State of Minnesota
Department of
Public Safety

FIRE IN MINNESOTA 1996

State Fire Marshal Division
Fire Reporting System

Thomas R. Brace
State Fire Marshal

ACKNOWLEDGEMENTS

Fire in Minnesota 1996

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

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

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

By analyzing Minnesota's 1996 fire statistics, this report reveals patterns and highlights problems and areas of concern to the fire service and citizens of Minnesota.

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

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From the desk of State Fire Marshal Thomas R. Brace

With pleasure, I once again present you with "Fire in Minnesota 1996." As always, we are highly 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.

We owe a special thanks to the 690 fire departments who participated in the Minnesota Fire Incident Reporting System (MFIRS) in 1996. They see the value in this very necessary activity and their data forms the basis for this report.

In 1996, Minnesota fire departments responded to 141,498 calls for assistance; a 7% increase over last year. When considering the many fire departments who operate emergency medical systems and do not submit EMS reports to the State Fire Marshal, we believe the actual number of runs is considerably higher. The reporting of EMS is voluntary, but it would be beneficial to be able to capture the breadth of activity the fire service responds to each year.

Fire In Minnesota – Summary*

- In 1996, 50 Minnesotans lost their lives in fires, a 42% decrease from 1995. This is a dramatic decrease from 1995 which was inordinately high due to nine fires with multiple fatalities. Alcohol or other drug use was present or identified as an impairing factor in 44% of all fire deaths. In 53% of fire deaths in residential properties, there were either no smoke detectors present or the detector was inoperable at the time of the fire.
- 257 civilians and 235 firefighters were injured in fires.
- Arson incidents decreased by 3% in 1996, but the dollar loss increased by a dramatic 22%. This remains a crime of increasing impact.
- Over $144 million dollars in property was destroyed in 1996, 47% of which occurred in residential property.

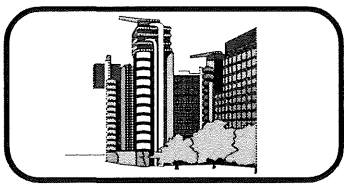
One of the major goals of the State Fire Marshal Division is to decrease the number of fire deaths in residences where smoke detectors were not present or not working to 25%, by the year 2000. This is a lofty goal that is part of the Strategic Plan for the Division. To accomplish this goal, we will need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

*Duluth Fire Department was unable to submit data in 1996 due to computer problems; we will welcome them back in the 1997 Fire in Minnesota.

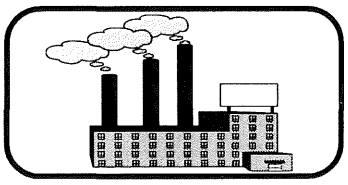
4,229 **RESIDENTIAL**

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



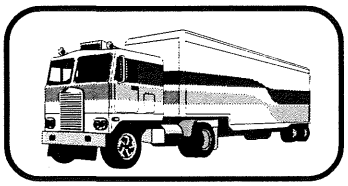
679 **PUBLIC AND MERCANTILE**

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



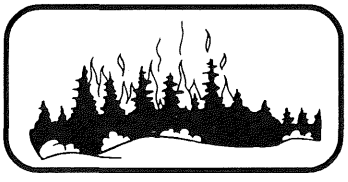
1,831 **INDUSTRIAL, MANUFACTURING, OTHER BUILDINGS**

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



5,448 **MOBILE PROPERTY**

(Automobiles, trucks, trains, buses, boats)



