIME OF DAY

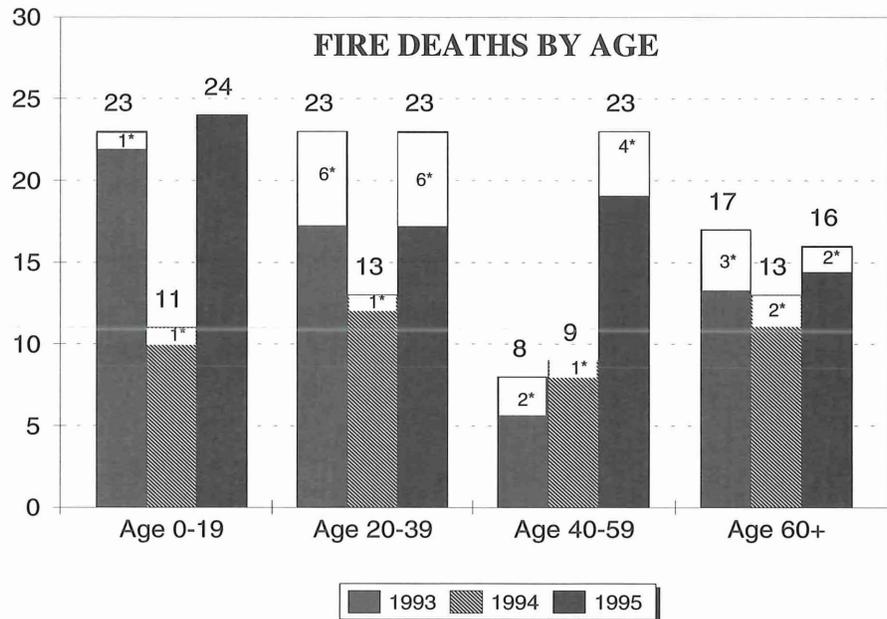
	TOTAL	0000-0600	0600-1200	1200-1800	1800-2400
Careless Smoking	27	10	11	3	3
Electrical Malfunct.	11	8	1	0	2
Flam. Liquid Use	10	6	1	1	2
Vehicle	7	3	2	1	1
Suicide	5	1	2	2	0
Combust. Too Close	4	0	1	2	1
Arson	2	1	0	0	1
Furnace Malfunct.	2	0	2	0	0
Candle Misuse	1	0	0	0	1
Child Play	1	1	0	0	0
Other	4	1	0	1	2
Undetermined	12	6	4	2	0
<b>Total</b>	<b>86</b>	<b>37</b>	<b>24</b>	<b>12</b>	<b>13</b>

### FIRE DEATHS BY MONTH



*38% of child fatalities, ages 0-19 yrs., were a result of alcohol/drug impairment of the adult caregiver.*

### FIRE DEATHS BY AGE

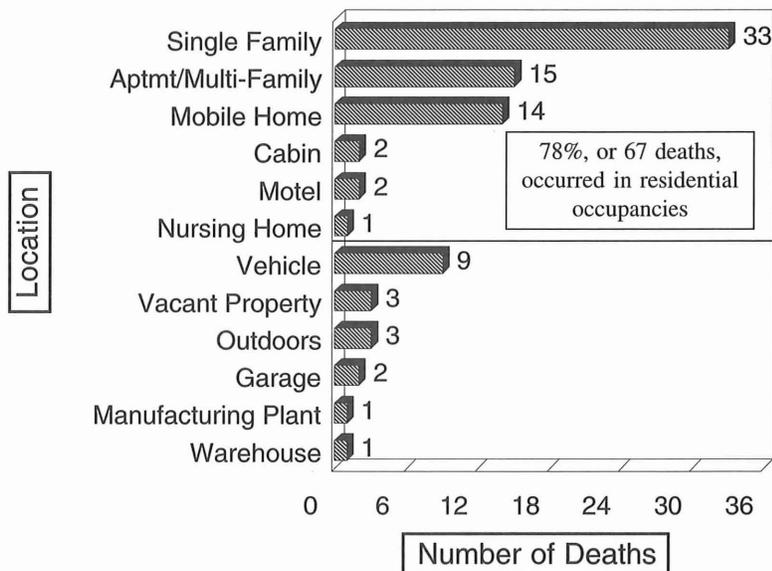


\*Fire deaths listed as suicides or motor vehicle fire incidents.

In 1995, fire deaths in the 20-59 year-old age group showed high numbers of alcohol/drug impairment. Fifty-seven percent of the 20-39 age group, and 48% of the 40-59 year-olds showed a BAL significant enough to impair their escape from a fire. Even more upsetting is the knowledge that 38% of the 0-19 year-old age group (9 children) died as a result of the impairment of an adult caregiver. Even more alarming is, 13% of the under-19 fire deaths occurred because the young people themselves were impaired.

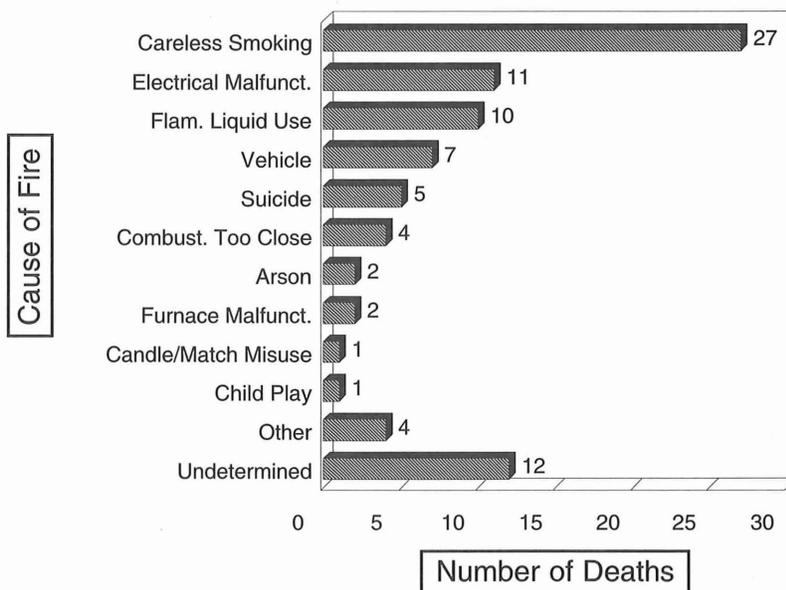
## CIVILIAN FIRE DEATHS: WHERE AND WHY

78% of fire deaths occurred in residential property.



Careless smoking was identified as the cause of 31% of all fire deaths. Fifty-two percent of those careless smoking deaths were also alcohol-related.

Seventy-eight percent of the 1995 fire deaths occurred where people generally feel safest - at home. Careless smoking, electrical malfunction, and careless use of flammable liquids were the three major causes of fire in these deaths.



Alcohol/Drugs was clearly a factor in 44% of all fire deaths.

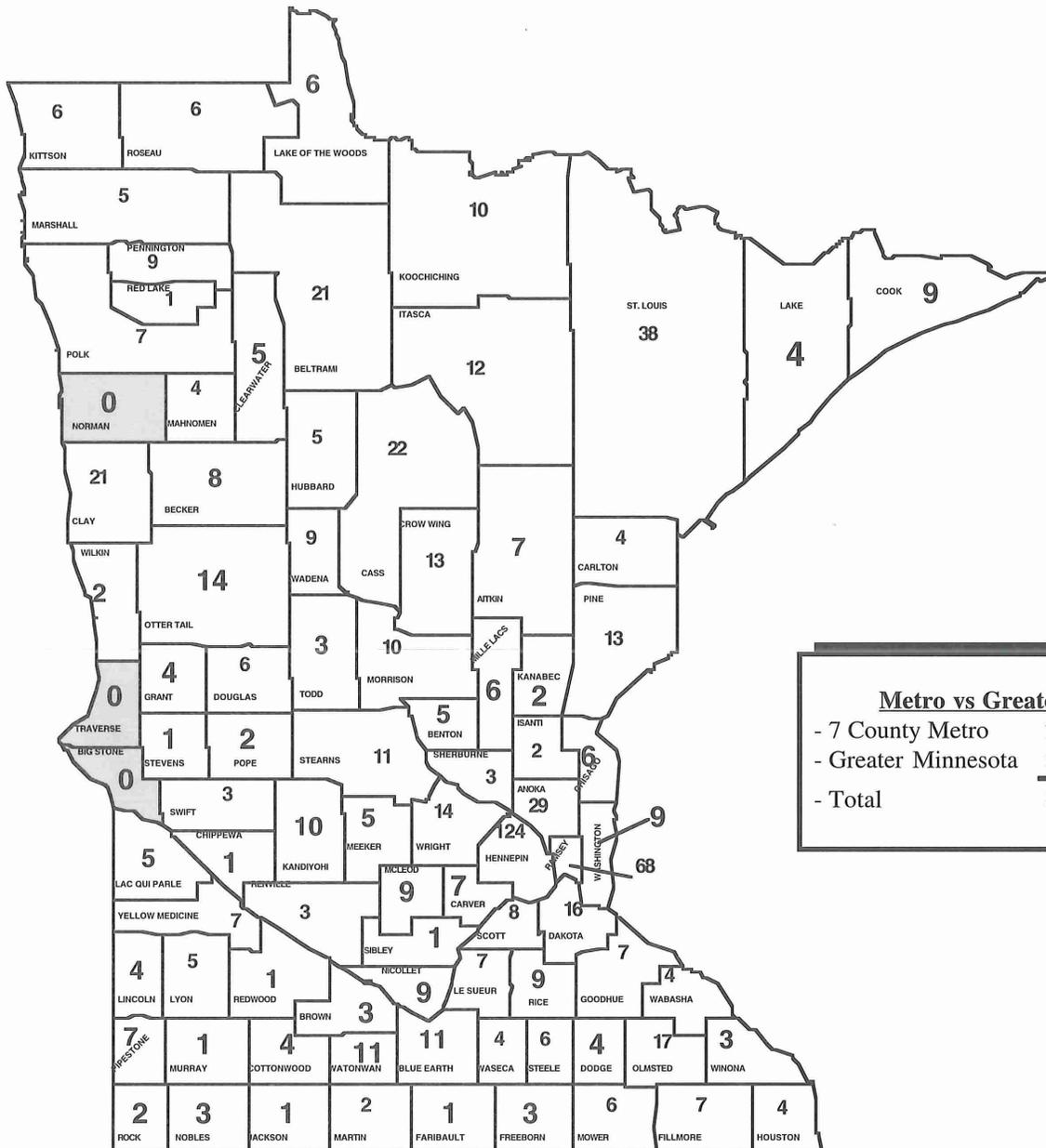
Careless smoking was the largest single identified cause in fire deaths, identified in 37% of all structure fires. Alcohol or other drug use was present or identified as an impairing factor in 44% of all fire deaths (38 deaths).

The Division of Traffic Safety reported 246 (41%) alcohol-related traffic fatalities in 1995. The education and enforcement efforts of public safety officials and groups such as MADD have helped to reduce the alcohol-related traffic deaths in the recent past. Combined educational efforts toward the alcohol-related fire death problem would have an effect on reducing loss of life from fire.

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

### Civilian Death Rates

In the past 12 years, 803 Minneapota civilians have died in fires (see distribution by county below). During that time, fire deaths in greater Minnesota have out paced those in the seven county metro area by a rate slightly over two to one. In 1995, greater Minnesota contained 48% of the state's population and experienced a per capita death rate of 2.9 for every 100,000 people. This is nearly three times last year's rate. The per capita rate for the metro area in 1995 was 1 per 100,000, while the rate for the state as a whole was 1.9 per 100,000, compared to a national rate of 1.6 per 100,000 for the same period. (The United States consistently has among the highest per capita death rates in the world.)



Metro vs Greater MN		
- 7 County Metro	261	33%
- Greater Minnesota	542	67%
- Total	803	100%

## 20 YEARS OF FIRE DEATH HISTORY

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 six years of this decade, from January, 1990 through December, 1995, 374 Minnesotans have died in fires. Should this rate continue, the decade of the nineties will see a 20% decrease in fire deaths from the eighties.

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1970's 961 deaths  
 1980's 776 deaths  
 1990's 622 deaths  
 (projected)

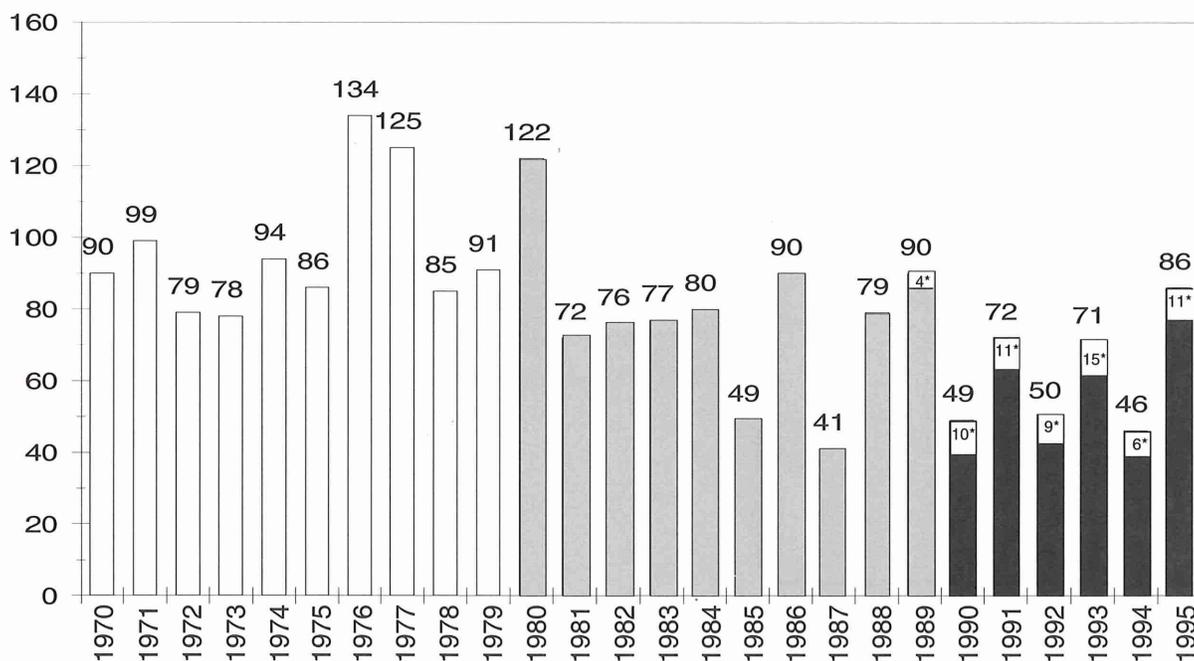
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What factors might be affecting the rate of deaths? Since the mid-seventies, the promotion of fire protection technology (smoke detectors, sprinkler systems, etc.) has become more widespread in Minnesota. During this time, the state has mandated new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

### FIRE DEATHS 1970 - 1995



\*Number of vehicle/suicide fires.

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*As of August 1, 1993, smoke detectors are required in every dwelling in Minnesota that has a sleeping area.*

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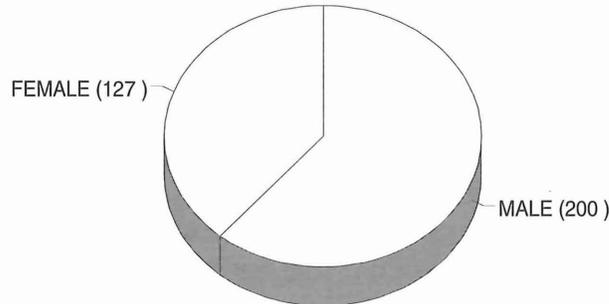
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Legislation passed by the 1993 Legislature will aid the continuation of the trend in fire fatalities. As of August 1, 1993, smoke detectors are required in every dwelling in Minnesota that has a sleeping area. Citizens must take responsibility for installation and maintenance of smoke detectors in their home. All too often, when no smoke detectors are present, victims may be dead long before the fire department is even notified.

## CIVILIAN INJURIES

In 1995, 328 civilian injuries were reported through the MFIRS system. The number represents an under-reporting of actual fire injuries, 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.

*In 1995, 328 civilians were injured in Minnesota fires. Injuries to males nearly outnumbered those to females by 2 to 1.*



<u>AGE OF VICTIM</u>	<u>NO. OF VICTIMS</u>
0-19	41
20-39	119
40-59	58
60-OVER	38
UNREPORTED	72
<b>TOTAL</b>	<b>328</b>

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

<u>ACTIVITIES FOR ALL INJURIES</u>		
<u>Activity</u>	<u>#</u>	<u>%</u>
Fire Control	87	27%
Escape	50	15%
Sleeping	38	12%
Rescue attempt	16	5%
Unable to act	13	4%
Irrational act	9	3%
Other	38	12%
Unkn/unrep	77	23%
	<u>328</u>	<u>100%</u>

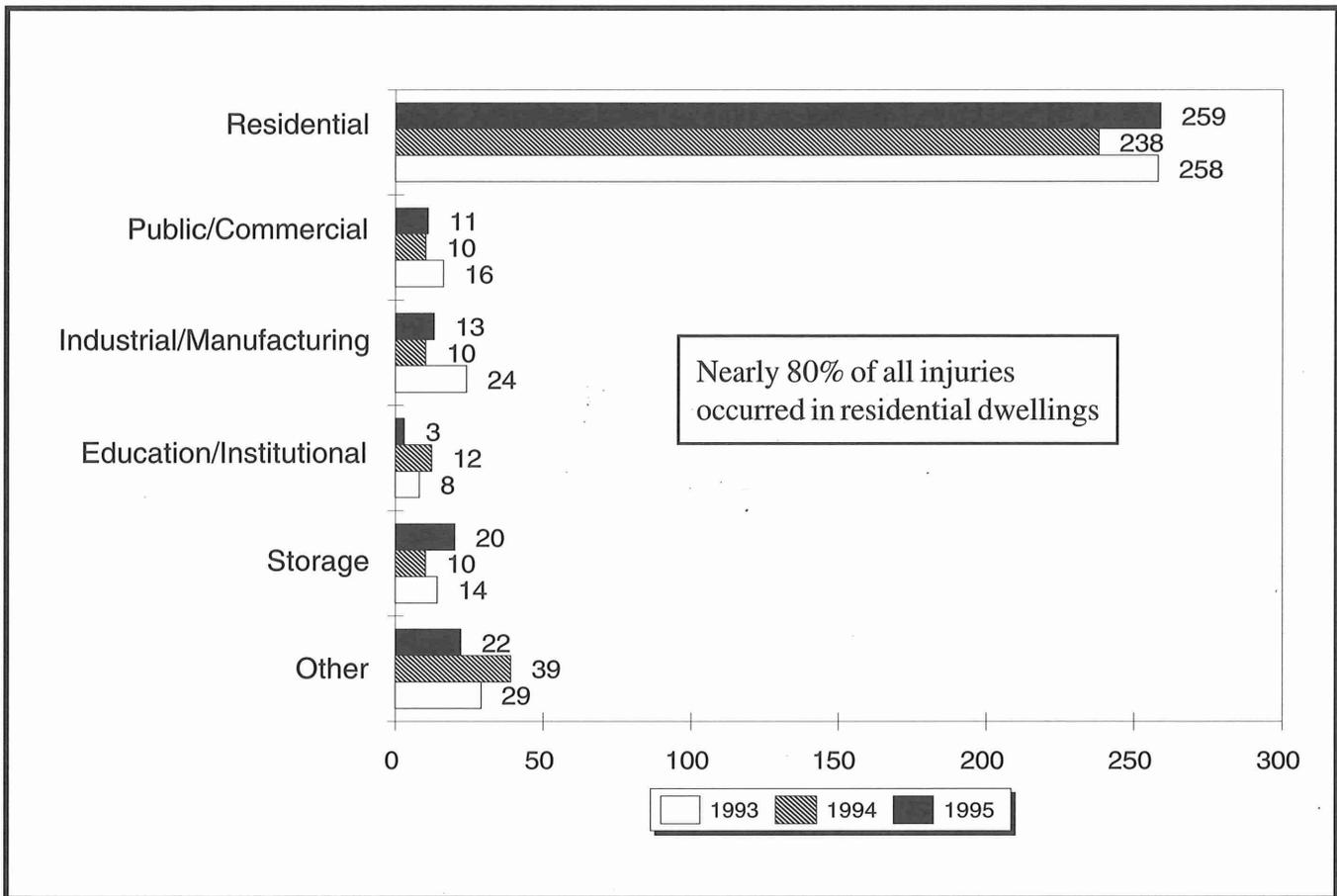
For all victims, twenty-seven percent of injuries were incurred when the victim attempted to extinguish the fire. Residential structures, accounting for 65% of all fire incidents in 1995, were the site of 79% of reported injuries.

<u>ACTIVITIES FOR 20-39 YEAR OLDS</u>		
<u>Activity</u>	<u>#</u>	<u>%</u>
Fire Control	37	31%
Escape	21	18%
Sleeping	12	10%
Rescue attempt	11	9%
Unable to act	5	4%
Irrational act	1	<1%
Other	11	9%
Unkn/unrep	21	18%
	<u>119</u>	<u>100%</u>

## CIVILIAN INJURIES BY ACTIVITY AND STRUCTURE

	<u>Residential</u>	<u>Educ/Inst</u>	<u>Pub/Comm</u>	<u>Indus/Manu</u>	<u>Storage</u>	<u>Other</u>
Fire Control	60	1	5	3	11	7
Escaping	40	--	3	2	2	3
Sleeping	37	--	--	--	--	1
Other	22	--	1	5	2	8
Rescue Attempt	16	--	--	--	--	--
Unable to Act	6	--	1	2	2	2
Irrational Action	5	2	--	--	1	1
Unknown	73	--	1	1	2	--
<b>TOTAL</b>	<b>259</b>	<b>3</b>	<b>11</b>	<b>13</b>	<b>20</b>	<b>22</b>

## CIVILIAN INJURIES BY PROPERTY TYPE



## FIREWORKS INJURIES

In the last seven years, 285 people have been seriously injured by illegal fireworks. Sixty percent (60%) of these are children. During the same period, nearly \$1 million in property was destroyed. More than half of the injuries, and the majority of property damage each year, occur during June and July. From 1989 - 1995, 77% of those seriously injured were male. Forty-four percent (44%) of the victims were between the ages of ten and nineteen, 19% were 20 - 29, and 16% were aged 0 - 9.

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, 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.

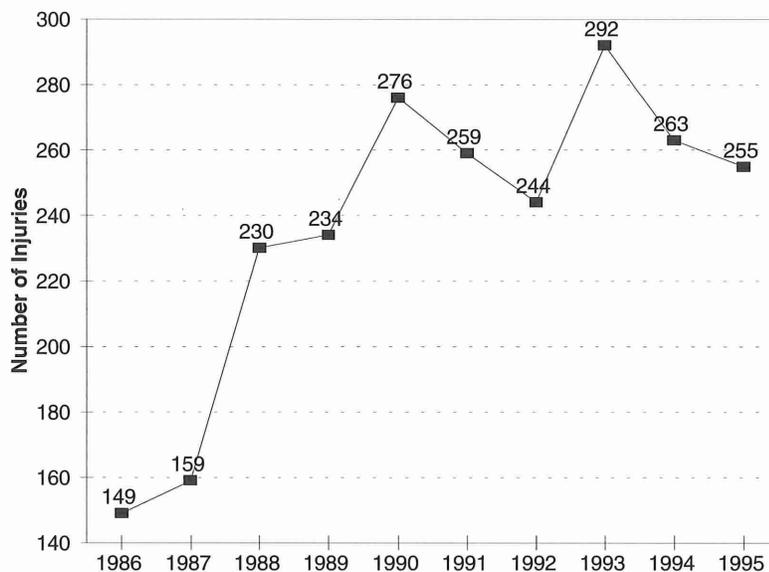
***In Minnesota, a state where fireworks are illegal, firework losses since 1989 caused:***

- near \$1 million loss
- 285 injured
- 60% of injuries were children

## FIREFIGHTER INJURIES

In 1995, 255 Minnesota firefighters were injured while responding to, involved in, or returning from emergency situations (a 3% decrease from 1994). Of these 255 injuries, 198 were directly fire related. (This does not include injuries that occur during training or at the stations.) Sixty-one percent of these injuries occurred while firefighters were fighting residential structure fires.

### TEN-YEAR HISTORY OF MINNESOTA FIREFIGHTER INJURIES




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*Of the 255 firefighter injuries, 198 (78%) occurred in the course of fighting fires.*

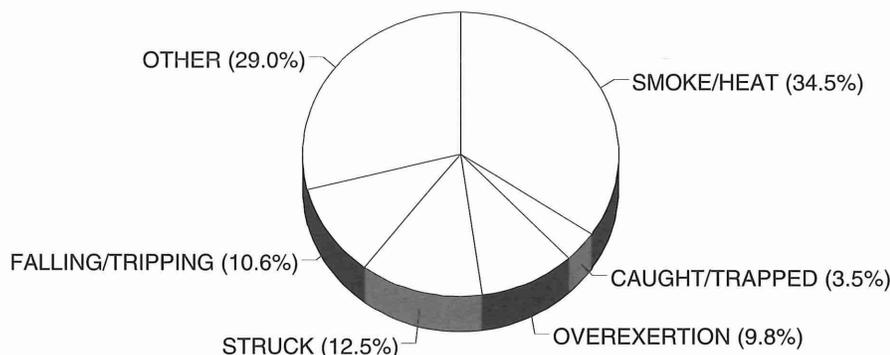
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A breakdown of injuries shows that smoke/heat and related injuries are the most frequent causes of firefighter injuries.

### MINNESOTA FIREFIGHTER INJURIES: CAUSES



Exposure to smoke and heat accounted for 34.5% of the injuries, a rate three times greater than the 10% national average (National Fire Information Council figures). Falling or tripping also caused 10.6% of Minnesota firefighter injuries, compared to 17% nationally. While overexertion and strains are responsible for a national average of 18%, 9.8% of Minnesota firefighters were injured this way in 1995, nearly half of the national average.

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## SUMMARY

Clearly, Minnesotans are most at risk from fire death and injury at home. **Seventy-eight percent of the state's fire deaths and 79% of civilian injuries in 1995 occurred in residential occupancies.**

The presence or absence of working smoke detectors in dwellings is a critical factor in fire fatalities. In 76% of the 67 fire fatalities occurring in dwellings, either no smoke detectors were present, they were present but not working, or it was not known whether detectors were present or functioning.

Nine residential fires resulted in the death of twenty-eight Minnesotans, 20 of whom were children.

Careless smoking (31%) was the leading cause of fire death in 1995. Alcohol or other drug use was an impairing factor in 44% of all fire deaths; these fires resulted in 38 fatalities

Nearly four-fifths of all fire-related civilian injuries were sustained in residential dwellings. Over a quarter of all fire injuries occurred during attempts to control the fire. **Sixty-one percent of firefighter injuries occurred in the course of battling residential fires.**

Since 1984, fire deaths in greater Minnesota have outpaced those in the metro area at a rate slightly greater than two to one. Overall, 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 20% decrease in fire deaths. However, many preventable tragedies continue to occur. **Prevention efforts, particularly those targeting the home, are essential to reducing this needless tragic loss.**



# PARTICIPATION

## MINNESOTA FIRE INCIDENT REPORTING SYSTEM

"FIGHTING  
FIRES  
WITH FACTS!"



MINNESOTA  
FIRE  
DEPARTMENTS

A sample of the MFIRS-1 fire incident reporting form. The form is divided into several sections, each with a lettered header (A through U). Section A includes fields for 'Date and Time', 'Location', and 'Incident Type'. Section B covers 'Personnel' and 'Equipment'. Section C is for 'Incident Description'. Section D is for 'Cause and Origin'. Section E is for 'Damage and Losses'. Section F is for 'Weather and Environmental Conditions'. Section G is for 'Firefighting Operations'. Section H is for 'Firefighting Resources'. Section I is for 'Firefighting Tactics'. Section J is for 'Firefighting Results'. Section K is for 'Firefighting Summary'. Section L is for 'Firefighting Notes'. Section M is for 'Firefighting Comments'. Section N is for 'Firefighting Recommendations'. Section O is for 'Firefighting Conclusions'. Section P is for 'Firefighting Lessons Learned'. Section Q is for 'Firefighting Follow-up'. Section R is for 'Firefighting Contact Information'. Section S is for 'Firefighting Agency'. Section T is for 'Firefighting Agency Address'. Section U is for 'Firefighting Agency Phone Number'. The form is titled 'MFIRS-1' in the center.

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*Data can play a significant role as a management tool on the local level.*

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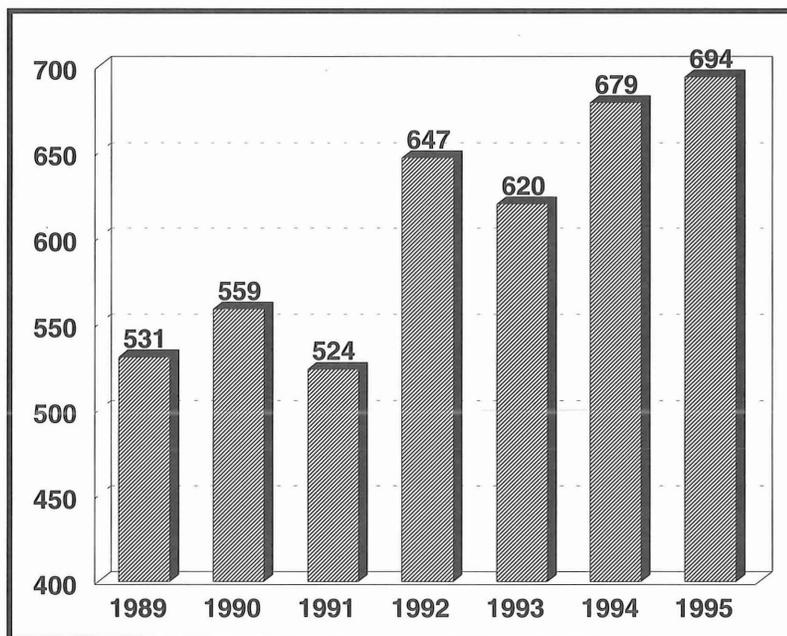
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## **PARTICIPATION - Minnesota Fire Incident Reporting System**

The Minnesota State Fire Marshal Division appreciates the efforts of the fire departments who submitted MFIRS reports in 1995. 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 1991 - 1995 is listed on the following pages. Departments are listed by county, with the total percent of those reporting in 1995 indicated. In 32 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 1995 with 15 fire departments added to the system. We applaud fire service leaders who are participating in the system and encourage those who are not to make a commitment to do so. 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 612/215-0500.

**AITKIN COUNTY**

*86% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* AITKIN
- \* \* \* \* \* HILL CITY
- \* \* \* \* \* JACOBSON
- \* \* \* \* \* MCGREGOR VOL
- ⇒ \* \* \* \* \* MCGRATH
- \* \* \* \* \* PALISADE VOL
- Tamarack

**ANOKA COUNTY**

*93% Reporting*

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

**BECKER COUNTY**

*78% Reporting*

- \* \* \* \* \* AUDUBON
- \* \* \* \* \* CALLAWAY
- \* \* \* \* \* CARSONVILLE VOL
- \* \* \* \* \* DETROIT LAKES
- \* \* \* \* \* FRAZEE
- \* \* \* \* \* LAKE PARK
- \* \* \* \* \* WOLF LAKE
- Ogema
- ⇒ \* \* \* \* \* White Earth Vol

**BELTRAMI COUNTY**

*83% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* ALASKA
- \* \* \* \* \* BEMIDJI
- \* \* \* \* \* BLACKDUCK
- \* \* \* \* \* KELLIHER VOL
- \* \* \* \* \* RED LAKE
- \* \* \* \* \* Solway

**BENTON COUNTY**

*67% Reporting*

- \* \* \* \* \* FOLEY
- \* \* \* \* \* SAUK RAPIDS
- Rice

**BIG STONE COUNTY**

*67% Reporting*

- \* \* \* \* \* CLINTON
- \* \* \* \* \* GRACEVILLE
- ⇒ \* \* \* \* \* ODESSA
- \* \* \* \* \* ORTONVILLE
- \* \* \* \* \* Beardsley
- ⇒ \* \* \* \* \* Correll

**BLUE EARTH COUNTY**

*92% Reporting*

- \* \* \* \* \* AMBOY
- \* \* \* \* \* EAGLE LAKE VOL
- \* \* \* \* \* GOOD THUNDER
- \* \* \* \* \* LAKE CRYSTAL
- \* \* \* \* \* MADISON LAKE
- \* \* \* \* \* MANKATO
- \* \* \* \* \* MAPLETON
- ⇒ \* \* \* \* \* PEMBERTON
- \* \* \* \* \* SOUTH BEND
- \* \* \* \* \* ST CLAIR
- \* \* \* \* \* VERNON CENTER
- \* \* \* \* \* Skyline

**BROWN COUNTY**

*60% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* COMFREY
- \* \* \* \* \* NEW ULM
- \* \* \* \* \* SLEEPY EYE
- Hanska
- \* \* \* \* \* Springfield Vol

**CARLTON COUNTY**

*(14) - 100% Reporting*

- \* \* \* \* \* BARNUM VOL
- \* \* \* \* \* BLACKHOOF
- \* \* \* \* \* CARLTON VOL
- \* \* \* \* \* CLOQUET
- \* \* \* \* \* CROMWELL VOL
- \* \* \* \* \* HOLYOKE VOL
- \* \* \* \* \* KETTLE RIVER
- \* \* \* \* \* MAHTOWA
- \* \* \* \* \* MOOSE LAKE
- \* \* \* \* \* PERCH LAKE VOL
- \* \* \* \* \* SCANLON VOL
- \* \* \* \* \* THOMSON TWP
- \* \* \* \* \* WRENSHALL
- ⇒ \* \* \* \* \* WRIGHT 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.

⇒ Departments that submitted year-end totals only.  
We are now only accepting MFIRS report forms or those submitted electronically by modem or diskette.