8,184 **OUTSIDE AND OTHER**

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

20,371 **TOTAL FIRES**

$144,032,600 **TOTAL DOLLAR LOSS**

TOTAL IMPACT

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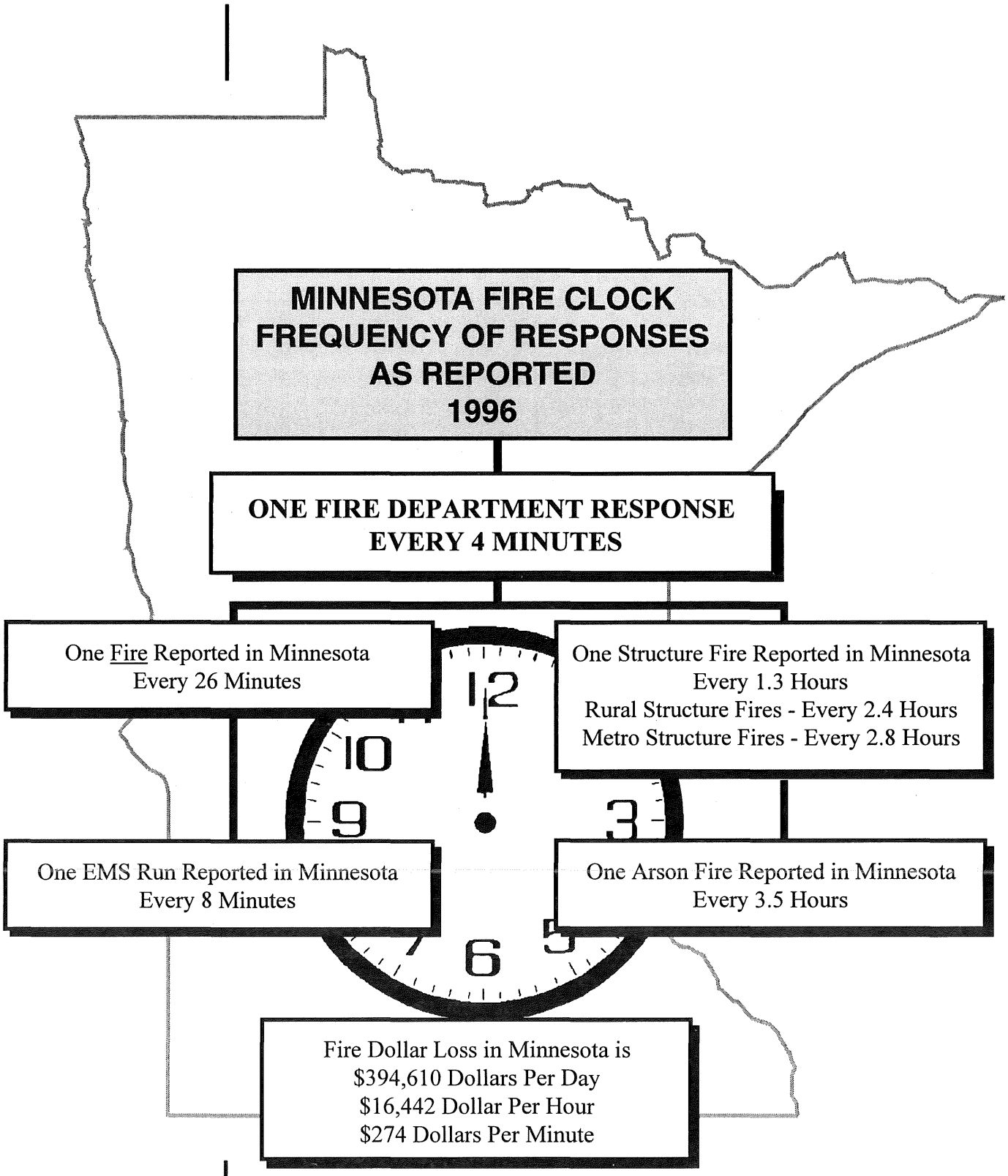


These figures represent the collective incidents reported by 690 of Minnesota's 802 fire departments.

OVERALL STATE TOTALS

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

In 1996, 690 fire departments (86%) reported into the Minnesota Fire Incident Reporting System (MFIRS) which provides information on fire incidents and related activities. This year's figures represent only a slight decrease in the participation in MFIRS over last year (when 694 departments reported through MFIRS). (See the section titled "Participation," for a breakdown of reporting and non-reporting departments.)

1996 REPORTED FIRE INCIDENTS

Incidents Reported	7 County Metro Area	% State Total	Balance of State	% State Total	State Total
Structure Fires	3,139	47%	3,600	53%	6,739
Vehicle Fires	3,191	59%	2,256	41%	5,448
Other Fires	4,926	60%	3,258	40%	8,184
TOTAL FIRES	**11,256**	**55%**	**9,474**	**46%**	**20,371**
Rescue / EMS	49,244	82%	10,462	18%	59,706
Other Emergencies	3,396	60%	2,239	40%	5,635
TOTAL RESCUE	**52,640**	**81%**	**12,701**	**19%**	**65,341**
FALSE CALLS	**16,083**	**79%**	**4,262**	**21%**	**20,345**
MUTUAL AID GIVEN	**1,190**	**45%**	**1,466**	**55%**	**2,655**
OTHER INCIDENTS	**25,467**	**78%**	**7,319**	**22%**	**32,786**
TOTAL CALLS	**106,636**	**75%**	**34,862**	**25%**	**141,498**
Estimated Direct Dollar Loss Due to Fire	**$70,023,563**	**49%**	**$74,009,037**	**51%**	**$144,032,600**

ACTUAL FIRES

Total fire incidents increased by 3%; however, the total number of responses by the Fire Service increased by 7% in 1996.

The total number of fire incidents reported by participating Minnesota fire departments in 1996 increased by 3% from 1995. The average number of fires per year calculated over the past 5 years was 19,795. The totals for 1996 are 576 incidents above the five-year average.

Note: Does not include Duluth.

Total number of incidents increased by over 8,000 runs in 1996.

With minor year-to-year fluctuation in reporting by fire departments, fires in structures are at a five-year low. This may, in large part, be a result of the missing data from Duluth, whose average losses over the last five years were: 438 fire runs; $3,805,919 dollar loss. Total number of incidents increased by over 8,000 runs in 1996.