**CASS COUNTY**

*82% Reporting*

- 91 92 93 94 95
- ☞ \* \* \* \* \* BACKUS VOL
- \* \* \* \* \* CASS LAKE
- ☞ \* \* \* \* \* FEDERAL DAM
- \* \* \* \* \* HACKENSACK AREA
- \* \* \* \* \* LONGVILLE VOL
- \* \* \* \* \* PILLAGER AREA
- \* \* \* \* \* PINE RIVER
- \* \* \* \* \* REMER
- \* \* \* \* \* WALKER
- Bena
- \* \* \* \* \* Crooked Lake Vol

**CHIPPEWA COUNTY**

*(5) - 100% Reporting*

- \* \* \* \* \* CLARA CITY
- \* \* \* \* \* MAYNARD
- \* \* \* \* \* MILAN
- \* \* \* \* \* MONTEVIDEO
- \* \* \* \* \* WATSON

**CHISAGO COUNTY**

*(11) - 100% Reporting*

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

**CLAY COUNTY**

*(9) - 100% Reporting*

- \* \* \* \* \* BARNESVILLE
- ☞ \* \* \* \* \* DILWORTH
- \* \* \* \* \* FELTON COMM
- \* \* \* \* \* GLYNDON VOL
- \* \* \* \* \* HAWLEY
- ☞ \* \* \* \* \* HITTERDAL
- \* \* \* \* \* MOORHEAD
- ☞ \* \* \* \* \* SABIN-ELMWOOD
- \* \* \* \* \* ULEN

**CLEARWATER COUNTY**

*50% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* BAGLEY
- \* \* \* \* \* CLEARBROOK
- \* \* \* \* \* SHEVLIN
- \* \* \* \* \* Alida
- ☞ \* \* \* \* \* Gonvick
- ☞ \* \* \* \* \* Hangaard Twp

**COOK COUNTY**

*38% Reporting*

- \* \* \* \* \* GUNFLINT TRAIL
- ☞ \* \* \* \* \* HOVLAND
- ☞ \* \* \* \* \* TOFTE
- Grand Marais Vol
- Grand Portage
- \* \* \* \* \* Lutsen Twp Vol
- ☞ \* \* \* \* \* Maple Hill
- \* \* \* \* \* Schroeder

**COTTONWOOD COUNTY**

*50% Reporting*

- \* \* \* \* \* MOUNTAIN LAKE
- ☞ \* \* \* \* \* WESTBROOK
- \* \* \* \* \* WINDOM
- ☞ \* \* \* \* \* Bingham Lake
- Jeffers
- ☞ \* \* \* \* \* Storden

**CROW WING COUNTY**

*93% Reporting*

- \* \* \* \* \* BRAINERD
- \* \* \* \* \* CROSBY VOL
- \* \* \* \* \* CROSSLAKE
- \* \* \* \* \* CUYUNA
- \* \* \* \* \* DEERWOOD
- ☞ \* \* \* \* \* EMILY VOL
- \* \* \* \* \* GARRISON
- \* \* \* \* \* IDEAL TWP
- \* \* \* \* \* IRONTON
- ☞ \* \* \* \* \* MISSION TWP
- \* \* \* \* \* NISSWA
- \* \* \* \* \* PEQUOT LAKES
- \* \* \* \* \* RIVERTON
- Fifty Lakes

**DAKOTA COUNTY**

*(14) - 100% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* 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**

*(11) - 100% Reporting*

- \* \* \* \* \* ALEXANDRIA
- ☞ \* \* \* \* \* BRANDON
- \* \* \* \* \* CARLOS
- \* \* \* \* \* EVANSVILLE
- \* \* \* \* \* FORADA TWP
- ☞ \* \* \* \* \* GARFIELD
- \* \* \* \* \* KENSINGTON
- ☞ \* \* \* \* \* LEAF VALLEY TWP
- ☞ \* \* \* \* \* MILLERVILLE
- \* \* \* \* \* MILTONA
- ☞ \* \* \* \* \* OSAKIS

**FARIBAULT COUNTY**

*91% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* BLUE EARTH
- ☞ \* \* \* \* \* BRICELYN
- \* \* \* \* \* DELAVAN VOL
- \* \* \* \* \* EASTON VOL
- ☞ \* \* \* \* \* ELMORE
- ☞ \* \* \* \* \* FROST
- \* \* \* \* \* KIESTER
- \* \* \* \* \* WALTERS VOL
- ☞ \* \* \* \* \* WELLS
- \* \* \* \* \* WINNEBAGO VOL
- ☞ \* \* \* \* \* Minnesota Lake

**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
- \* \* \* \* \* GENEVA
- \* \* \* \* \* HARTLAND
- \* \* \* \* \* HOLLANDALE
- \* \* \* \* \* LONDON
- ☞ \* \* \* \* \* MANCHESTER
- \* \* \* \* \* MYRTLE
- \* \* \* \* \* Clarks Grove Vol
- \* \* \* \* \* Conger
- \* \* \* \* \* Glenville
- \* \* \* \* \* Hayward
- \* \* \* \* \* Twin Lakes

**GOODHUE COUNTY**

*63% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* CANNON FALLS
- ☞ \* \* \* \* \* DENNISON
- \* \* \* \* \* GOODHUE
- \* \* \* \* \* PINE ISLAND
- \* \* \* \* \* RED WING
- ☞ \* \* \* \* \* Kenyon
- \* \* \* \* \* Wanamingo
- \* \* \* \* \* Zumbrota

**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

91 92 93 94 95

- \* \* \* \* \* ST ANTHONY
- \* \* \* \* \* ST BONIFACIUS
- \* \* \* \* \* ST LOUIS PARK
- \* \* \* \* \* WAYZATA

**HOUSTON COUNTY**

*71% Reporting*

- \* \* \* \* \* BROWNSVILLE
- \* \* \* \* \* CALEDONIA
- \* \* \* \* \* HOUSTON
- \* \* \* \* \* LACRESCENT
- \* \* \* \* \* SPRING GROVE
- \* \* \* \* \* Eitzen
- \* \* \* \* \* Hokah Vol

**HUBBARD COUNTY**

*80% Reporting*

- \* \* \* \* \* EAST HUBBARD CO
- \* \* \* \* \* LAKE GEORGE
- \* \* \* \* \* LAPORTE/LAKEPORT
- \* \* \* \* \* PARK RAPIDS
- \* \* \* \* \* Nevis

**ISANTI COUNTY**

*(4) - 100% Reporting*

- \* \* \* \* \* BRAHAM
- \* \* \* \* \* CAMBRIDGE
- \* \* \* \* \* DALBO
- \* \* \* \* \* ISANTI VOL

**ITASCA COUNTY**

*88% Reporting*

- \* \* \* \* \* BALSAM VOL
- \* \* \* \* \* BEARVILLE TWP
- \* \* \* \* \* BOVEY
- \* \* \* \* \* CALUMET
- \* \* \* \* \* COHASSET
- \* \* \* \* \* COLERAINE
- \* \* \* \* \* DEER RIVER
- \* \* \* \* \* GOODLAND
- \* \* \* \* \* GRAND RAPIDS
- \* \* \* \* \* KEEWATIN VOL
- ☞ \* \* \* \* \* MARBLE
- \* \* \* \* \* NASHWAUK
- ☞ \* \* \* \* \* TACONITE
- ☞ \* \* \* \* \* WARBA
- ☞ \* \* \* \* \* Bigfork Vol
- \* \* \* \* \* Squaw Lake

**JACKSON COUNTY**

80% Reporting

- 91 92 93 94 95
- \* \* \* ALPHA
- \* \* \* \* HERON LAKE VOL
- \* \* \* \* JACKSON
- \* \* \* \* LAKEFIELD
- ☞ Okabena

**KANABEC COUNTY**

(3) - 100% Reporting

- \* \* \* GRASSTON
- \* \* \* MORA
- \* \* \* \* OGILVIE

**KANDIYOHI COUNTY**

91% Reporting

- \* \* \* \* ATWATER
- \* \* \* \* BLOMKEST
- \* \* \* \* KANDIYOHI
- \* \* \* \* LAKE LILLIAN
- \* \* \* \* NEW LONDON
- ☞ \* \* \* PRINSBURG
- \* \* \* \* RAYMOND
- \* \* \* \* SPICER
- ☞ \* \* \* SUNBURG
- \* \* \* \* WILLMAR
- Pennock

**KITTSOON COUNTY**

(5) - 100% Reporting

- \* \* \* \* HALLOCK
- \* \* \* \* KARLSTAD VOL
- \* \* \* \* KENNEDY
- \* \* \* \* LAKE BRONSON
- \* \* \* \* LANCASTER

**KOOCHICHING COUNTY**

67% Reporting

- ☞ \* \* \* \* BIG FALLS VOL
- \* \* \* \* INTERNATIONAL FLS
- \* \* \* \* LITTLEFORK
- \* \* \* \* LOMAN RURAL
- ☞ \* \* \* \* Birchdale Rural
- \* \* \* \* Northome

**LAC QUI PARLE COUNTY**

57% Reporting

- 91 92 93 94 95
- \* \* \* \* 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**

70% Reporting

- 91 92 93 94 95
- \* \* \* \* BALATON
- ☞ \* \* \* \* GARVIN
- \* \* \* \* GHENT
- ☞ \* \* \* \* LYND
- \* \* \* \* MARSHALL
- ☞ \* \* \* \* MINNEOTA
- \* \* \* \* TRACY
- Cottonwood
- ☞ \* \* \* \* Russell
- \* \* \* \* Taunton

**MC LEOD COUNTY**

88% Reporting

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

**MAHNOMEN COUNTY**

75% Reporting

- \* \* \* \* ELBOW-TULABY LKS
- \* \* \* \* MAHNOMEN
- \* \* \* \* TWIN LAKES VOL
- \* \* \* \* Waubun

**MARSHALL COUNTY**

88% Reporting

- \* \* \* \* ALVARADO VOL
- \* \* \* \* ARGYLE
- \* \* \* \* GRYGLA
- \* \* \* \* NEWFOLDEN
- ☞ \* \* \* \* OSLO
- ☞ \* \* \* \* STEPHEN
- \* \* \* \* WARREN
- \* \* \* \* Middle River

**MARTIN COUNTY**

*89% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* CEYLON
- \* \* \* \* \* DUNNELL
- \* \* \* \* \* FAIRMONT
- \* \* \* \* \* GRANADA
- \* \* \* \* \* NORTHROP
- \* \* \* \* \* SHERBURN
- ☞ \* \* \* \* \* TRIMONT
- \* \* \* \* \* TRUMAN
- Welcome

**MEEKER COUNTY**

*83% Reporting*

- \* \* \* \* \* DASSEL
- \* \* \* \* \* EDEN VALLEY
- \* \* \* \* \* GROVE CITY
- \* \* \* \* \* LITCHFIELD
- \* \* \* \* \* WATKINS
- ☞       Cosmos

**MILLE LACS COUNTY**

*83% Reporting*

- \* \* \* \* \* FORESTON
- ☞ \* \* \* \* \* ISLE
- \* \* \* \* \* MILACA
- \* \* \* \* \* ONAMIA
- ☞ \* \* \* \* \* PRINCETON
- ☞ \* \* \* \* \* Wahkon

**MORRISON COUNTY**

*64% Reporting*

- \* \* \* \* \* BELLE PRAIRIE RRL
- ☞ \* \* \* \* \* BOWLUS
- \* \* \* \* \* LITTLE FALLS
- \* \* \* \* \* MOTLEY
- \* \* \* \* \* PIERZ
- \* \* \* \* \* RANDALL
- \* \* \* \* \* SCANDIA VALLEY
- ☞ \* \* \* \* \* Flensburg
- Royalton
- \* \* \* \* \* Swanville
- \* \* \* \* \* Upsala

**MOWER COUNTY**

*56% Reporting*

- 91 92 93 94 95
- ☞ \* \* \* \* \* ADAMS VOL
- \* \* \* \* \* AUSTIN
- ☞ \* \* \* \* \* BROWNSDALE
- ☞ \* \* \* \* \* GRAND MEADOW
- \* \* \* \* \* ROSE CREEK AREA
- Dexter Vol
- ☞ \* \* \* \* \* Le Roy
- Lyle
- ☞ \* \* \* \* \* 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**

*(10) - 100% Reporting*

- \* \* \* \* \* ADRIAN
- ☞ \* \* \* \* \* BIGELOW
- \* \* \* \* \* BREWSTER
- ☞ \* \* \* \* \* DUNDEE
- \* \* \* \* \* ELLSWORTH
- \* \* \* \* \* LISMORE
- \* \* \* \* \* ROUND LAKE
- \* \* \* \* \* RUSHMORE
- \* \* \* \* \* WILMONT
- \* \* \* \* \* WORTHINGTON

**NORMAN COUNTY**

*50% Reporting*

- 91 92 93 94 95
- \* \* \* \* \* ADA
- \* \* \* \* \* GARY VOL
- ☞ \* \* \* \* \* HALSTAD
- ☞ \* \* \* \* \* TWIN VALLEY
- \* \* \* \* \* Borup
- \* \* \* \* \* Hendrum
- ☞ \* \* \* \* \* Perley-Lee Twp
- \* \* \* \* \* Shelly

**OLMSTED COUNTY**

*(8) - 100% Reporting*

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

**OTTERTAIL COUNTY**

*88% Reporting*

- ☞ \* \* \* \* \* BLUFFTON
- \* \* \* \* \* CLITHERALL
- \* \* \* \* \* DALTON
- \* \* \* \* \* DEER CREEK
- ☞ \* \* \* \* \* DENT
- \* \* \* \* \* ELIZABETH
- \* \* \* \* \* FERGUS FALLS
- \* \* \* \* \* HENNING VOL
- \* \* \* \* \* NEW YORK MILLS
- \* \* \* \* \* OTTERTAIL
- \* \* \* \* \* PARKERS PRAIRIE
- ☞ \* \* \* \* \* PELICAN RAPIDS VL
- \* \* \* \* \* PERHAM
- \* \* \* \* \* UNDERWOOD
- ☞ \* \* \* \* \* VERGAS
- \* \* \* \* \* Battle Lake
- \* \* \* \* \* Vining

**PENNINGTON COUNTY**

*(3) - 100% Reporting*

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

**PINE COUNTY**

80% Reporting

91 92 93 94 95  
 \* \* \* \* \* 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**

85% Reporting

\* BELTRAMI  
 \* \* \* \* \* CROOKSTON  
 \* \* \* \* \* EAST GRAND FORKS  
 \* \* \* \* \* ERSKINE  
 ☞ \* \* \* \* \* FERTILE  
 ☞ \* \* \* \* \* FISHER  
 \* \* \* \* \* FOSSTON  
 \* \* LENGBY  
 ☞ \* \* \* \* \* MCINTOSH  
 \* \* \* \* \* MENTOR  
 \* \* \* \* \* NIELSVILLE  
 ☞ Climax  
 Winger

**POPE COUNTY**

83% Reporting

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

**RAMSEY COUNTY**

(15) - 100% Reporting

91 92 93 94 95  
 \* \* \* \* \* E COUNTY LINE I  
 \* \* \* \* \* E COUNTY LINE II  
 \* \* \* \* \* FALCON HEIGHTS  
 \* \* \* \* \* FIRE MARSHAL  
 CENT OFF  
 \* \* \* \* \* GLADSTONE  
 \* \* \* \* \* HAZELWOOD  
 \* \* \* \* \* LAKE JOHANNA  
 \* \* \* \* \* LITTLE CANADA  
 \* \* \* \* \* NEW BRIGHTON  
 \* \* \* \* \* NORTH ST PAUL  
 \* \* \* \* \* PARKSIDE  
 \* \* \* \* \* ROSEVILLE  
 \* \* \* \* \* ST PAUL  
 \* \* \* \* \* VADNAIS HEIGHTS  
 \* \* \* \* \* WHITE BEAR LAKE

**RED LAKE COUNTY**

33% Reporting

\* \* \* \* \* OKLEE  
 ☞ Plummer  
 \* Red Lake Falls

**REDWOOD COUNTY**

93% Reporting

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

**RENVILLE COUNTY**

80% Reporting

\* \* \* \* \* BIRD ISLAND  
 \* \* \* \* \* BUFFALO LAKE  
 \* \* \* \* \* FAIRFAX  
 \* \* \* \* \* FRANKLIN

91 92 93 94 95

\* \* \* \* \* HECTOR  
 \* \* \* \* \* MORTON  
 ☞ \* \* \* \* \* OLIVIA  
 \* \* \* \* \* RENVILLE  
 ☞ Danube  
 Sacred Heart

**RICE COUNTY**

(5) - 100% Reporting

\* \* \* \* \* FARIBAULT  
 \* \* \* \* \* LONSDALE  
 \* \* \* \* \* MORRISTOWN  
 \* \* \* \* \* NERSTRAND VOL  
 \* \* \* \* \* NORTHFIELD

**ROCK COUNTY**

83% Reporting

\* \* \* \* \* BEAVER CREEK  
 ☞ \* \* \* \* \* HARDWICK  
 \* \* \* \* \* HILLS  
 \* \* \* \* \* LUVERNE  
 \* \* \* \* \* MAGNOLIA  
 \* \* \* \* \* Kenneth Vol

**ROSEAU COUNTY**

(4) - 100% Reporting

☞ \* \* \* \* \* BADGER  
 \* \* \* \* \* GREENBUSH  
 ☞ \* \* \* \* \* ROSEAU  
 ☞ \* \* \* \* \* WARROAD

**ST LOUIS COUNTY**

90% Reporting

\* \* \* \* \* ALBORN  
 \* \* \* \* \* ALDEN TWP  
 \* \* \* \* \* ARROWHEAD  
 \* \* \* \* \* AURORA  
 \* \* \* \* \* BABBITT VOL  
 \* \* \* \* \* BIWABIK VOL  
 \* \* \* \* \* BIWABIK TWP VOL  
 \* \* \* \* \* BREITUNG  
 \* \* \* \* \* BREVATOR  
 ☞ \* \* \* \* \* BRIMSON AREA VOL  
 \* \* \* \* \* BUHL VOL  
 \* \* \* \* \* CENTRAL LKS VOL  
 \* \* \* \* \* CHERRY TWP  
 \* \* \* \* \* CHISHOLM  
 \* \* \* \* \* CLIFTON TWP

91 92 93 94 95

- \* \* \* \* \* CLINTON VOL
- \* \* \* \* \* COLVIN TWP
- \* \* \* \* \* COOK
- \* \* \* \* \* COTTON VOL
- ☞ \* \* \* \* \* CRANE LAKE
- \* \* \* \* \* CULVER
- \* \* \* \* \* DULUTH
- \* \* \* \* \* EAGLES NEST
- \* \* \* \* \* ELLSBURG
- \* \* \* \* \* ELMER
- \* \* \* \* \* ELY
- \* \* \* \* \* EMBARRASS VOL
- \* \* \* \* \* EVELETH
- \* \* \* \* \* FAYAL
- ☞ \* \* \* \* \* FLOODWOOD
- \* \* \* \* \* FREDENBERG
- \* \* \* \* \* FRENCH VOL
- \* \* \* \* \* GNESEN VOL
- ☞ \* \* \* \* \* GRAND LAKE VL
- ☞ \* \* \* \* \* GREENWOOD TP
- \* \* \* \* \* HERMANTOWN VL
- \* \* \* \* \* HIBBING
- \* \* \* \* \* HOYT LAKES
- ☞ \* \* \* \* \* KABETOGAMA
- \* \* \* \* \* KELSEY VOL
- \* \* \* \* \* KINNEY-GRT SCOTT
- \* \* \* \* \* LAKELAND VOL
- ☞ \* \* \* \* \* LAKEWOOD TWP
- \* \* \* \* \* MAKINEN
- \* \* \* \* \* MC DAVITT
- ☞ \* \* \* \* \* MC KINLEY VOL
- ☞ \* \* \* \* \* MEADOWLNDs AREA
- \* \* \* \* \* MOUNTAIN IRON
- \* \* \* \* \* NORTH STAR TWP
- \* \* \* \* \* NORTHLAND
- \* \* \* \* \* ORR VOL
- \* \* \* \* \* PALO TWP
- ☞ \* \* \* \* \* PEQUAYWAN LAKE
- \* \* \* \* \* PIKE-SANDY BRITT
- \* \* \* \* \* PROCTOR
- \* \* \* \* \* RICE LAKE VOL
- ☞ \* \* \* \* \* SILICA AREA
- \* \* \* \* \* STURGEON TWP
- \* \* \* \* \* SOLWAY RURAL
- \* \* \* \* \* TOIVOLA TWP
- \* \* \* \* \* TOWER
- \* \* \* \* \* VERMILLION LK
- \* \* \* \* \* VIRGINIA
- ☞ \* \* \* \* \* 148th Air Nat'l Guard
- \* \* \* \* \* Buyck Comm Vol
- \* \* \* \* \* Canosia Vol
- \* \* \* \* \* Evergreen
- \* \* \* \* \* Gilbert
- \* \* \* \* \* Industrial Vol
- \* \* \* \* \* Nett Lake
- \* \* \* \* \* Normanna Vol

**SCOTT COUNTY**

(7) - 100% Reporting

91 92 93 94 95

- \* \* \* \* \* 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**

86% Reporting

- \* \* \* \* \* GAYLORD
- \* \* \* \* \* GIBBON
- \* \* \* \* \* GREEN ISLE
- \* \* \* \* \* HENDERSON
- \* \* \* \* \* NEW AUBURN
- \* \* \* \* \* WINTHROP VOL
- \* \* \* \* \* Arlington

**STEARNS COUNTY**

(24) - 100% Reporting

- \* \* \* \* \* ALBANY
- \* \* \* \* \* AVON
- ☞ \* \* \* \* \* BELGRADE
- \* \* \* \* \* BROOTEN
- \* \* \* \* \* COLD SPRING
- ☞ \* \* \* \* \* ELROSA
- \* \* \* \* \* FREEPORT
- \* \* \* \* \* HOLDINGFORD
- \* \* \* \* \* KIMBALL
- ☞ \* \* \* \* \* LAKE HENRY
- \* \* \* \* \* MELROSE
- ☞ \* \* \* \* \* NEW MUNICH
- \* \* \* \* \* PAYNESVILLE
- \* \* \* \* \* RICHMOND
- \* \* \* \* \* ROCKVILLE
- \* \* \* \* \* ST CLOUD
- \* \* \* \* \* ST CLOUD TWP
- \* \* \* \* \* ST JOHN'S UNIV
- \* \* \* \* \* ST JOSEPH VOL
- ☞ \* \* \* \* \* ST MARTIN

91 92 93 94 95

- \* \* \* \* \* ST STEPHEN
- \* \* \* \* \* SARTELL-LESAUK
- \* \* \* \* \* SAUK CENTRE
- \* \* \* \* \* WAITE PARK

**STEELE COUNTY**

(4) - 100% Reporting

- \* \* \* \* \* BLOOMING PR
- \* \* \* \* \* ELLENDALE VOL
- \* \* \* \* \* MEDFORD VOL
- \* \* \* \* \* OWATONNA

**STEVENS COUNTY**

(4) - 100% Reporting

- \* \* \* \* \* CHOKIO
- ☞ \* \* \* \* \* DONNELLY
- \* \* \* \* \* HANCOCK
- \* \* \* \* \* MORRIS

**SWIFT COUNTY**

75% Reporting

- \* \* \* \* \* APPLETON
- \* \* \* \* \* BENSON
- ☞ \* \* \* \* \* CLONTARF
- \* \* \* \* \* DANVERS
- ☞ \* \* \* \* \* HOLLOWAY
- ☞ \* \* \* \* \* KERKHOVEN
- Degraff
- Murdock

**TODD COUNTY**

(8) - 100% Reporting

- ☞ \* \* \* \* \* BERTHA
- \* \* \* \* \* BROWERVILLE
- \* \* \* \* \* CLARISSA
- \* \* \* \* \* EAGLE BEND
- \* \* \* \* \* GREY EAGLE
- \* \* \* \* \* HEWITT
- \* \* \* \* \* LONG PRAIRIE
- \* \* \* \* \* STAPLES

**TRAVERSE COUNTY**

50% Reporting

- \* \* \* \* \* DUMONT
- \* \* \* \* \* WHEATON
- Browns Valley
- Tintah

**WABASHA COUNTY**

(7) - 100% Reporting

91 92 93 94 95  
 \* \* \* \* \* ELGIN  
 \* \* \* \* \* KELLOGG  
 \* \* \* \* \* LAKE CITY  
 \* \* \* \* \* MAZEPPA VOL  
 \* \* \* \* \* PLAINVIEW  
 \* \* \* \* \* WABASHA  
 \* \* \* \* \* ZUMBRO FALLS

**WADENA COUNTY**

50% Reporting

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

**WASECA COUNTY**

75% Reporting

\* \* \* \* \* JANESVILLE  
 ☞ \* \* \* \* \* NEW RICHLAND  
 \* \* \* \* \* WASECA  
 Waldorf

**WASHINGTON COUNTY**

(15) - 100% Reporting

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

**WATONWAN COUNTY**

50% Reporting

91 92 93 94 95  
 \* \* \* \* \* DARFUR  
 ☞ \* \* \* \* \* LEWISVILLE  
 ☞ \* \* \* \* \* MADELIA  
 ☞ \* \* \* \* \* ODIN  
 \* Butterfield  
 \* LaSalle  
 ☞ Ormsby  
 \* \* \* St James

**WILKIN COUNTY**

80% Reporting

\* \* \* \* \* BRECKENRIDGE  
 ☞ \* \* \* \* \* CAMPBELL  
 \* \* \* \* \* ROTHSAY  
 \* \* \* \* \* WOLVERTON  
 Foxhome

**WINONA COUNTY**

92% Reporting

\* \* \* \* \* ALTURA  
 \* \* \* \* \* DAKOTA  
 \* \* \* \* \* GOODVIEW  
 \* \* \* \* \* HIDDEN VALLEY  
 \* \* \* \* \* LEWISTON  
 \* \* \* \* \* MINNESOTA CITY  
 ☞ \* \* \* \* \* NODINE VOL  
 \* \* \* \* \* ROLLINGSTONE  
 \* \* \* \* \* RIDGEWAY COMM  
 \* \* \* \* \* ST CHARLES  
 ☞ \* \* \* \* \* WILSON VOL  
 \* \* \* \* \* WINONA  
 Pickwick Area

**WRIGHT COUNTY**

79% Reporting

91 92 93 94 95  
 \* \* \* \* \* ALBERTVILLE  
 \* \* \* \* \* ANNANDALE  
 \* \* \* \* \* CLEARWATER  
 \* \* \* \* \* COKATO  
 \* \* \* \* \* DELANO VOL  
 \* \* \* \* \* HOWARD LAKE  
 \* \* \* \* \* MAPLE LAKE  
 \* \* \* \* \* MONTROSE  
 \* \* \* \* \* ROCKFORD  
 \* \* \* \* \* SOUTH HAVEN  
 \* \* \* \* \* WAVERLY  
 \* \* \* \* \* Buffalo  
 \* \* \* \* \* Monticello  
 ☞ \* \* \* \* \* St Michael

**YELLOW MEDICINE COUNTY**

75% Reporting

\* \* \* \* \* CANBY  
 \* \* \* \* \* CLARKFIELD  
 ☞ \* \* \* \* \* ECHO  
 ☞ \* \* \* \* \* HANLEY FALLS  
 \* \* \* \* \* PORTER  
 ☞ \* \* \* \* \* WOODLAKE  
 \* \* \* \* \* Granite Falls  
 \* \* \* \* \* St Leo

We welcome in and welcome back the following departments reporting in 1995:

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*Fifty-two departments  
began participating in  
1995.*

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Alden	Chisago City	Gnesen Vol.	Pemberton
Arrowhead	Clarissa	Grygla	Pequaywan Lake
Askov	Clifton Twp.	Iona	Perham
Becker	Clinton	Lake George	Pike-Sandy Britt
Belgrade	Clitherall	Lewisville	Redwood Falls
Bellingham	Dennison	Loman Rural	Ruthton
Beltrami	Dent	Long Lake	Stacy
Bertha	East Hubbard Co.	Magnolia	Sunburg
Bigelow	Elrosa	Medicine Lake	Toivola Twp.
Blomkest	Emmons	Millerville	Vernon Center
Brandon	Federal Dam	Morton	Villard Vol.
Buffalo Lake	Felton Comm.	Nielsville	Wheaton
Chaska	Geneva	Nodine Vol.	Wilson Vol.

We lost the following departments in 1995 and would like to welcome them back next year:

Alida	Buyck Comm.	Hendrum	Pine City
Arlington	Canosia Vol.	Industrial Vol.	Red Lake Falls
Avoca	Conger	Kenneth Vol.	Schroeder
Battle Lake	Crooked Lake	LaSalle	Seaforth
Beardsley	Evergreen	Le Roy	Skyline
Bingham Lake	Gonvick	Louisburg	St. Michael
Birchdale Rural	Granite Falls	Mapleview	Swanville
Borup	Hangaard Twp.	Minnesota Lake	Taunton
Boyd	Hayward	Monticello	Upsala
Buffalo	Hendricks	Perley-Lee Twp.	Zumbrota

## 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 1995 there was one fire for every 199 people.*)

<u>County</u>	<u>Population</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Total Co. Dollar Loss</u>	<u>Fire Rate</u>	<u>Average Dollar Loss/Fire</u>	<u>Fire Deaths</u>
*Hennepin	1,032,431	5,258	47,447	\$22,610,479	199	\$4,351	10
Blue Earth	54,044	259	1,534	\$15,618,060	213	\$61,488	
*Ramsey	485,765	2,530	18,489	\$11,839,764	194	\$4,721	9
St. Louis	198,213	1,177	6,058	\$8,318,379	183	\$7,667	2
*Dakota	275,227	1,170	6,338	\$7,224,386	240	\$6,310	1
*Washington	145,896	591	4,259	\$4,446,368	265	\$8,084	
Anoka	243,641	1,194	9,399	\$4,111,526	209	\$3,529	2
*Rice	49,183	215	265	\$3,307,695	234	\$15,751	
*Scott	57,846	258	875	\$3,060,027	247	\$13,077	1
*Stearns	118,791	498	762	\$2,684,749	253	\$5,724	1
Norman	7,975	55	10	\$2,098,050	153	\$40,347	
Beltrami	34,384	230	577	\$1,843,970	149	\$8,017	4
*Steele	30,729	117	137	\$1,724,420	279	\$15,677	1
Crow Wing	44,249	253	496	\$1,649,829	184	\$6,874	1
Polk	32,498	211	791	\$1,558,630	158	\$7,566	1
Itasca	40,863	271	600	\$1,510,970	168	\$6,218	2
Ottertail	50,714	175	105	\$1,396,210	306	\$8,411	
Kandiyohi	38,761	168	343	\$1,337,216	265	\$9,159	
Goodhue	40,690	198	744	\$1,299,015	213	\$6,801	1
Cass	21,791	194	148	\$1,296,100	117	\$6,968	
*Carlton	29,259	205	768	\$1,279,164	175	\$7,660	1
*Olmsted	106,470	371	1,472	\$1,232,065	291	\$3,366	2
*Carver	47,915	176	1,605	\$1,144,883	309	\$7,386	
Fillmore	20,777	108	93	\$1,127,170	219	\$11,865	2
Freeborn	33,060	128	195	\$1,050,228	269	\$8,538	
*Clay	50,422	177	1,775	\$1,017,016	293	\$5,913	9
Benton	30,185	103	80	\$1,015,950	302	\$10,160	
Faribault	16,937	80	59	\$993,535	223	\$13,073	
*Douglas	28,674	154	267	\$947,525	205	\$6,768	1
Pine	21,264	136	78	\$849,325	211	\$8,409	3
Wright	68,710	207	844	\$800,984	356	\$4,150	2
Renville	17,673	77	30	\$773,020	242	\$10,589	1
Marshall	10,993	85	104	\$763,650	143	\$10,039	1
Winona	47,828	205	1,228	\$724,466	253	\$3,833	
Aitkin	12,425	75	85	\$675,500	175	\$9,514	
*Wabasha	19,744	119	186	\$674,388	181	\$6,187	1
*Lake	10,415	40	15	\$650,100	281	\$17,570	2
*Todd	23,363	131	113	\$637,550	203	\$5,544	
Cottonwood	12,694	41	18	\$627,216	334	\$16,506	
*Isanti	25,921	100	265	\$615,650	265	\$6,282	
Houston	18,497	76	190	\$600,500	268	\$8,703	2
Mille Lacs	18,670	191	228	\$587,427	113	\$3,560	
Morrison	29,604	72	108	\$576,600	417	\$8,121	1
*Kanabec	12,802	62	19	\$567,100	217	\$9,612	
*Sherburne	41,945	222	551	\$561,360	207	\$2,765	1

<u>County</u>	<u>Population</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Total Co. Dollar Loss</u>	<u>Fire Rate</u>	<u>Average Dollar Loss/Fire</u>	<u>Fire Deaths</u>
Jackson	11,677	48	65	\$554,500	265	\$12,602	
Lyon	24,789	102	131	\$541,320	322	\$7,030	1
Martin	22,914	61	96	\$535,275	409	\$9,666	1
McLeod	32,030	78	204	\$522,602	458	\$7,041	
Koochiching	16,299	69	25	\$510,065	236	\$7,392	1
Cook	3,868	8	2	\$500,000	645	\$83,333	
Becker	27,881	191	200	\$492,870	174	\$3,080	
Hubbard	14,939	78	25	\$488,300	207	\$6,782	1
Redwood	17,254	82	35	\$469,969	224	\$6,103	
*Chisago	30,521	172	173	\$460,701	210	\$3,177	
Murray	9,660	45	10	\$426,200	293	\$12,915	
Meeker	20,846	72	161	\$422,950	298	\$6,042	
*Grant	6,246	15	8	\$393,050	416	\$26,203	
Mower	37,385	95	136	\$366,694	402	\$3,943	1
*Kittson	5,767	61	51	\$360,500	123	\$7,670	3
Clearwater	8,309	77	58	\$339,250	117	\$4,778	
Swift	10,724	44	36	\$316,200	282	\$8,321	1
Pope	10,745	60	67	\$313,750	234	\$6,821	
Sibley	14,366	52	75	\$308,925	312	\$6,716	
*LeSueur	23,239	69	221	\$308,050	369	\$4,890	1
*Dodge	15,731	75	33	\$279,960	222	\$3,943	
*Nobles	20,098	64	70	\$259,275	347	\$4,470	
Yellow Medicine	11,684	28	11	\$254,900	531	\$11,586	
*Pipestone	10,491	46	23	\$254,000	250	\$6,048	
*Roseau	15,026	65	51	\$246,750	246	\$4,045	4
Waseca	18,079	47	157	\$232,500	411	\$5,284	1
*Pennington	13,306	80	99	\$227,850	180	\$3,079	2
Mahnomen	5,044	61	15	\$207,300	99	\$4,065	2
Lincoln	6,890	22	5	\$193,500	345	\$9,675	
*Nicollet	28,076	98	168	\$180,198	299	\$1,917	
Wadena	13,154	39	46	\$178,500	337	\$4,577	1
Watonwan	11,682	29	24	\$160,550	433	\$5,946	
*Chippewa	13,228	38	47	\$155,900	358	\$4,214	
Rock	9,806	41	54	\$140,260	272	\$3,896	
*Lake of the Woods	4,076	17	1	\$100,000	255	\$6,250	
Red Lake	4,525	17	11	\$90,500	302	\$6,033	1
Lac Qui Parle	8,924	25	26	\$87,050	388	\$3,785	
*Stevens	10,634	28	9	\$83,135	394	\$3,079	
Brown	26,984	39	91	\$72,410	729	\$1,957	
Traverse	4,463	8	7	\$44,500	558	\$5,563	
Big Stone	6,285	23	14	\$36,400	273	\$1,583	
Wilkin	7,516	32	63	\$29,500	289	\$1,135	
<b>TOTAL</b>		<b>20,764</b>	<b>112,557<sup>†</sup></b>	<b>\$131,574,324</b>	<b>210</b>	<b>\$6,337</b>	<b>86</b>

\*Indicates counties with 100% participation.