FIVE-YEAR OVERALL INCIDENT COMPARISONS
1992-1996

	1992	1993	1994	1995	1996	95/96 Change + (-)	95/96 % Change + (-)
FIRES							
Structure	6,824	6,910	7,223	6,942	6,739	(203)	(3%)
Vehicle	4,397	4,746	5,477	5,158	5,448	290	6%
Other Fires	7,396	7,220	8,612	7,698	8,184	486	6%
TOTAL FIRES	**18,617**	**18,876**	**21,312**	**19,798**	**20,371**	**573**	**3%**
OVERPRESSURE RUPTURES	**299**	**385**	**520**	**627**	**557**	**(70)**	**(11%)**
RESCUE CALLS							
Emergency	42,164	46,560	52,193	58,079	59,706	1,627	3%
All Others	2,950	3,827	5,762	6,076	5,635	(441)	(7%)
TOTAL RESCUE CALLS	**45,114**	**50,387**	**57,955**	**64,155**	**65,341**	**1,186**	**2%**
HAZARDOUS CONDITION CALLS	**5,121**	**5,618**	**6,448**	**7,132**	**9,954**	**2,822**	**40%**
SERVICE CALLS	**4,790**	**4,547**	**5,265**	**6,847**	**8,447**	**1,600**	**23%**
GOOD INTENT CALLS	**6,622**	**7,499**	**9,451**	**10,537**	**12,852**	**2,315**	**18%**
FALSE CALLS							
Malicious	1,308	1,278	1,445	1,456	1,418	(38)	(3%)
Other False	14,133	15,477	16,782	18,872	18,927	55	3%
TOTAL FALSE CALLS	**15,441**	**16,755**	**18,227**	**20,328**	**20,345**	**17**	**<1%**
MUTUAL AID GIVEN	**2,108**	**2,556**	**2,557**	**2,494**	**2,655**	**161**	**6%**
ALL OTHER	**425**	**550**	**673**	**865**	**976**	**111**	**13%**
TOTAL CALLS	**98,537**	**107,173**	**122,408**	**132,783**	**141,498**	**8,715**	**7%**
TOTAL DOLLAR LOSS	**$122.4M***	**$109.0M**	**$153.1M****	**$131.6M†**	**$144.0M**	**$12.4M**	**9%**

*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 increased by $12.4 million, the second highest dollar loss in the last five years.

Overall dollar loss increased by $12.4 million (9%), and was the second highest dollar loss in the last five years. The $144 million loss in 1996 did not include any fires with dollar loss over $5 million as was the case in the previous four years.

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

STRUCTURE FIRES BY PROPERTY TYPE

Fires in structures continue to occur most frequently in residential property, a category that includes houses, apartments, boarding houses, dorms, hotels/motels, etc. Again in 1996, residential structure fires decreased in number from the previous two years. On average, 4,531 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
1992 - 1996

	1992	1993	1994	1995	1996	% increase (decrease) 1995-1996
Residential	4,515	4,650	4,741	4,521	4,229	(6%)
Educational/ Institutional	258	272	234	240	152	(37%)
Public Assembly/ Commercial	510	474	512	475	527	11%
Industrial/ Manufacturing	336	353	380	449	395	(12%)
Storage	990	944	1,053	1,009	1,155	14%
Special/Other	170	156	215	203	220	8%
Unclassified	45	61	88	45	61	36%
TOTAL	**6,824**	**6,910**	**7,223**	**6,942**	**6,739**	**(3%)**

The number of reported fires in residential and educational properties is at a five-year low. However, dollar loss in residential structures increased by 16%.

While the total number of reported structure fires decreased in 1996 from the five-year high reached in 1994, the five-year average remained about the same. Although fires in residential properties declined by 6%, dollar loss in those properties increased by 16%!