†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	City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss
ADA	23	6	\$78,050	BEAVER BAY VOL	2	0	\$0	BRUNO	13	2	\$13,000
ADAMS VOL	6	4	\$13,500	BEAVER CREEK	4	2	\$2,200	BUFFALO LAKE	2	0	\$35,000
ADRIAN	8	2	\$2,500	BECKER VOL	38	122	\$75,600	BUHL VOL	12	5	\$126,000
AITKIN	34	54	\$524,500	BELGRADE	11	0	\$101,000	BURNSVILLE	213	1,552	\$715,930
ALASKA	8	0	\$32,550	BELLE PLAINE	18	23	\$492,500	BYRON	14	41	\$272,800
ALBANY	13	74	\$0	BELLE PRAIRIE RURAL	13	8	\$59,700	CALEDONIA	28	11	\$148,200
ALBERT LEA	90	154	\$542,678	BELLINGHAM	9	15	\$25,050	CALLAWAY	13	0	\$13,000
ALBERT LEA TWP	12	1	\$206,700	*BELTRAMI	0	0	\$0	CALUMET	16	48	\$0
ALBERTVILLE	5	19	\$9,000	BELVIEW	7	1	\$0	CAMBRIDGE	36	55	\$323,600
ALBORN	9	12	\$26,100	BEMIDJI	184	569	\$1,345,070	CAMPBELL	1	0	\$10,000
ALDEN	3	29	\$8,000	BENSON	27	29	\$146,700	CANBY	6	0	\$140,200
*ALDEN TWP	0	0	\$0	BERTHA	8	0	\$0	CANNON FALLS	34	196	\$435,650
ALEXANDRIA	62	99	\$445,930	BETHEL	6	20	\$0	CARLOS	7	44	\$9,500
ALMELUND	18	3	\$68,300	BIG FALLS VOL	6	1	\$28,000	CARLTON VOL	19	27	\$67,300
ALPHA	2	0	\$25,000	BIG LAKE	46	46	\$134,700	CARSONVILLE VOL	23	69	\$36,520
ALTURA	2	2	\$0	BIGELOW	4	0	\$15,500	CARVER	20	68	\$319,000
ALVARADO VOL	14	14	\$39,500	BIRD ISLAND	9	5	\$43,900	CASS LAKE	64	40	\$0
AMBOY	5	33	\$3,475	BIWABIK TWP VOL	3	0	\$51,000	CENTENNIAL	81	648	\$133,727
ANDOVER	65	533	\$307,500	BIWABIK VOL	2	3	\$0	CENTER CITY	7	13	\$5,950
ANNANDALE	24	90	\$89,184	BLACKDUCK	15	3	\$148,250	CENTRAL LAKES VOL	1	0	\$0
ANOKA-CHAMPLIN	129	625	\$368,762	BLACKHOOF	15	10	\$20,722	CEYLON	8	1	\$105,050
APPLE VALLEY	101	792	\$290,465	BLOMKEST	6	36	\$0	CHANDLER	9	0	\$10,000
APPLETON	4	0	\$130,000	BLOOMING PRAIRIE	26	9	\$515,500	CHANHASSEN	19	558	\$53,300
*ARCO	0	0	\$0	BLOOMINGTON	248	900	\$697,275	CHASKA	42	141	\$494,653
ARGYLE	4	47	\$2,100	BLUE EARTH	19	23	\$155,135	CHATFIELD	7	2	\$14,700
ARROWHEAD	1	4	\$0	BLUFFTON	7	0	\$28,000	CHERRY TWP	9	24	\$22,200
ASHBY	1	0	\$30,000	BOVEY	17	62	\$16,500	CHISAGO CITY	9	0	\$0
ASKOV VOL	9	1	\$277,500	BOWLUS	4	0	\$247,000	CHISHOLM	50	43	\$73,900
ATWATER	11	23	\$30,450	BRAHAM	2	0	\$30,000	CHOKIO	5	1	\$29,000
AUDUBON	26	16	\$42,750	BRAINERD CITY	114	279	\$939,147	CLARA CITY	8	19	\$54,000
AURORA	10	13	\$12,150	BRANDON	1	0	\$10,000	CLAREMONT	10	1	\$91,410
AUSTIN	73	130	\$271,494	BRECKENRIDGE	17	21	\$5,000	CLARISSA	10	37	\$115,250
AVON	19	42	\$137,600	BREITUNG	3	3	\$2,500	CLARKFIELD	7	1	\$5,700
BABBITT VOL	17	19	\$57,200	BREVATOR	9	2	\$35,000	CLEAR LAKE	20	61	\$27,000
BACKUS VOL	20	3	\$192,000	BREWSTER	4	18	\$12,000	CLEARBROOK	22	37	\$190,970
BADGER	3	0	\$102,000	BRICELYN	7	0	\$21,200	CLEARWATER	8	50	\$10,000
BAGLEY	42	19	\$148,030	BRIMSON AREA VOL	2	0	\$0	CLEMENTS	3	0	\$6,600
BALATON	9	2	\$188,500	BROOK PARK	1	7	\$3,500	CLEVELAND	6	47	\$52,100
BALSAM VOL	13	40	\$94,700	BROOKLYN CENTER	163	710	\$400,152	CLIFTON TWP	4	8	\$24,000
BARNESVILLE	42	34	\$142,100	BROOKLYN PARK	233	923	\$1,069,580	CLINTON	8	0	\$9,100
BARNUM VOL	12	37	\$144,500	BROOTEN	13	7	\$34,050	CLINTON VOL	8	8	\$0
BARRETT	3	0	\$0	BROWERVILLE	20	14	\$66,800	*CLITHERALL	0	0	\$0
BAUDETTE	11	1	\$39,500	BROWNSDALE	6	0	\$49,200	CLONTARF	4	0	\$3,000
BAYPORT	32	277	\$293,000	BROWNSVILLE	4	24	\$0	CLOQUET	74	466	\$136,542
BEARVILLE TWP	2	1	\$0	BROWNTON VOL	12	42	\$20,000	COHASSET	43	67	\$87,300

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
COKATO	24	42	\$160,000	E COUNTY LINE II	12	797	\$209,050	FISHER	9	0	\$95,350
COLD SPRING	8	5	\$210,000	EAGAN	144	625	\$735,300	FLOODWOOD	10	3	\$28,100
COLERAINE	13	51	\$0	EAGLE BEND	17	33	\$16,000	FOLEY	46	21	\$646,250
COLOGNE	3	45	\$0	EAGLE LAKE VOL	16	73	\$35,000	FORADA TWP	6	23	\$54,000
COLUMBIA HEIGHTS	58	1,730	\$370,250	EAGLES NEST	0	5	\$0	FOREST LAKE	84	173	\$828,800
COLVIN TWP	3	1	\$0	EAST BETHEL	46	319	\$211,600	FORESTON	9	33	\$5,000
COMFREY	5	0	\$1,260	EAST GRAND FORKS	54	526	\$195,960	FORT SNELLING	23	500	\$29,975
COOK	34	8	\$294,500	E HUBBARD CO	17	0	\$58,700	FOSSTON	27	30	\$179,600
COON RAPIDS	239	2,777	\$542,577	EASTON VOL	3	10	\$11,000	FOUNTAIN	4	6	\$0
COTTAGE GROVE	85	1,329	\$463,826	ECHO	3	1	\$0	FRANKLIN	1	0	\$0
COTTON VOL	8	40	\$70,000	EDEN PRAIRIE	127	992	\$334,290	FRAZEE	29	4	\$26,000
COURTLAND	13	20	\$53,950	EDEN VALLEY	10	3	\$52,000	FREDENBERG	12	27	\$74,000
CRANE LAKE	2	0	\$70,000	EDGERTON	8	3	\$79,550	FREEBORN	2	0	\$7,200
CROMWELL VOL	13	6	\$127,100	EDINA	97	3,550	\$509,641	FREEPORT	2	0	\$70,500
CROOKSTON	80	140	\$902,620	ELBOW LAKE	2	0	\$60,000	FRENCH TWP VOL	6	2	\$6,100
CROSBY VOL	31	44	\$328,000	ELBOW-TULABY LKS	8	0	\$45,000	FRIDLEY	118	1,199	\$697,750
CROSSLAKE	1	0	\$0	ELGIN	10	0	\$78,200	FROST	4	0	\$13,500
CRYSTAL	86	764	\$298,475	ELIZABETH	10	5	\$6,520	FULDA	9	7	\$323,600
CULVER	9	2	\$16,000	ELK RIVER	80	294	\$262,460	GARFIELD	13	1	\$5,550
CURRIE VOL	9	1	\$27,600	ELLENDALE VOL	2	2	\$0	GARRISON	31	87	\$32
CUYUNA	1	0	\$96,000	ELLSBURG VOL	2	3	\$0	GARVIN	7	0	\$10,100
DAKOTA	9	6	\$12,300	ELLSWORTH	6	15	\$184,100	GARY VOL	6	1	\$6,000
DALBO	20	47	\$94,100	ELMER	1	0	\$0	GAYLORD	14	9	\$12,300
DALTON	2	1	\$0	ELMORE	8	4	\$31,700	GENEVA	0	1	\$0
DANVERS	3	1	\$29,500	ELROSA	3	16	\$1,500	GHENT	9	1	\$135,000
DARFUR	2	3	\$0	ELY	32	26	\$262,415	GIBBON	15	4	\$151,025
DASSEL	16	108	\$16,000	ELYSIAN	9	34	\$8,000	GLADSTONE	23	884	\$1,070,620
DAWSON	6	1	\$15,500	EMBARRASS VOL	24	17	\$99,500	GLADSTNE/HAZELWD	17	674	\$51,450
DAYTON	25	154	\$575,053	EMILY VOL	10	9	\$83,450	GLENCOE	33	55	\$247,152
DEER CREEK	10	34	\$39,500	EMMONS	8	9	\$0	GLENWOOD	33	42	\$149,500
DEER RIVER	38	41	\$48,600	ERSKINE	9	35	\$4,900	GLYNDON VOL	7	3	\$20,000
DEERWOOD	20	10	\$114,200	EVANSVILLE	10	42	\$10,890	GNESEN VOL	10	3	\$0
DELANO VOL	32	276	\$91,300	EVELETH	29	40	\$67,350	GOLDEN VALLEY	88	546	\$337,154
*DELAVAN	0	0	\$0	EXCELSIOR	38	590	\$294,450	GOOD THUNDER	11	45	\$9,000
*DENNISON	0	0	\$0	EYOTA VOL	8	7	\$20,500	GOODHUE	18	2	\$134,950
DENT	15	1	\$110,000	FAIRFAX	8	1	\$213,700	GOODLAND	2	12	\$0
DETROIT LAKES	65	92	\$206,200	FAIRMONT	39	87	\$323,225	GOODRIDGE AREA	14	1	\$77,100
DILWORTH	10	15	\$207,500	FALCON HEIGHTS	17	316	\$56,250	GOODVIEW	9	15	\$210
DODGE CENTER	15	5	\$9,000	FARIBAULT	116	126	\$2,963,435	GRACEVILLE	8	8	\$27,300
DONNELLY	3	1	\$22,435	FARMINGTON	51	44	\$0	GRANADA	1	0	\$12,000
DOVER	3	4	\$6,300	FAYAL	14	52	\$0	GRAND LAKE VOL	18	13	\$11,000
DOVRAY	4	0	\$0	FEDERAL DAM	3	0	\$28,300	GRAND MEADOW	7	0	\$0
DULUTH	435	4,809	\$4,429,445	FELTON COMM	1	0	\$0	GRAND RAPIDS	83	156	\$1,028,050
*DUMONT	0	0	\$0	FERGUS FALLS	41	48	\$150,740	*GRASSTON	0	0	\$0
DUNDEE	4	2	\$0	FERTILE	17	18	\$93,900	GREEN ISLE	10	13	\$51,000
DUNNELL-LK FREMONT	2	7	\$0	FINLAND	3	2	\$0	GREENBUSH	20	7	\$500
E COUNTY LINE I	39	1,222	\$272,850	FINLAYSON	12	38	\$70,025	GREENWOOD TWP VOL	11	105	\$54,500

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
GREY EAGLE	6	0	\$30,500	INVER GROVE HTS	111	177	\$1,933,826	LANCASTER	10	2	\$9,300
GROVE CITY	6	0	\$108,000	*IONA	0	0	\$0	LANESBORO	7	15	\$18,000
GRYGLA	19	4	\$386,200	IRONTON	3	1	\$9,000	LAPORTE/LAKEPORT	6	4	\$80,500
GUNFLINT TRAIL VOL	1	0	\$0	ISANTI VOL	42	163	\$167,950	LE CENTER	9	7	\$170,550
HACKENSACK AREA	12	3	\$55,500	ISLE	12	4	\$122,000	LEAF VALLEY TWP	6	1	\$0
HALLOCK	14	18	\$0	IVANHOE	7	0	\$33,500	LESTER PRAIRIE	7	69	\$1,500
HALSTAD	7	2	\$500	JACKSON	23	44	\$354,500	LESUEUR	16	18	\$37,200
HAM LAKE	58	369	\$306,660	JACOBSON	9	13	\$10,000	LEWISTON	23	8	\$116,750
HAMBURG	6	37	\$5,000	JANESVILLE	16	86	\$61,500	LEWISVILLE	2	0	\$0
HAMEL	31	133	\$322,803	JASPER	4	1	\$2,000	LEXINGTON	16	46	\$0
HAMPTON	1	0	\$170,000	JORDAN	46	58	\$665,950	LINDSTROM	20	39	\$65,000
HANCOCK	10	6	\$4,700	KABETOGAMA	4	0	\$0	LINWOOD VOL	23	113	\$9,900
HANLEY FALLS	3	0	\$96,000	KANDIYOHI	8	26	\$16,000	LISMORE	1	0	\$1,500
HANOVER	22	79	\$0	KARLSTAD VOL	20	15	\$276,200	LITCHFIELD	36	46	\$228,950
*HARDWICK	0	0	\$0	KASOTA	4	0	\$12,200	LITTLE CANADA	25	124	\$109,100
HARMONY	8	7	\$41,000	KASSON	19	11	\$104,550	LITTLE FALLS	2	0	\$5,000
HARRIS	15	0	\$63,500	KEEWATIN VOL	8	54	\$121,020	LITTLEFORK	19	12	\$27,350
*HARTLAND	0	0	\$0	KELLIHER VOL	3	0	\$228,000	LOMAN RURAL	1	0	\$0
HASTINGS	131	412	\$890,325	KELLOGG	8	1	\$0	LONDON	4	0	\$30,800
HAWLEY	14	12	\$39,500	KELSEY VOL	2	1	\$50,000	LONG LAKE	38	254	\$555,000
HAYFIELD	13	9	\$22,500	KENNEDY	10	8	\$75,000	LONG PRAIRIE	36	17	\$0
HECTOR	18	10	\$65,650	KENSINGTON	13	2	\$92,500	LONGVILLE VOL	14	8	\$605,000
HENDERSON	2	41	\$4,000	KENT/ABERCROMBIE	0	1	\$0	LONSDALE	23	83	\$60,000
HENNING VOL	15	5	\$70,000	KERKHOVEN	6	6	\$7,000	LORETTO VOL	1	0	\$0
HERMAN VOL	1	0	\$0	KETTLE RIVER	8	0	\$391,000	LOWER ST CROIX VLY	31	221	\$213,875
HERMANTOWN VOL	28	214	\$864,600	KIESTER	3	0	\$44,000	*LOWRY	0	0	\$0
HERON LAKE VOL	8	7	\$71,000	KILKENNY	7	25	\$5,000	LUCAN	1	0	\$3,000
HEWITT	2	0	\$5,000	KIMBALL	14	112	\$16,150	LUVERNE	26	52	\$91,910
HIBBING	126	120	\$326,358	KINNEY-GREAT SCOTT	4	1	\$80,000	LYND	2	0	\$595
HIDDEN VALLEY	0	20	\$0	LACRESCENT	9	134	\$45,500	MABEL VOL	9	2	\$13,000
HILL CITY	18	11	\$0	LAFAYETTE	7	10	\$31,500	MADELIA	18	20	\$152,050
HILLS	8	0	\$46,150	LAKE BENTON	2	0	\$50,000	MADISON	8	10	\$1,500
HINCKLEY VOL	34	20	\$159,700	LAKE BRONSON	7	8	\$0	MADISON LAKE	5	52	\$2,000
*HITTERDAL	0	0	\$0	LAKE CITY	33	40	\$198,005	MAGNOLIA	3	0	\$0
HOFFMAN	2	0	\$51,000	LAKE CRYSTAL	17	27	\$64,200	MAHNOMEN	30	13	\$112,500
HOLDINGFORD	14	37	\$15,500	LAKE ELMO	28	282	\$560,800	MAHTOMEDI	17	323	\$273,000
HOLLAND	5	2	\$500	LAKE GEORGE	5	1	\$10,100	MAHTOWA	7	0	\$171,500
HOLLANDALE	5	0	\$500	LAKE HENRY	3	0	\$25,000	*MANCHESTER	0	0	\$0
HOLYOKE VOL	7	11	\$65,000	LAKE JOHANNA VOL	107	372	\$2,490,800	MAKINEN	3	0	\$0
HOPKINS	62	397	\$225,995	LAKELILLIAN	8	6	\$305,000	MANKATO	141	1,141	\$15,343,135
HOUSTON	22	10	\$144,800	LAKE PARK	13	16	\$109,600	MANTORVILLE	6	7	\$2,500
HOVLAND	4	1	\$0	LAKE WILSON	7	0	\$64,800	MAPLE GROVE	141	485	\$611,200
HOWARD LAKE	28	48	\$254,000	LAKEFIELD	15	14	\$104,000	MAPLE LAKE	32	19	\$60,500
HOYT LAKES	8	2	\$145,300	LAKELAND VOL	4	0	\$5,500	MAPLE PLAIN	33	205	\$17,800
HUGO	10	141	\$122,000	LAKEVILLE	132	383	\$1,692,284	MAPLETON	15	66	\$57,200
IDEAL TWP	13	10	\$36,500	LAKEWOOD TWP	18	31	\$241,250	MARBLE	2	35	\$0
INTERNATIONAL FLLS	43	12	\$454,715	LAMBERTON	11	2	\$187,000	MARINE ON ST CROIX	16	33	\$0

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
MARSHALL	49	97	\$56,425	NEW GERMANY	8	31	\$50,000	PEMBERTON	1	0	\$0
MAYER	6	45	\$2,300	NEW HOPE	76	553	\$165,625	*PEQUAYWAN LAKE	0	0	\$0
MAYNARD	8	2	\$29,700	NEW LONDON	32	25	\$657,035	PEQUOT LAKES	14	15	\$43,000
MAZEPPA VOL	15	44	\$124,900	NEW MARKET	15	98	\$254,520	PERCH LAKE VOL	6	11	\$0
MC DAVITT	10	21	\$35,500	NEW MUNICH	2	6	\$4,500	PERHAM	14	0	\$44,800
MC GREGOR VOL	8	4	\$140,500	NEW PRAGUE	29	44	\$191,151	PIERZ	21	3	\$78,000
MCGRATH	1	0	\$500	NEW RICHLAND	3	1	\$150,000	PIKE-SANDY-BRITT	8	0	\$50,060
MCINTOSH	1	0	\$5,000	NEW SCANDIA	33	123	\$305,600	PILLAGER AREA	19	71	\$229,800
*MC KINLEY VOL	0	0	\$0	NEW ULM	33	91	\$61,150	PINE ISLAND	25	113	\$108,150
MEADOWLANDS AREA	5	0	\$25,000	NEW YORK MILLS	15	8	\$49,000	PINE RIVER	28	10	\$98,000
MEDFORD VOL	3	0	\$6,200	NEWFOLDEN	22	12	\$196,850	PIPESTONE	23	16	\$75,050
MEDICINE LAKE	3	8	\$0	NEWPORT	29	43	\$238,400	PLAINVIEW	13	6	\$22,500
MELROSE	16	40	\$11,500	NICOLLET	20	44	\$19,000	PLATO	8	26	\$114,050
MENDOTA HEIGHTS	33	245	\$141,520	NIELSVILLE	1	0	\$0	PLYMOUTH	211	879	\$1,706,550
MENTOR	13	42	\$81,300	NISSWA	7	1	\$0	PORTER	6	9	\$4,500
MIESVILLE VOL	17	43	\$61,000	NODINE VOL	6	18	\$42,250	PRESTON	8	4	\$279,500
MILACA	52	40	\$57,522	NORTH BRANCH	33	40	\$39,200	PRINCETON	93	130	\$116,705
MILAN	2	1	\$0	NORTH MANKATO	26	58	\$58,328	PRINSBURG	2	0	\$0
MILLERVILLE	3	0	\$40,000	NORTH ST PAUL	32	795	\$164,400	PRIOR LAKE	58	262	\$578,704
MILROY	4	5	\$6,100	NORTH STAR TWP	1	9	\$15,000	PROCTOR	21	23	\$73,100
MILTONA	7	27	\$35,100	NORTHFIELD	54	49	\$273,900	RAMSEY	56	189	\$0
MINNEAPOLIS	2,702	24,106	\$11,685,895	NORTHLAND	1	0	\$23,000	RANDALL	11	4	\$118,000
MINNEOTA	11	14	\$52,000	NORTHROP	2	0	\$0	RANDOLPH	7	5	\$84,500
MINNESOTA CITY	6	0	\$0	NORWOOD	12	103	\$0	RAYMOND	10	6	\$97,500
MINNETONKA	143	677	\$718,985	OAKDALE	13	446	\$30,840	RED LAKE	20	5	\$90,100
MISSION TWP	8	40	\$500	ODESSA	0	1	\$0	RED WING	121	433	\$620,265
MONTEVIDEO	15	25	\$69,200	ODIN	7	1	\$8,500	REDWOOD FALLS	22	20	\$0
MONTGOMERY	10	17	\$0	OGILVIE	25	6	\$348,800	REMER	10	5	\$16,500
MONTROSE	20	105	\$22,000	OKLEE	17	11	\$90,500	RENVILLE	24	13	\$262,920
MOORHEAD	90	1,696	\$581,856	OLIVIA	13	1	\$121,850	*REVERE	0	0	\$0
MOOSE LAKE	8	67	\$3,550	ONAMIA	25	21	\$286,200	RICE LAKE VOL	17	66	\$53,000
MORA	37	13	\$218,300	ORONOCO	4	4	\$20,900	RICHFIELD	168	2,905	\$540,691
MORGAN	9	3	\$134,800	ORR VOL	7	1	\$16,000	RICHMOND	9	0	\$150,000
MORRIS	10	1	\$27,000	ORTONVILLE	7	5	\$0	RIDGEWAY COMM	15	3	\$32,200
MORRISTOWN	17	7	\$10,360	OSAKIS	26	28	\$244,055	*RIVERTON	0	0	\$0
MORTON	2	0	\$30,000	OSLO	6	0	\$111,500	ROBBINSDALE	64	245	\$90,749
MOTLEY	19	91	\$68,900	OSSEO	10	36	\$12,050	ROCHESTER	256	1,270	\$493,830
MOUND	62	696	\$585,075	OSTRANDER	4	0	\$0	ROCHESTER AIRPT	1	40	\$0
MOUNTAIN IRON	21	29	\$13,000	OTTERTAIL	10	0	\$33,250	ROCHESTER-RURAL	61	95	\$186,635
MOUNTAIN LAKE	5	0	\$353,500	OWATONNA	86	126	\$1,202,720	ROCKFORD	8	104	\$0
MPLS/ST PAUL AIRPT	66	2,143	\$0	PALISADE VOL	5	3	\$0	ROCKVILLE	18	51	\$27,100
MYRTLE	4	1	\$254,350	PALO REGIONAL	12	41	\$38,801	ROGERS	33	181	\$24,100
NASHWAUK	32	29	\$114,800	PARK RAPIDS	50	20	\$339,000	ROLLINGSTONE	11	27	\$24,550
NASSAU	2	0	\$45,000	PARKERS PRAIRIE	4	0	\$775,000	ROSE CREEK AREA	3	2	\$32,500
NERSTRAND VOL	5	0	\$0	PARKSIDE	24	480	\$49,300	ROSEAU	21	14	\$5,000
NEW AUBURN	1	0	\$8,000	PAYNESVILLE	28	4	\$152,500	ROSEMOUNT	41	303	\$61,500
NEW BRIGHTON	77	277	\$0	PELICAN RAPIDS VOL	3	0	\$15,000	ROSEVILLE	146	643	\$629,301

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
ROTHSAY	11	40	\$14,500	ST MARTIN	4	11	\$8,000	WALKER	24	8	\$71,000
ROUND LAKE	7	0	\$2,600	ST PAUL	1,860	11,152	\$6,026,741	WALNUT GROVE	8	0	\$46,969
RUSH CITY	21	17	\$36,950	ST PAUL PARK VOL	24	47	\$95,950	WALTERS VOL	4	0	\$11,500
RUSHFORD	20	24	\$440,950	ST PETER	32	36	\$17,420	WANDA	3	1	\$24,000
RUSHMORE	3	1	\$16,500	ST STEPHEN	23	46	\$75,700	WARBA-FEELEY-SAGO	1	0	\$0
RUTHTON	5	0	\$81,900	STACY-LENT	15	16	\$10,000	WARREN	12	24	\$20,500
SABIN-ELMWOOD	6	15	\$25,000	STAPLES	32	12	\$404,000	WARROAD	21	30	\$139,250
*SACRED HEART	0	0	\$0	STARBUCK	17	20	\$10,750	WASECA	28	70	\$21,000
SANBORN	4	0	\$39,000	STEPHEN	8	3	\$7,000	WATERTOWN	19	164	\$160,200
SANDSTONE VOL	30	4	\$162,600	STEWART	2	0	\$93,000	WATERVILLE	8	73	\$23,000
SARTELL	28	25	\$113,417	STEWARTVILLE	24	11	\$231,100	WATKINS	4	4	\$18,000
SAUK CENTRE	37	34	\$238,300	STILLWATER	87	566	\$506,127	WATSON	5	0	\$3,000
SAUK RAPIDS	57	59	\$369,700	STURGEON LAKE	14	2	\$50,000	WAVERLY	17	81	\$0
SAVAGE	41	233	\$113,760	STURGEON TWP	1	0	\$2,000	WAYZATA	33	172	\$100,100
SCANDIA VALLEY	2	2	\$0	SUNBURG	3	0	\$0	WELLS	13	12	\$34,000
SCANLON VOL	5	32	\$20,050	TACONITE	1	4	\$0	WENDELL	6	8	\$252,050
SEDAN	2	5	\$0	TAYLORS FALLS	7	11	\$1	WEST CONCORD	12	0	\$50,000
SHAFER	4	1	\$0	THIEF RIVER FALLS	56	77	\$114,050	WEST ST PAUL	85	419	\$394,985
SHAKOPEE	51	157	\$763,442	THOMPSON TWP	19	79	\$101,900	WESTBROOK	7	3	\$2,800
SHERBURN	6	0	\$53,000	TOFTE	3	1	\$500,000	WHEATON	8	7	\$44,500
SHEVLIN	13	2	\$250	TOIVOLA TWP	1	0	\$30,000	WHITE BEAR LAKE	97	328	\$516,350
SILICA AREA	4	0	\$21,000	TOWER	4	0	\$0	WILLIAMS	6	0	\$60,500
SILVER BAY	9	8	\$352,500	TRACY	15	17	\$98,700	WILLMAR	70	207	\$223,531
SILVER LAKE	14	12	\$28,400	TRIMONT	2	0	\$22,000	WILLOW RIVER	23	4	\$113,000
SLAYTON	7	2	\$200	TRUMAN	1	1	\$20,000	WILMONT	1	0	\$12,000
SLEEPY EYE	1	0	\$10,000	TWIN LAKES VOL	23	2	\$49,800	WILSON VOL	10	24	\$101,500
SOLWAY TWP	18	35	\$111,000	TWIN VALLEY	19	1	\$2,013,500	WINDOM	29	15	\$270,916
SOUTH BEND	30	27	\$85,500	TWO HARBORS	26	5	\$297,600	WINNEBAGO VOL	19	10	\$671,500
SOUTH HAVEN	9	10	\$105,000	TYLER	13	5	\$110,000	WINONA	106	1,100	\$317,706
SOUTH ST PAUL	103	1,338	\$52,751	ULEN	7	0	\$1,060	WINSTED	2	0	\$18,500
SPICER	18	14	\$7,700	UNDERWOOD	17	0	\$29,600	WINTHROP VOL	10	8	\$82,600
SPRING GROVE	13	11	\$262,000	VADNAIS HEIGHTS	44	425	\$193,552	WOLF LAKE	22	3	\$58,800
SPRING LAKE PARK	281	645	\$1,132,800	VERGAS	12	3	\$44,800	WOLVERTON	3	1	\$0
SPRING VALLEY	31	33	\$318,020	VERMILLIONLAKE	6	2	\$7,000	WOODBURY	102	255	\$514,150
ST ANTHONY	21	593	\$19,875	VERNDALE	13	39	\$175,000	WOODLAKE	3	0	\$8,500
ST BONIFACIUS	26	120	\$170,020	VERNON CENTER	1	0	\$10,000	WOODSTOCK	1	1	\$15,000
ST CHARLES	8	5	\$77,000	VESTA	3	0	\$22,500	WORTHINGTON	26	32	\$12,575
ST CLAIR	17	70	\$8,550	VICTORIA	10	120	\$5,500	WRENSHALL	11	22	\$30,000
ST CLOUD	154	8	\$785,407	VILLARD VOL	8	0	\$153,500	WRIGHT VOL	1	0	\$0
ST CLOUD TWP	27	19	\$221,000	VIRGINIA	43	162	\$178,950	WYKOFF	10	0	\$0
ST FRANCIS	18	186	\$30,000	WABASHA	20	45	\$33,300	WYOMING	23	33	\$171,800
ST HILAIRE	10	21	\$36,700	WABASSO VOL	7	3	\$0	YOUNG AMERICA	10	78	\$1,000
ST JOHN'S UNIVERSITY	5	34	\$3,875	WACONIA	21	215	\$53,930	ZIMMERMAN	38	28	\$61,600
ST JOSEPH VOL	21	153	\$212,150	WADENA	26	7	\$3,500	ZUMBRO FALLS	20	50	\$217,483
ST LOUIS PARK	184	2,951	\$511,921	WAITE PARK	26	38	\$70,000				

\*These fire departments reported no fire/nonfire runs for 1995.

## NON-REPORTING FIRE DEPARTMENTS

148TH AIR NAT'L GUARD	DEXTER VOL.	LYLE	SEAFORTH
ALIDA	EITZEN	MAPLE HILL	SEBEKA
ARLINGTON	EVERGREEN	MAPLEVIEW	SHELLY
AVOCA	FIFTY LAKES	MARIETTA	SKYLINE
BATTLE LAKE	FLENSBURG	MENAGHA	SOLWAY
BEARDSLEY	FOXHOME	MIDDLE RIVER	SPRINGFIELD VOL.
BENA	GILBERT	MINNESOTA LAKE	SQUAW LAKE
BIGFORK VOL.	GLENVILLE	MONTICELLO	ST. JAMES
BINGHAM LAKE	GONVICK	MURDOCK	ST. LEO
BIRCHDALE RURAL	GRAND MARAIS VOL.	NETT LAKE	ST. MICHAEL
BORUP	GRAND PORTAGE	NEVIS	STORDEN
BOYD	GRANITE FALLS	NORMANNA VOL.	SWANVILLE
BROWNS VALLEY	HANGAARD TWP.	NORTHOME	TAMARACK
BUFFALO	HANSKA	OAK GROVE	TAUNTON
BUTTERFIELD	HAYWARD	OGEMA	TINTAH
BUYCK COMM. VOL.	HENDRICKS	OKABENA	TWIN LAKES
CANOSIA VOL.	HENDRUM	ORMSBY	UPSALA
CANTON	HOKAH VOL.	PENNOCK	VINING
CLARKS GROVE VOL.	HUTCHINSON	PERLEY-LEE TWP.	WAHKON
CLIMAX	INDUSTRIAL VOL.	PICKWICK AREA	WALDORF
CONGER	JEFFERS	PINE CITY	WANAMINGO
CORRELL	KENNETH VOL.	PLUMMER	WAUBUN
COSMOS	KENYON	RED LAKE FALLS	WELCOME
COTTONWOOD	KERRICK	RICE	WHITE EARTH VOL.
CROOKED LAKE VOL.	LASALLE	ROYALTON	WINGER
CYRUS	LE ROY	RUSSELL	ZUMBROTA
DANUBE	LOUISBURG	SACRED HEART	
DEGRAFF	LUTSEN TWP. VOL.	SCHROEDER	



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# STATE FIRE MARSHAL ANNUAL REPORT



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

**FROM:** Thomas R. Brace, Minnesota State Fire Marshal *JRB*

**SUBJECT:** State Fire Marshal Division - Annual Report 1995

The word "impossible" means "what no one can do, until someone does it." In 1995, the Division faced the challenge of yet another year of operating with a reduced work force to accomplish the same and ever increasing workload. The dedicated staff of the State Fire Marshal Division staff met the challenge, once again, of doing more with less. I wish to thank each and every member of the Division for their professionalism and loyalty to the cause of ensuring a fire safe Minnesota.

In October of 1995 and May, 1996, the Division lost two longtime friends and colleagues, Ron Peterson and Bill Aadalen. Ron was a fire investigator from Montevideo and Bill was an inspector operating out of Red Wing. They both will be missed by those who worked with them and by those fire departments who relied on their expertise. Our sincerest regrets are extended to both families.

Our investigation unit continued processing arson cases from 1994, while continuing to add cases to their workload weekly. Additionally, state fire investigators investigated all but 9 of the 86 fire deaths in Minnesota last year. And the results of these investigations provided a significant insight into why people are dying in fires in Minnesota (see casualty section of this report).

The Attorney General formed a task force in November of 1995 to study issues relating to the crime of arson in Minnesota. The task force will meet throughout 1996 and prepare a final report outlining recommendations to fight the crime of arson in January of 1997.

The Division began the new certification process to license Public Firework Display Operators in 1995. The first tests were given in late December with 13 additional test sites selected throughout the state. Two-hundred-eighty-four operators were certified prior to the Fourth of July weekend.

The Division is closely watching the local and national initiatives to develop a single building code and fire code for the nation. Bureau Chief Jon Nisja was appointed to the NFPA Northeast Regional Fire Code Committee and Supervisor Bob Imholte was recently elected Chair of the Uniform Fire Code Development Committee. We feel we have excellent representation in this process and look forward to keeping you apprised of happenings in both areas.