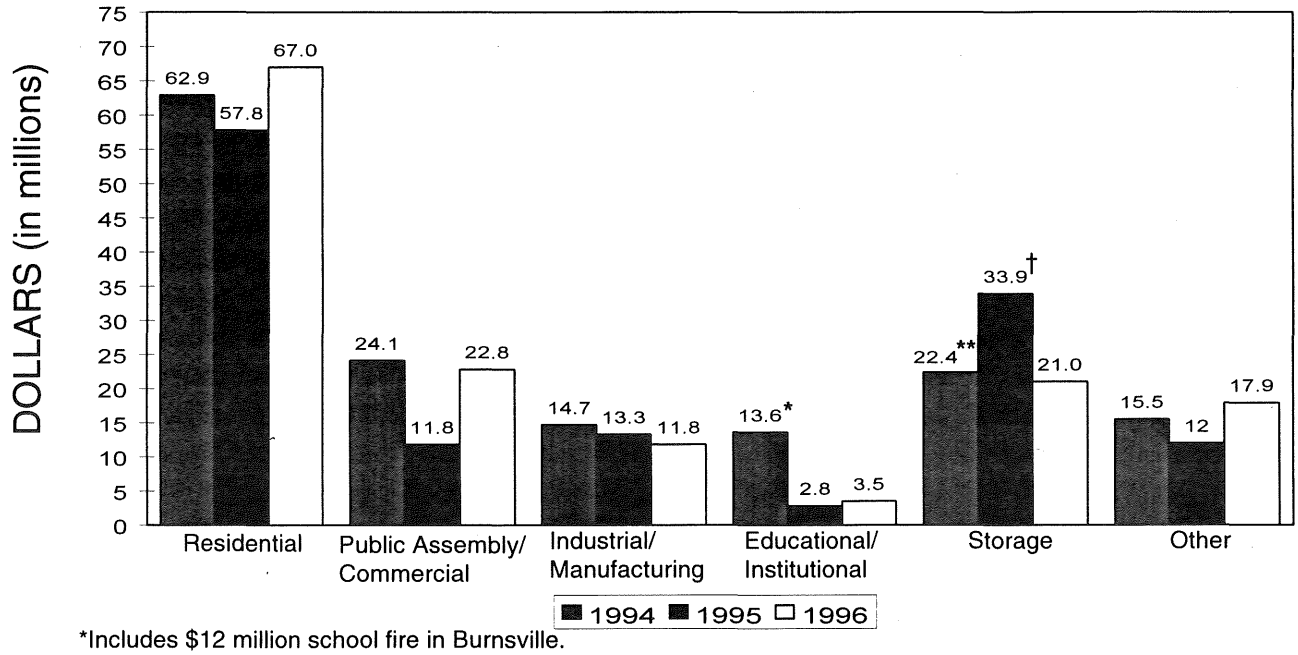
The number of fires in residential and educational properties are the lowest in five years. However, fires in storage and special properties are at a five-year high.

Overall, total structure fires are at a five-year low. Again, this may be attributable to missing data from Duluth.

OVERALL STATEWIDE DOLLAR LOSS

Overall, average dollar loss per structure fire was nearly $18,000 per incident.

DOLLAR LOSS BY PROPERTY TYPE



*Includes $12 million school fire in Burnsville.
**Includes two $4 million agricultural supply storage fires.
†Includes $15 million agricultural supply storage fire.

Residential fires caused 47% of total dollar loss and represent 63% of all structure fires in 1996.

The 1996 dollar loss in residential property increased by $9.2 million, the highest reported residential dollar loss in the past five years. Residential fires accounted for 63% of all structure fires and 47% of total dollar loss.

Fires in storage facilities increased by 14% in 1996 from 1995. Excluding the $15 million agricultural supply storage fire in 1995 and the two $4 million agricultural supply storage fires in 1994, there was an increase in dollar loss in storage facilities in 1996 of $2.1 million.

Overall, average dollar loss per structure fire in 1996 was nearly $18,000 per incident. Average dollar loss per residential fire was over $15,000 per incident.

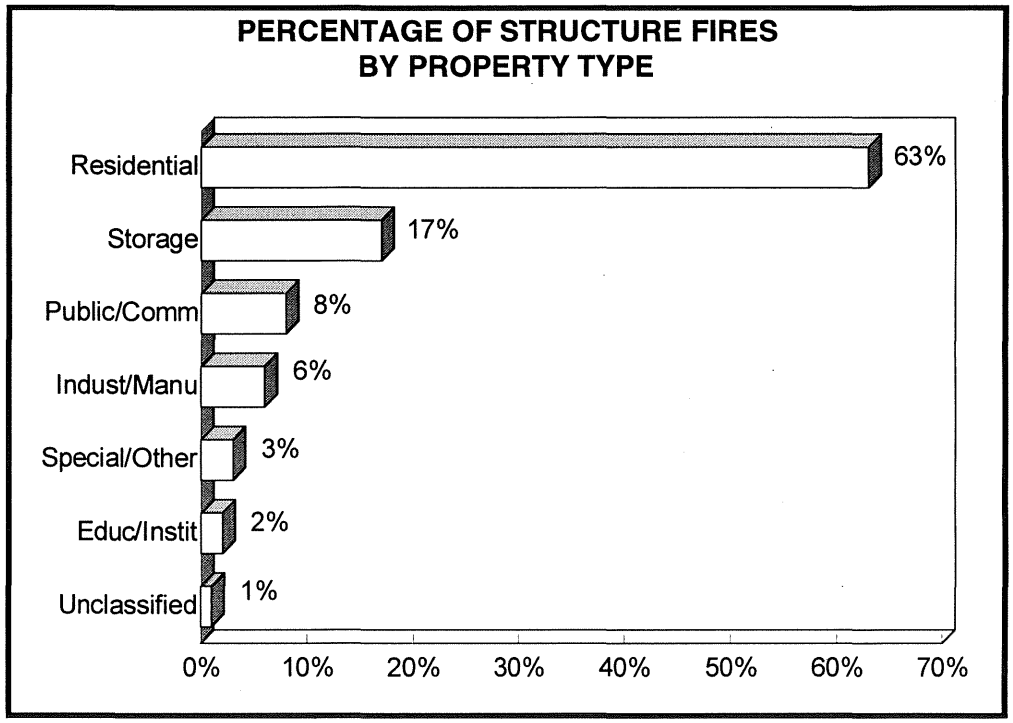
SUMMARY

In the past nine years residential dollar loss amounted to over $481 million dollars.

The number of fire departments participating in MFIRS decreased slightly by 4 in 1996; however, the total number of reported incidents increased by 7%. Dollar loss was in excess of $144 million, a $12.4 million increase over 1995.

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

Residential fires accounted for 63% of all structure fires and were responsible for 47% of total dollar loss and 86% of all fire deaths, continuing to make the home one of the most dangerous places to be in regard to fire.

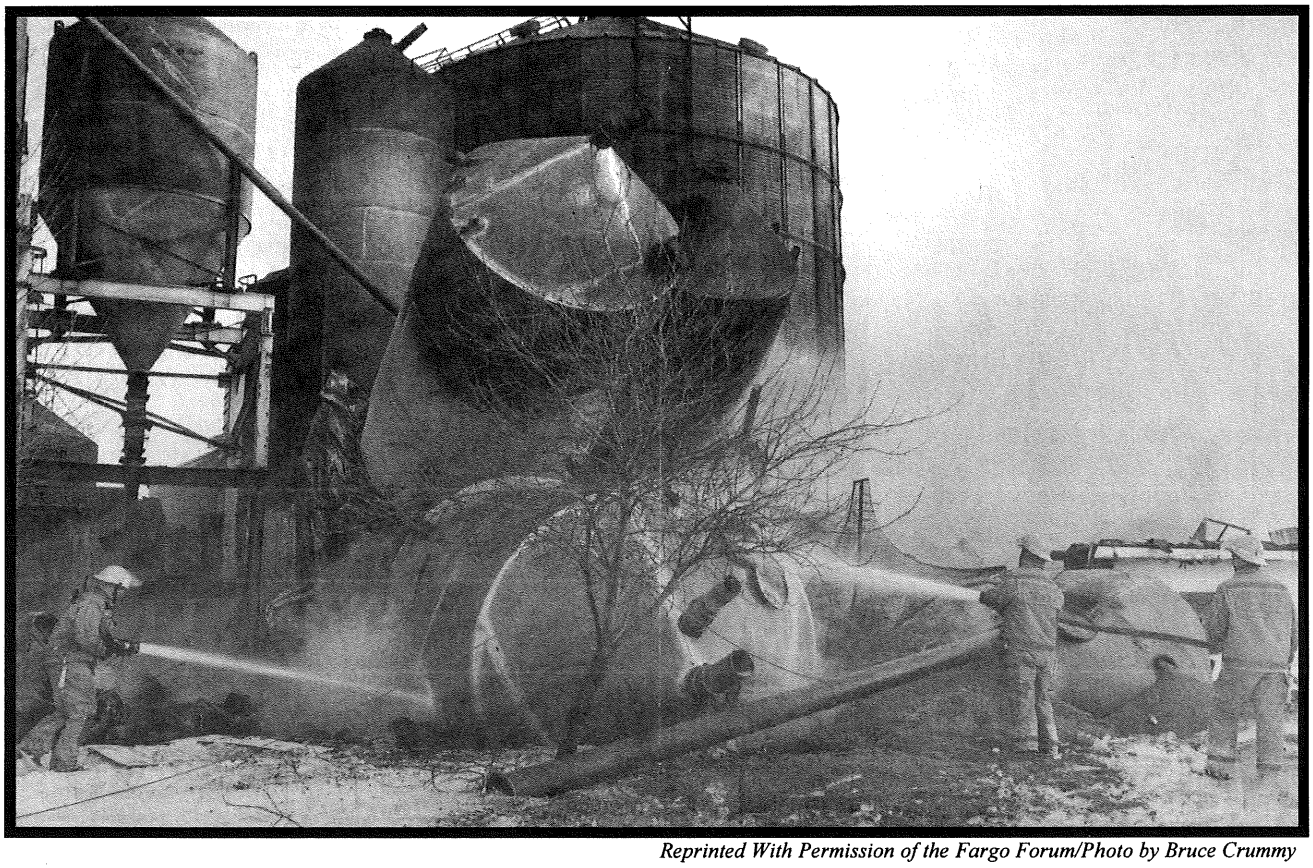


In the last 9 years, over $1.1 billion in property was destroyed by fire; nearly half, or over $481 million (46%), occurred in residential property.

Dollar loss from fires remains high in Minnesota and continues to be a costly 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.