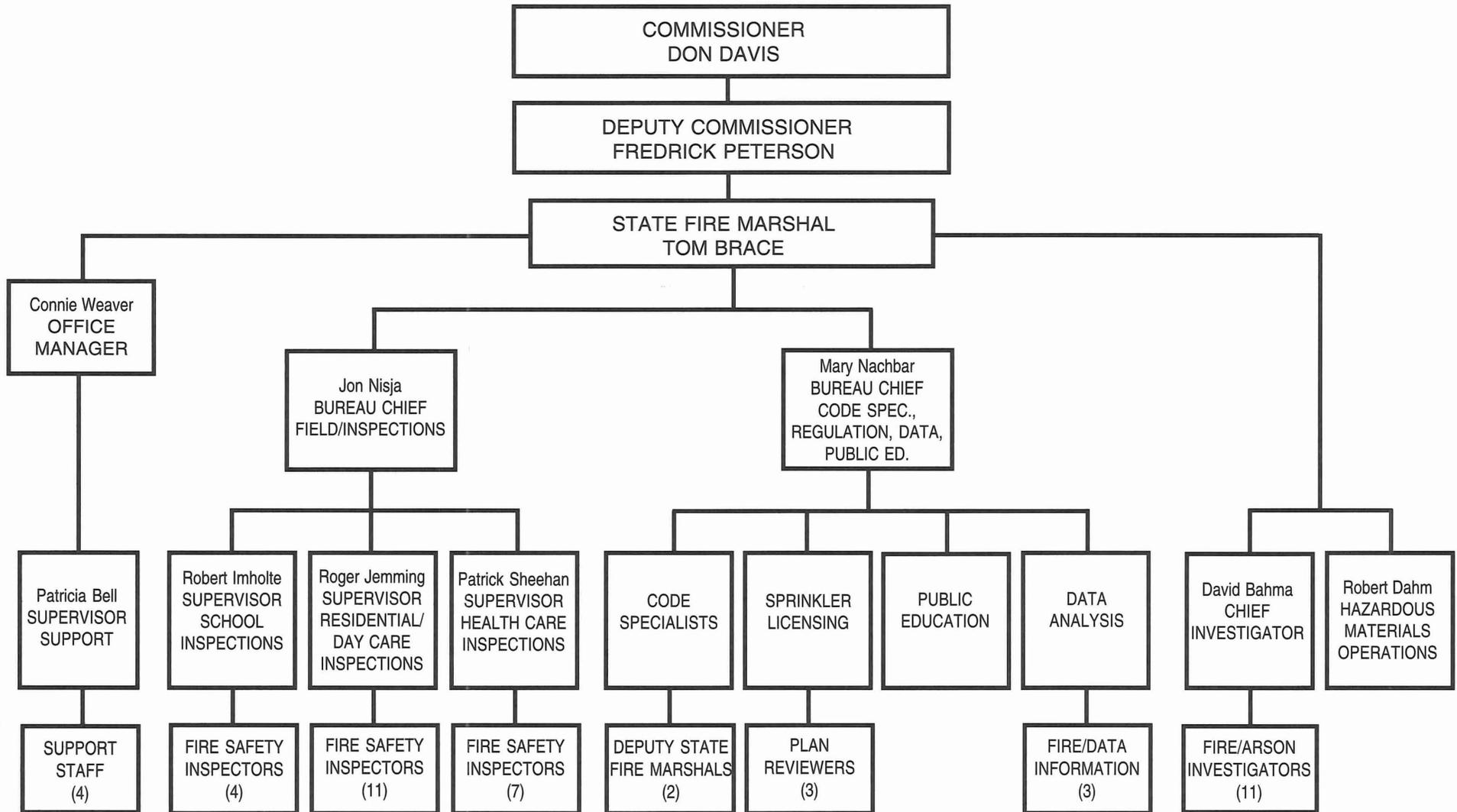
As I approach the ten-year mark as your State Fire Marshal, I cannot help but reflect on the progress made not only by this office, but the fire service of Minnesota. There has been a significant number of programs added to the Division: school inspection program, public educator position added, fire sprinkler licensing and plan review program, hazardous materials response program, certification program for public fireworks display operators. Additionally, legislation supported by the Division and the fire service created the law requiring smoke detectors in every home in Minnesota.

While these certainly were not the only achievements attained over the past nine and a half years, it is, however, in itself a worthy list of accomplishments and could not have happened without the combined efforts of the Division and the fire service.

# BRIEF HISTORY OF THE STATE FIRE MARSHAL DIVISION

<b>1992</b> New program added to license fire sprinkler contractors, designers, and fitters.	<b>1992</b> New program to develop operation of Hazardous Material Response Teams.	<b>1993</b> Legislative action updated arson statutes. Legislation requires a smoke detector in every dwelling.	<b>1995</b> Licensing of operators of public fireworks displays.  1 fire investigator position added.
<b>1978</b> 10 additional positions to implement hotel/motel/resort inspection program.	<b>1980</b> MN first state in nation to require smoke detectors in new and rental residential properties.	<b>1989</b> 10/2/89 - the 1988 MUFC was adopted. 3 more positions added to SFM Division: 2 day care inspectors, 1 public educator/data.	<b>1990</b> Legislation added 5 new positions to SFMD to conduct school inspections in Minnesota.
<b>1969</b> Legislative action created a Department of Public Safety.	<b>1970</b> SFM Department moved into DPS to be known as SFM Division.	<b>1975</b> Legislature authorized adoption of Minnesota UFC.	<b>1978-79</b> Legislation action enabled local FD's to enforce UFC without local adoption.
<b>1925</b> Legislative action made Commissioner of Insurance the Ex-Officio SFM.	<b>1937</b> Tax levy to fund SFM Department was raised to 1/2% of all ins. premiums to include Town Fire Ins. Co. and Farmers Mutuals.	<b>1941</b> Legislature directed all monies collected by SFM for tax and license fees, etc., to be turned over to General Fund. FM Dept. to be operated under an appropriation by legislative action.	
<b>1907</b> Amendment authorizing two deputy SFM. Authorization to pay FD \$1 for reports submitted to SFM.	<b>1913</b> All former acts repealed and new FM Dept. was created. Governor appointed FM and 2 deputies.	<b>1919</b> The Appointing Authority was given to Commissioner of Insurance.	
<b>1905, April 19</b> Legislation authorizing Governor to appoint SFM for two-year term. Funding through tax levy on Insurance Companies. (Town Mutual Exempt)			

# STATE OF MINNESOTA DEPARTMENT OF PUBLIC SAFETY STATE FIRE MARSHAL DIVISION



Vacancies (Special Projects, Supervisor, 4- Inspector/Code Specialist)

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## HEADQUARTERS OFFICE

The State Fire Marshal Division currently consists of 4 senior staff, 5 supervisors, 38 deputies, and 8 clerical support staff, including:

- 1 State Fire Marshal
- 2 Bureau Chiefs
- 1 Office Manager/Administrative Secretary
- 5 Supervisors
- 3 School Inspectors
- 1 School Plan Reviewer
- 1 Sr. Planner, Hazardous Materials
- 11 Fire/Arson Investigators
- 11 Fire Safety Inspectors
- 7 Health Care Inspectors
- 1 Lead Code Specialist, Coordinator of  
Sprinkler Licensing Program
- 1 Code Specialist
- 1 Data Technical Specialist
- 2 Sprinkler Plan Reviewers
- 2 Fire Data Technical Personnel
- 5 Clerical Support Staff
- 55 Total Staff

The Division is currently divided into nine special purpose/function teams.

- 1. Management Team
- 2. Public Education/Fire Data Team
- 3. Fire/Arson Investigation Team
- 4. Fire Safety Inspection Teams - Residential,  
Health Care, and Day Care
- 5. School Inspection/Plan Review Team
- 6. Code Development
- 7. Hazardous Material Regional Response Teams
- 8. Sprinkler Licensing/Plan Review Team
- 9. Administrative Team

The functions of these teams are outlined on the following pages.

## FIRE/ARSON INVESTIGATION TEAM

The fire/arson investigation team consists of twelve Deputy State Fire Marshals, led by Chief Fire Investigator, David Bahma. The arson investigators in the division are trained origin and cause specialists and are assigned to cover a territory with maximum response time of within two hours. Fire/arson investigators are subject to be called 24 hours a day, 365 days of the year.

In 1995, the members of the fire/arson team assisted local fire and law enforcement agencies in investigating 603 fires, totaling over \$62 million dollars in property loss.

Although we have experienced a 5% decline in identified incendiary fires, it is still higher than 11 of the past 12 years. We need to continue our drive in education and prevention in hopes that the past year is a start for a new downward trend.

There was an increase in manufacturing/storage structures, special use properties, and public assembly properties. This is alarming, because the potential for large loss of life or injury numbers is a reality, especially for public assembly properties.

We are continuously developing new training to assist prosecutors in accepting more cases, considering the circumstantial nature of an arson fire.

Education of the fire service to recognize the indicators of arson and to preserve a crime scene remains a high priority on our list. We are in the process of studying the feasibility of establishing a training section within the Division. This section would be responsible for developing curriculum, materials, and resources for training the fire service, law enforcement, and prosecutors.

The goal would be to establish a standard curriculum that would be taught statewide.

A territory realignment study was conducted to equalize the workload of the unit. Changes were made in the southern half of the state with future studies to be conducted in metro and northern territories.

It is the commitment and goal of the investigation unit to provide timely and efficient response to all calls for assistance in the state.

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

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The pursuit of arson prosecution for those who commit this crime is one of the priority objectives of the State Fire Marshal Division strategic plan. Our goal is to increase arson prosecution rates over the next four years. This will be accomplished by working closely with local fire and law enforcement officials in the state.

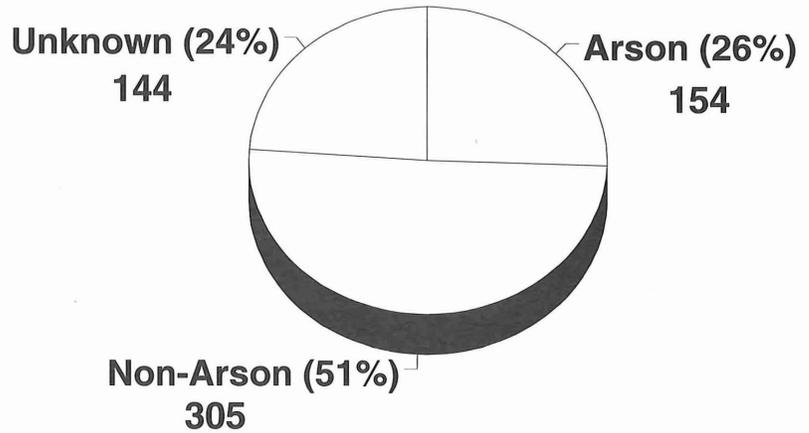
### FIRE/ARSON INVESTIGATIONS BY PROPERTY TYPE

	<u>1993 Causes</u>		<u>1994 Causes</u>		<u>1995 Causes</u>			
	<u>Total Fires</u>	<u>Total Arson</u>	<u>Total Fires</u>	<u>Total Arson</u>	<u>Total Fires</u>	<u>Total Dollar Loss</u>	<u>Total Arson</u>	<u>Arson Dollar Loss</u>
One/Two Family Dwellings	304	71	369	92	346	\$21,864,826	76	\$ 3,763,650
Apartments	30	13	36	16	25	2,063,000	12	1,515,000
Hotels/Motels/Resorts	4	1	3	1	7	1,630,000	2	25,000
Dormitories	—	—	1	1	2	2,000	2	2,000
Institutional	1	1	5	3	7	167,250	4	150,750
Educational	11	4	13	8	10	2,063,200	6	4,400
Places of Assembly	10	4	11	4	7	796,000	3	256,000
Restaurants	15	3	9	5	7	625,000	0	0
Retail/Office	28	4	57	27	30	3,627,416	8	1,330,700
Industrial/Manufacturing	15	2	13	2	19	4,172,300	1	175,000
Agricultural	11	—	8	1	10	1,309,748	0	0
Storage Facilities	87	24	97	30	82	23,092,000	19	1,307,500
Special Structures	21	13	15	10	8	168,500	5	117,000
Mobile/Vehicle Property	78	37	41	19	37	412,300	12	62,000
Other	4	3	4	1	6	6,600	4	6,600
<b>TOTAL</b>	<b>619</b>	<b>180</b>	<b>682</b>	<b>220</b>	<b>603</b>	<b>\$62,000,140</b>	<b>154</b>	<b>\$8,715,600</b>

Although there was a significant decrease in arson dollar loss, the total for 1995 is actually close to average compared to 1994, which had a \$12 million high school arson fire and another \$5.5 million that resulted from the northwest metro arson-burglary ring.

Dollar loss in storage facilities increased 121%! Out of the \$23 million in storage facilities, one commercial warehouse fire resulted in \$15 million in damage.

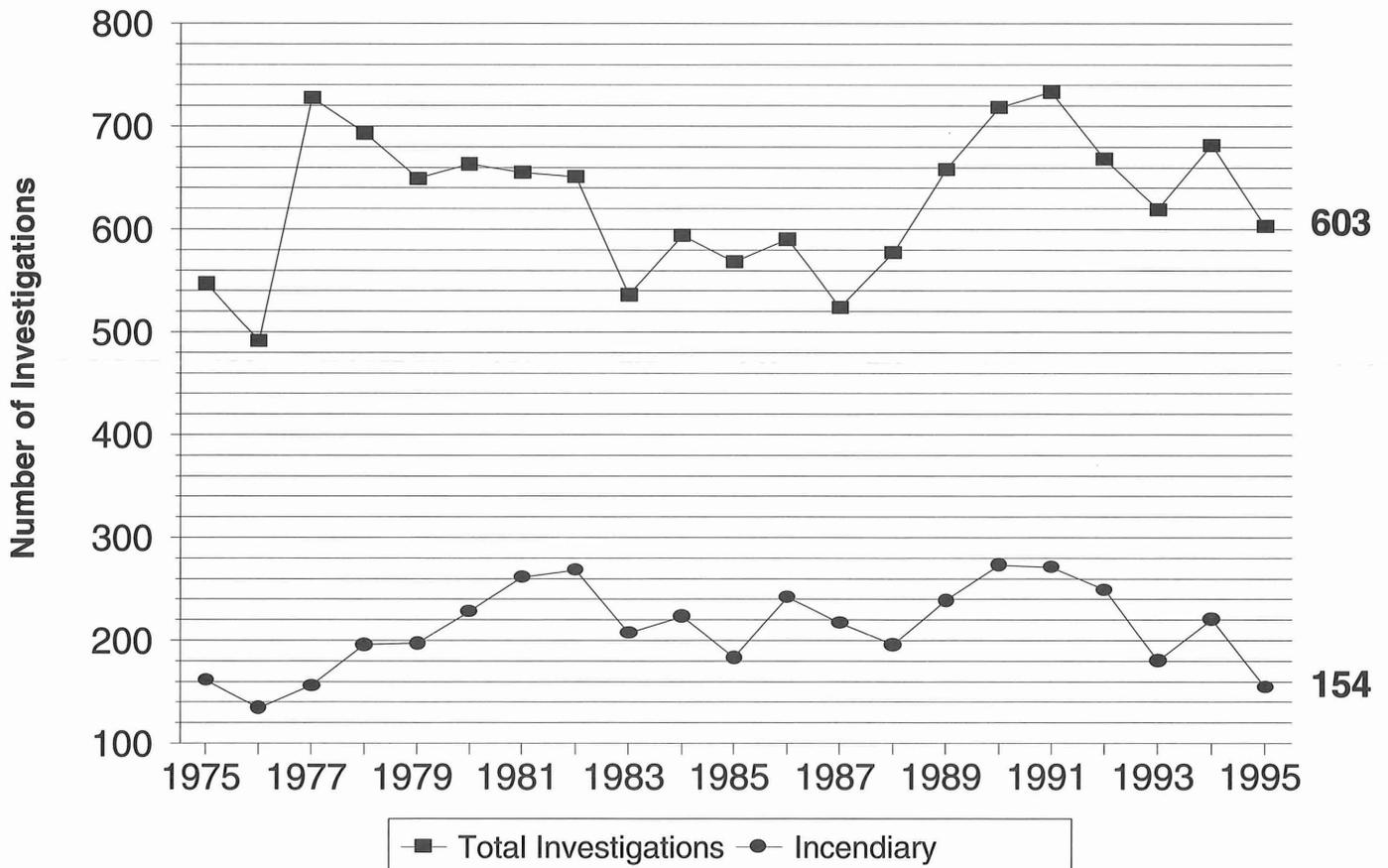
## 1995 Fire Investigation Accidental vs. Incendiary



### Breakdown of Arson Investigations:

	Arson	Non-arson	Unknown	Total
Structure	138	288	134	560
Vehicle	12	16	9	37
Other	4	1	1	6
<b>Total</b>	<b>154</b>	<b>305</b>	<b>144</b>	<b>603</b>

## Fire Investigation 1975 - Present



## FIRE SAFETY INSPECTIONS

*16,741 violations were found in 7,214 inspections in 1995.*

Deputy State Fire Inspectors conducted a total of 7,214 inspections and follow-up inspections in 1995.

### SFMD FIRE SAFETY INSPECTIONS 1995, BY TYPE OF OCCUPANCY

	<u>No. of Facilities</u>	<u>No. of Follow-ups</u>	<u>No. of Bldg. Inspections</u>	<u>No. of Orders</u>	<u>No. of Violations</u>
<b><u>CHILD CARE</u></b>					
Family/Group day care	2,020	58	2,022	300	7,367
Foster child care	460	27	461	114	1,637
Child care centers	133	14	136	18	329
	<u>2,613</u>	<u>99</u>	<u>2,619</u>	<u>432</u>	<u>9,333</u>
<b><u>LICENSED HEALTH CARE FACILITIES</u></b>					
Nursing homes	568	206	576	18	282
Supervised living facilities >7	193	52	209	13	95
Adult foster care facilities	442	23	446	32	1,605
Class B nursing homes	111	38	124	1	33
Supervised living facilities <6	84	31	84	2	15
Group homes	4	1	4	0	12
Adult day care facilities	11	1	11	2	34
	<u>1,413</u>	<u>352</u>	<u>1,454</u>	<u>68</u>	<u>2,076</u>
<b><u>HOTELS/MOTELS/RESORTS</u></b>					
Resorts	419	446	620	193	828
Motels	295	69	320	135	472
Hotels	110	70	113	76	357
	<u>824</u>	<u>585</u>	<u>1,053</u>	<u>404</u>	<u>1,657</u>
<b><u>RESIDENTIAL</u></b>					
Boarding/Lodging	65	14	65	16	195
Apartments	46	52	47	38	221
One/two family dwellings	37	22	37	12	115
Dormitories	15	5	18	4	44
	<u>163</u>	<u>93</u>	<u>167</u>	<u>70</u>	<u>575</u>
<b><u>MEDICAL FACILITIES</u></b>					
Hospitals	100	24	101	15	123
Surgical centers	4	3	4	0	0
	<u>104</u>	<u>27</u>	<u>105</u>	<u>15</u>	<u>123</u>
<b><u>EDUCATIONAL FACILITIES</u></b>					
Schools	280	331	283	162	2,437
<b><u>COMMERCIAL</u></b>					
Public assembly	29	15	32	10	96
Offices	17	22	18	7	47
Restaurants	10	10	10	8	44
Industrial/Manufacturing	19	10	21	7	94
Service stations	4	2	4	2	12
Retail	24	7	25	5	57
	<u>103</u>	<u>66</u>	<u>110</u>	<u>39</u>	<u>350</u>
<b><u>OTHER PROPERTY</u></b>					
Flammable/Combustible liquid	48	24	48	30	67
Prisons/Jails	57	9	166	22	96
Special properties	6	1	6	1	6
Special structures	1	1	1	0	3
Storage	2	3	2	1	6
L.P. facilities	2	3	2	1	4
Other properties	2	1	2	0	3
Natural gas	0	0	0	0	0
Fire stations	1	0	1	0	5
	<u>119</u>	<u>42</u>	<u>228</u>	<u>55</u>	<u>190</u>
<b>TOTAL INSPECTIONS</b>	<b>5,619</b>	<b>1,595</b>	<b>6,019</b>	<b>1,245</b>	<b>16,741</b>

## FIRE AND LIFE SAFETY INSPECTION

- **Residential Team**

The residential inspection team is responsible for the fire safety inspections of all hotels, motels, and resorts in Minnesota. The residential inspection team also responds to the majority of referral inspection requests and complaints regarding fire safety. This includes inspections within all 87 counties of the State of Minnesota. The residential inspection team consists of Supervisor, Roger Jemming, and ten Deputy State Fire Marshal-Inspectors.