Total Impact 1996

CAUSES



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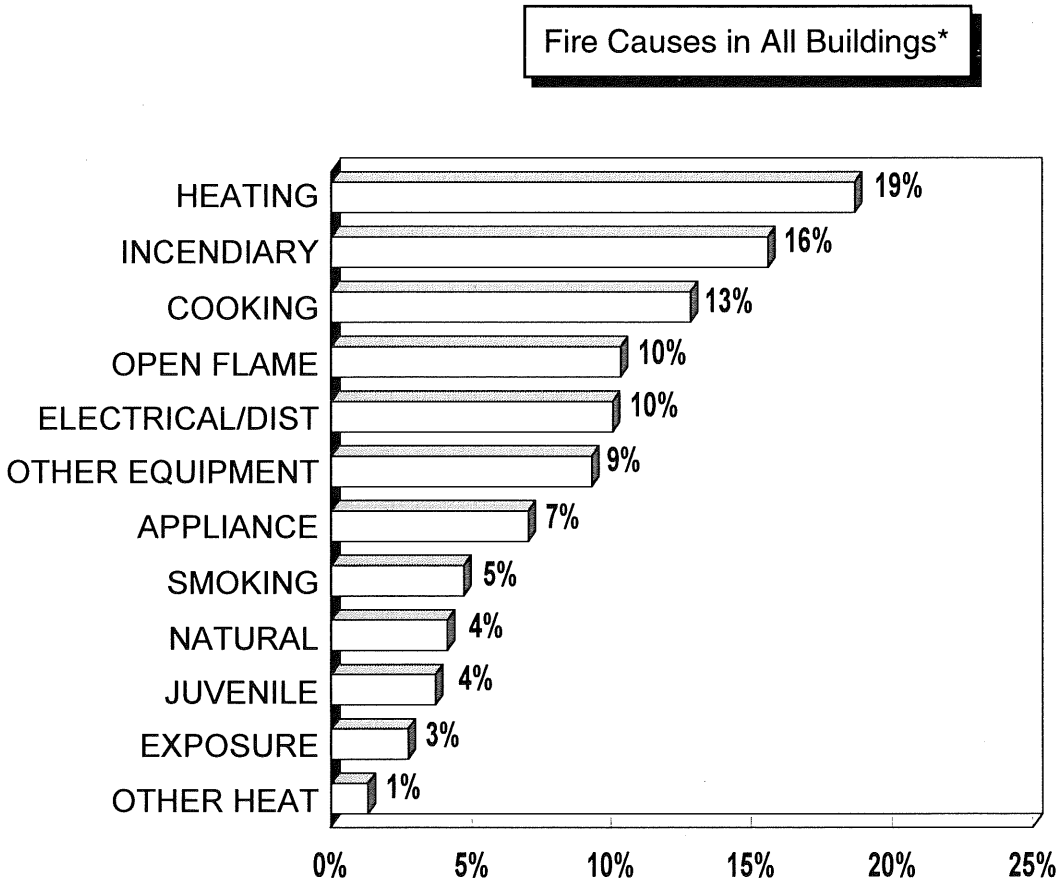
CAUSES

For the 8th consecutive year, 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.*

Arson was a cause in 9% of residential fires. The dollar loss in all residential fires reached a five-year high at $67 million.

When fire causes in all types of buildings are compared, heating, arson, and cooking emerge as the first, second and third overall leading causes of structure fires. In residential structures, as a group, heating leads, followed by cooking, then arson fires. Residential fires represent 63% of all structure fires. In educational properties, arson was the leading known cause of fire with 49%. In storage/office properties, arson was reported as the cause in 12% of the fires. Arson as a reported cause of fire in residential properties was at 9% in 1996. Residential fires, however, accounted for nearly $67 million in property loss, or 47% of the total reported dollar loss from all fires.

The overall pattern of heating/incendiary/cooking as leading identified causes has been consistent for the past several years. Heating fires are 19% of the total identified fires. It must be noted, however, the cause of 20% of all structure fires was reported as unknown.

A Closer Look at Major Fire Causes . . .

Eight people perished in heating-related fires.

. . . Heating Fires

Again, the majority of heating-related fires occurred in residential properties. Although the reported number of residential heating-related fires decreased by 12% from 1995, the dollar loss from those fires increased by 15% over the 1995 loss.

DOLLAR LOSS FROM HEATING FIRES IN RESIDENTIAL PROPERTIES ONLY

Equipment	# of Fire Incidents	% of Total	Dollar Loss	% of Total	Civ. Deaths	Civ. Injuries	Firefighter Injuries
Fireplace/Chimney	443	57%	$2,735,111	30%	2	3	5
Fixed Heating Units	98	13%	1,602,334	18%	3	0	1
Portable Heaters	55	7%	1,357,000	15%	3	5	--
Central Heating Units	80	10%	1,287,947	14%	--	2	6
Water Heaters	57	7%	1,210,682	13%	--	3	--
Other	40	5%	793,050	9%	--	--	--
Total	**773**	**100%**	**$8,986,124**	**100%**	**8**	**13**	**12**

In 1996, cooking-related fires accounted for 14% of all civilian fire injuries.

. . . Cooking Fires

Unattended cooking accounted for 36% of cooking-related fires and 26% of the dollar loss. Three fire deaths occurred in 1996; 36 civilians and 4 firefighters were injured in these fires. This represents a decrease of 29% in civilian injuries. However, firefighter injuries doubled! Dollar loss totalled nearly $4 million; a 58% increase over 1995.

MOST COMMON CAUSES AND DOLLAR LOSS FOR ALL COOKING FIRES

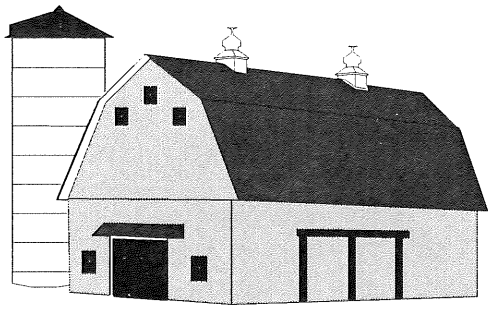
Cause	# of Fire Incidents	% of Total	Dollar Loss	% of Total	Civ. Deaths	Civ. Injuries	Firefighter Injuries
Operational Deficiency	95	12%	$1,082,540	29%	--	3	1
Unattend./Fell Asleep	290	36%	971,043	26%	1	17	--
Mechanical Failure	153	19%	674,536	18%	1	5	2
Combustibles Too Close	55	7%	312,554	8%	--	--	--
Abandon. Material (Charcoal)	12	1%	49,360	1%	--	--	--
Other Causes	122	15%	411,746	11%	1	7	--
Undetermined	74	9%	289,455	8%	--	4	1
Total	**801**	**100%**	**$3,791,234**	**100%**	**3**	**36**	**4**

AGRICULTURAL PROPERTIES

Total dollar loss in agricultural properties reached over $11 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.

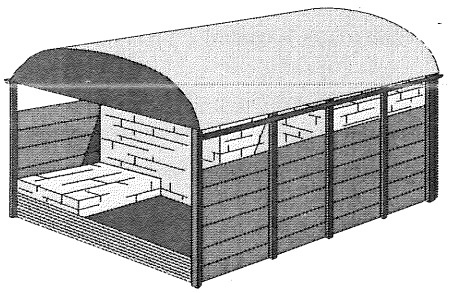
Dollar loss in production facilities decreased by nearly $1.1 million (23%); however, the dollar loss in agricultural storage facilities increased by nearly $2 million (35%) over 1995.



AGRICULTURE PRODUCTION

Type of Facility	No. of Incidents	Dollar Loss
Cattle	45	$1,266,552
Hog	24	904,909
Crop/Orchards	107	341,473
Other Livestock	13	112,900
Poultry, Egg	9	53,250
Unclassified Ag.	175	1,178,039
TOTAL	**373**	**$3,857,123**

Dollar loss on barns and stables increased by 63% in 1996!



AGRICULTURE STORAGE

Type of Facility	No. of Incidents	Dollar Loss
Barns, Stables	216	$4,455,479
Grain Elevators	28	1,869,700
Seed, Silage	89	530,595
Ag. Supply Storage	38	374,500
Boxed, Bagged Prop.	5	34,600
Livestock	4	23,500
Unclassified Ag.	30	292,950
TOTAL	**410**	**$7,581,324**

While the number of fires remained all but the same in 1996, dollar loss increased considerably.

Overall the number of fire incidents in agricultural-related properties remained the same in 1996, but dollar losses increased by 8%.

AGRICULTURAL PROPERTY FIRE CAUSES...

Agricultural Production and Storage Facilities

Ignition Factors	1994 No. of Incidents	1995 No. of Incidents	1996 No. of Incidents	1996 Dollar Loss	1996 % Total Dollar Loss
Mech. Failure/Malfunct.	172	181	202	$ 3,576,954	31%
Lightning/Other Natural Conditions	36	19	24	1,337,650	12%
Combustibles Too Close to Heat/Exposure	73	75	66	830,875	7%
Spontaneous Heating	42	51	40	589,900	5%
Operational/Design Defic.	28	33	16	380,000	3%
Open Flame/Inadeq. Ctrl.	89	80	91	234,103	2%
Ignited Material Misuse	8	5	3	230,000	2%
Misuse of Heat	40	25	31	231,300	2%
Children Playing w/Fire	21	19	13	146,650	1%
Lack of Maintenance	19	19	27	84,210	1%
Design, Construction, Installation Defic.	5	7	6	61,300	1%
Incendiary	40	27	31	41,303	<1%
Other	20	32	34	29,004	<1%
Unattended	10	9	10	7,750	<1%
Fuel Spill	4	6	4	1,900	<1%
Undeter./Not Class. Above	233	189	185	3,655,548	33%
TOTAL	**840**	**777**	**783**	**$11,438,477**	**100%**

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

Based on identified causes, mechanical failure or malfunction continues to be the leading cause of fire in agricultural facilities. However, 24% of the incidents and 33% 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 causes of these fires. Additionally, maintenance of agricultural equipment appears to be a major weakness and caused over $3.5 million in property loss, or 31% of all dollar loss.