There are approximately 1,006 hotels and motels and 1,310 resorts within the state of Minnesota. The hotels and motels are mandated by statute to be inspected at least once every three years; resorts are mandated to be inspected at least once every four years.

The inspection of day care and foster care facilities for initial licensure by the Department of Human Services remains a major responsibility of the residential team. There are approximately 16,000 licensed day care and foster care facilities in the state. In this field, there is a high turnover rate; well over 2,600 new day care and foster care inspections are conducted annually.

Initial fire and life safety inspections are also conducted for the Department of Health prior to the licensing of bed and breakfast facilities within the state.

The residential team, due to the cyclic nature of the mandatory inspections and the ever increasing workload, has continued its efforts to keep current and to ensure a timely response to requests for day care and foster care inspections.

This team also receives requests to inspect a majority of county jails within the state, as well as aboveground tank dispensing systems for compliance with the MUFC. Also inspected at the request of local or county authorities are various other types of properties and facilities; the team acts as consultants to property owners, architects, contractors, public officials, and the general public on 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 to the above facilities, the Health Care Team is responsible for inspecting, on a one-time-only basis, adult day care, adult foster care, and developmental achievement centers. The Health Care Section also regularly assists the Residential Team with their backlog of one-time-only inspections of home-based day care facilities.

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*There are approximately 16,000 licensed day care facilities in the state with a high annual turnover rate of over 2,800 new day care homes.*

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

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This section includes a supervisor and one clerical staff person in the headquarters office, and seven field Deputy State Fire Marshal Inspectors located throughout the state.

The health care team enforces the Minnesota Uniform Fire Code as a part of the licensing requirements of the Minnesota Department of Health 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 their 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 U.S. Fire Administration fire sprinkler demonstration trailer that is managed by this office.

Late in 1995 a decision was made to transfer the responsibility of inspecting all state-owned prisons to the health care section. This was part of an overall realignment of inspection supervisor responsibilities in the division. Under the fire and building code occupancy classification system, health care facilities and detention and correctional facilities are in the same Group I (Institutional) classification and so the enforcement of the fire code is also similar. One inspector was assigned to begin these duties on January 1, 1996 under the direction of the health care section supervisor.

During 1995, the Health Care Team inspected 1,559 buildings in 1,517 facilities.

## **PUBLIC SCHOOL INSPECTION PROGRAM**

The Public School Inspection Program has completed its fifth full year of operations in 1995. This program, established by the state legislature in 1990, requires the State Fire Marshal to ensure that all of the state's approximately 1,500 schools are inspected once every three years. Included in this mandate are all of the state's public elementary, middle/junior high and high schools and Charter Schools. Also included are 45 Area Learning Centers that were in operation in the 1994-95 school year.

The primary focus of this program is to improve the fire and life safety violations found in many of the public schools. Emphasis is placed on life safety efforts to protect the school's occupants (most notably, students). 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

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*School inspections revealed 2,437 fire code violations in 280 schools in 1995.*

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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 alarm systems.

The program is staffed by three field deputies, a supervisor, a plan reviewer and one clerical support person. Until September of 1995, the program was supervised by Jon Nisja. With his promotion to a Bureau Chief position, supervisor responsibilities were taken over by Robert Imholte. The staff maintains a close working relationship with the Minnesota Department of Children, Families and Learning (formerly Department of Education), which controls funding for many school facility upgrades and safety improvements.

The 1990 legislation also allowed local fire departments who had been inspecting the schools within their jurisdictions to continue their inspection programs under contract with the State Fire Marshal. In 1995, 21 fire departments contracted to conduct their own school inspections.

For the 1994-95 school year there were 379 school districts in the state and 13 Charter Schools. These school districts serve roughly 803,393 students in grades K through the 12, whose safety is directly impacted by the school inspection program. Also impacted are some 46,700 teachers. With support personnel and community usage of school buildings added in, this program affects the fire/life safety of well over one million persons.

In 1993 the State Fire Marshal Division entered into a contract with the then Department of Education for conducting plan reviews on school projects that exceeded \$10,000.00. The Division's plan reviewer is responsible for checking plans involving construction or remodeling of existing buildings to ensure that the requirements of the code are met, outstanding violations are corrected, and state Health and Safety monies are used effectively and appropriately. 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 1995, over 300 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 area of building and fire codes.

## **CODE DEVELOPMENT/PLAN REVIEW**

The Code Development/Plan Review section is staffed by two code/plan specialists. This section answers thousands of calls from fire officials, building inspectors, property owners/managers, architects, engineers, contractors, elected officials, attorneys, other state agencies and the general public.

The code specialists serve on the State Fire Marshal Code Advisory Panel to review fire code variance requests and to develop policy decisions. They also serve on the MN State Fire Chiefs Association Code Committee to recommend code changes and assist the administration of the Fire Protection Contractor Licensing Program.

In 1994/95, the code specialists also wrote the guidelines for Public Fireworks Display Operators. A test was developed to ensure competency and a series of test sites were set up throughout the state.

In addition to the code consultations and plan review functions, code specialists serve on special projects related to code research and technology. They also serve as instructors at fire-related training sessions, teaching subject matter related to codes and fire protection-related issues.

## **PUBLIC EDUCATION AND FIRE DATA**

The Public Education and Fire Data Analysis is headed by Mary Nachbar, Bureau Chief, and includes Ernie Scheidness, Nora Gierok, and Irene Moore. This team collects and analyzes over 130,000 reports annually. They also provide technical assistance to 804 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 occurring regarding the causes of other such events.

This team also provides special reports to local fire departments that request comparative data for budget justifications, public education, or special requests 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 the problem. In addition, those in the high-risk fire death groups, such as the elderly and young children, are being monitored to provide information to the fire service on how to best address the fire safety concerns of these target groups.

Data collection through the Minnesota Fire Incident Reporting System is a major program in the Division. Data is critical in determining where efforts and resources should be placed. This data has been invaluable in our efforts to pass legislation relating to the life safety of Minnesota citizens. The number of fire departments reporting into MFIRS has increased significantly in the past five years. The efforts of the fire departments are critical in determining the Minnesota fire and emergency response problems.

In the next 18-24 months, the National Fire Information Council (NFIC) will be releasing program specifications for a brand new PC-based National Fire Incident Reporting System. We will be preparing for the implementation of this new Windows-based program. The new system will be greatly improved. The PC-based version will be simple to use with screens that give you choices to point and click. The new manual will probably be around 50 pages. The information that will be

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*A new PC-Based  
NFIRS program  
specifications will be  
released in 1997.*

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generated from this system will better help us define the fire problem. Information will be able to be collected regarding the human factors involved in the fire incident. The "Internet" is being explored as a possible way of collecting and reporting data, in the future.

We will be providing technical support information to the fire service regarding the purchase of equipment, software, modems, and the process for electronic data submittal. We have been working on a national basis with NFIC for three years to assist in the development and implementation of new NFIRS. We encourage fire departments to contact the division as they are considering purchasing computer equipment in the future to ensure the system and components will be capable of operating the new system. And, of course, the software vendors that work with the fire service will also be able to assist you.

Reducing the loss of life and injuries from fire is a major focus of the Division. One of our goals is to reduce the number of fire deaths in homes with no smoke detectors by 25% in the year 2000. In 1995, fire deaths dramatically increased by 87%. Of the 67 fire deaths in structures in 1995, 40 were in dwellings with no detectors present or where the smoke detectors were not working. Smoke detectors installed and maintained in every dwelling is our public education goal. The fire service, Minnesota Department of Health, and SAFE Kids have been major contributors working with the Division.

The division provided to the fire service with \$30,000 worth of smoke detectors (140) for hearing impaired persons and families in Minnesota. These were targeted for low income high-risk homes and the fire service installed the smoke detectors. This was possible due to funds secured from fines from the Attorney General's Office. Additionally, through the same funds, 4,500 smoke detectors were provided for families in targeted high risk groups.

We continue to work with our limited budget and resources to provide assistance to the fire service and the community in the form of presentations, exhibits and materials.

In 1995, two Minnesota communities received NFPA Champion Learn Not To Burn program grants. They were Alexandria (Dennis Stark - Champion) and St. Cloud (Jeff Howe - Champion). Both Champions attended a training session in Boston, MA in April and began implementation of the program in their schools in August. We are proud to be partners with these extraordinary folks who focus on public education efforts in the school.

The NFPA Learn Not To Burn program and the St. Paul Fire Department's Follow The Footsteps fire safety programs are two nationally recognized school-based programs designed to have the teachers teach the children the safety messages. This does not mean the fire department stops their efforts of educating young children. It simply means that students have messages repeated year round and reinforced by the fire department when they come into the school.

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

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With the increase in fire deaths in 1995, the division is working closely with other groups such as the MN State Fire Chiefs Association, the MN Department of Health and fire departments to promote the use of smoke detectors.

Several press conferences were held during the year to promote seasonal fire safety messages. In October of every year we address the heating and holiday fire safety issues. In June we addressed the fireworks issues. We are happy to report that we had fewer injuries in 1995 and 96 as a result of these efforts. Fireworks legislation was defeated in the 96 session, however, we feel strongly it will appear again. We can never be too cautious about such dangerous devices in the hands of our children.

Although the 1996 public education conference was not held for the first time in 15 years, that does not mean it will not be held again. The committee felt it was time to take a breather and will gear up for 1997 to address the issues most germane to the Minnesota fire problem. The division expends a lot of effort to ensure people in Minnesota have a safe place to live, work, and play.

## **FIRE PROTECTION LICENSING SECTION**

The Minnesota Fire Protection Contractor Licensing Law (MN 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 has two code specialists, John Eibner and David Stegura, who serve as full-time plan reviewers and one clerical support person, Renee DuBois. Code Specialist Brian Holzer provides administrative support for the program.

Licensing of fire sprinkler contractors and certifying journeymen began on February 21, 1994. In 1995, 58 contractors and 7 design contractors were licensed. In addition, 457 journeymen, 58 conditional journeymen, and 87 limited journeymen were certified or registered during the year. Litigation was filed on February 22, 1994, that restricted the state rule requiring apprentice 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 for apprentices.

The State Fire Marshal Division, State Building Codes Division, and approximately 150 cities perform sprinkler system plan review and issue permits. Cities may issue fire protection system permits if they meet program and training documentation requirements. The State Fire Marshal Division issues fire protection system permits for all installations not performed by cities and the Building Codes

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

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Division. In 1995, the Fire Protection Licensing Section conducted 275 plan reviews and issued permits that generated \$89,016.79 in fees. The Fire Protection Licensing Section also assisted the Public School Inspection Program by reviewing 42 school sprinkler plans. In addition, surcharge payments received by contractors indicate an additional 2,793 permits were issued in communities who chose to conduct their own plan reviews and permitting. The total of all surcharge payments was \$113,031.71, indicating that approximately \$56 million worth of fire protection systems were installed in Minnesota in 1995.

The Fire Protection Licensing Section received 81 complaints regarding rule or law violations by contractors and sprinkler fitters. As a result of these complaints, 15 contractors and 5 sprinkler fitters were found to be in violation of the rule. In addition, there were 45 inspections performed by Fire Protection Licensing Section personnel.

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 1995, the council met twice. In 1995, there was one seminar for contractors regarding plan review issues. In addition, staff provided presentations at two sprinkler association conferences.

## **PUBLIC DISPLAY FIREWORKS OPERATOR CERTIFICATION**

In 1994, the Minnesota Legislature directed the State Fire Marshal to conduct a study concerning safety aspects of public fireworks displays and fireworks display operator qualifications. Based on that study, the Legislature, in 1995, passed a fireworks law. This law required the State Fire Marshal to adopt reasonable guidelines on fireworks display safety and certify fireworks operators.

The Minnesota fireworks law (MN Statute 624.20 - 25) requires all fireworks displays to be supervised by a Certified Fireworks Operator. An operator may be certified by successfully 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 concerning safe practice for the discharge and display of fireworks.

Fireworks operator certification began on January 1, 1996. Testing locations were advertised to all fire departments, county sheriffs and city clerks, for 13 dates throughout the year. As a result, 284 applicants were certified - 193 for outdoor displays, 89 for both indoor and outdoor displays, and 2 indoor certifications only.

After every display, the certified operator must submit a Fireworks Display Report to the State Fire Marshal Division. Over 230 reports have been received with information on type and number of shells, property damage, injuries, and product defects. A total of these display reports show over 33,000 display shells were used for public viewing.

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*Hazardous material response team program calls for statewide system of 4 regional response teams supported by 6 chemical assessment teams.*

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The State Fire Marshal Division will continue with the examination process throughout the State and in our headquarters office for those people who qualify under the statute.

## **HAZARDOUS MATERIALS REGIONAL RESPONSE TEAM PROGRAM**

The Hazardous Materials Incident 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 the work of 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 Request for Proposals was issued during December, 1994, which resulted in a total of 15 responses from 13 public and private organizations being received in February, 1995. A seven-member review committee rated each proposal and made its recommendations to the Commissioner of Public Safety through the State Fire Marshal and the Division of Emergency Management Director.

As a result, four Emergency Response Teams and six Chemical Assessment Teams were selected to participate in contract negotiations. Emergency response team proposals selected include those from the Duluth Fire Department, Moorhead/Fargo Fire Departments, Rochester Fire Department, and St. Paul Fire Department. Chemical Assessment Teams proposals selected include the Arrowhead HazMat Team (Grand Rapids area fire departments), North Metro HazMat Team (Fridley, Coon Rapids, and Spring Lake Park/Blaine/Mounds View Fire Departments), Hopkins Fire Department, Mankato Public Safety - Fire Bureau, St. Cloud Fire Department, and one private entity; West Central Environmental Consultants, Inc.- Morris. (Emergency Response Teams will also serve as Chemical Assessment Teams.) Contract negotiations began in the Summer of 1995 and continued during the year.

Additional equipment was also purchased. Specifications were prepared, bids obtained, and orders placed for four specially designed Emergency Response Team vehicles. Delivery is scheduled for the Summer of 1996. Specifications were also prepared for 6 four-wheel-drive Suburbans and ten equipment trailers for use by the Chemical Assessment Teams. Delivery was taken on these units during the Fall of 1995 and distributed to the teams. Response equipment already obtained was also issued to the teams to provide them with opportunity to train in its use. The response equipment, vehicles and trailers are owned by the State and loaned to the teams for the term of each contract. Purchases scheduled to be made during 1996 will complete the state-owned equipment inventory.

A Team Advisory Committee was established in May, 1995. Representatives of each of the selected teams met monthly to assist staff with the development of Suggested Operating Guidelines, administrative procedures, training programs and equipment selection.

The Division facilitated special hazardous materials training programs during the year. Highway cargo tank response was the subject of a course provided by the Chemical Lehman Tank Lines. More than 100 hazardous materials technicians and specialists participated in an eight-hour course hosted by the Duluth, Fridley, and Rochester Fire Departments. Division staff also coordinated the Hazardous Materials Series courses offered at the State Fire School.

## MFIRS

With 694 fire departments reported in 1995, the participation in MFIRS increased slightly. Of the reporting departments, 122 do so by computer modem or diskette. Major concerns with reporting deal with quality assurance and blank fields. In 1995, 22% of structure fires were reported as cause unknown. The reporting of smoke detectors 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.

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*Participation in MFIRS  
reporting up in 1995.*

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## ADMINISTRATIVE SUPPORT SERVICES

During 1995, the Division experienced several personnel changes in this area. Yet, we still enjoy a dedicated, hard-working support staff whose responsibilities include timely turnaround of requests and inspections. This team processes Division fire investigation reports which totaled 603 investigations in 1995.

1995 was the first year of operation of our new computerized system to record and analyze data collected by the Fire Safety Inspections teams. The support staff displayed a lot of patience and care and made the new system a success. We are now able to do analysis of the fire safety status of the properties we inspect and take appropriate actions to have a greater impact of fire safety.

The Fire Safety Inspection Team members have also been very patient and conscientious in starting the new system. Their cooperation remains a very valuable asset to the success of the start-up of this new system.

## SUMMARY

*In brief, I hope this report has helped acquaint you with the services the State Fire Marshal provides. We look forward to working with the fire service and other agencies and organizations interested in the fire/life safety issues concerning Minnesota citizens in 1996.*

*Again, I encourage your feedback regarding this report and any concerns regarding the Minnesota fire problem or the operation of the State Fire Marshal Division.*