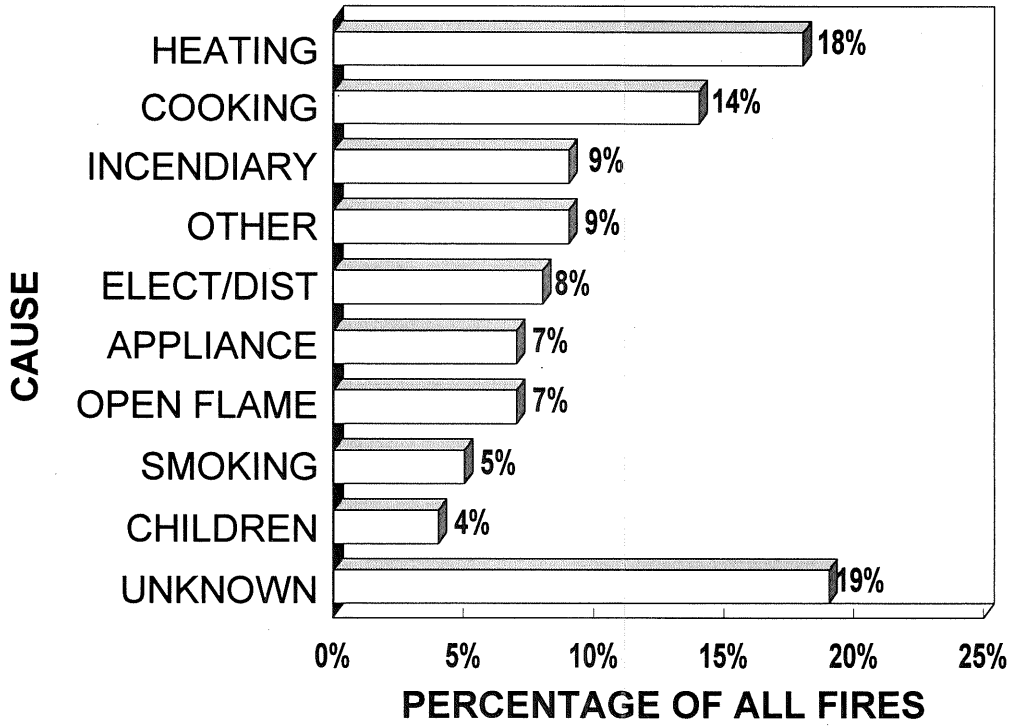
Causes 1996

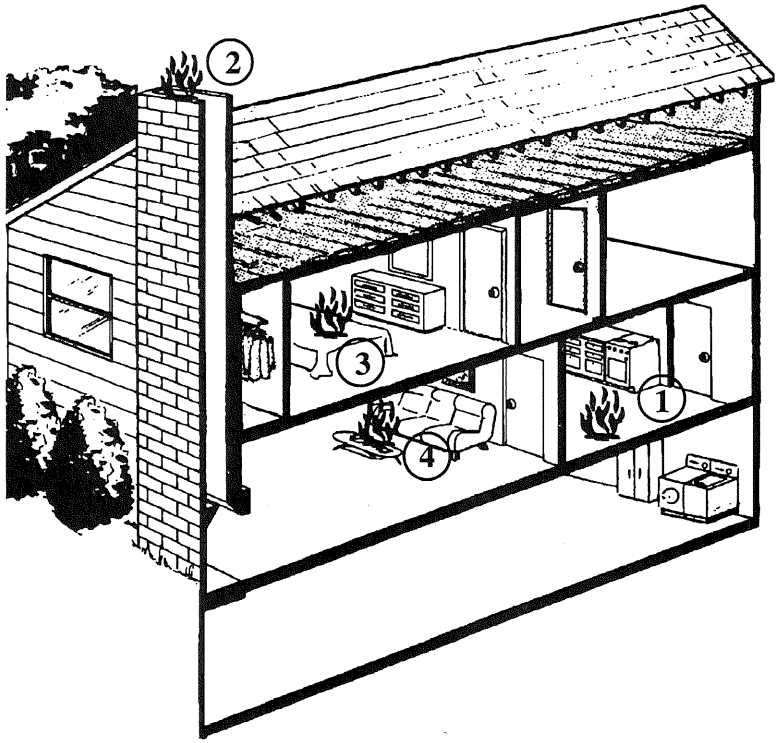
Fire Cause and Areas of Origin by Occupancy Class

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
	4,229	123	193	--	43	$66,991,893
% of Total	63%*	71%	75%	--	86%	47%

*Percent of structure fires

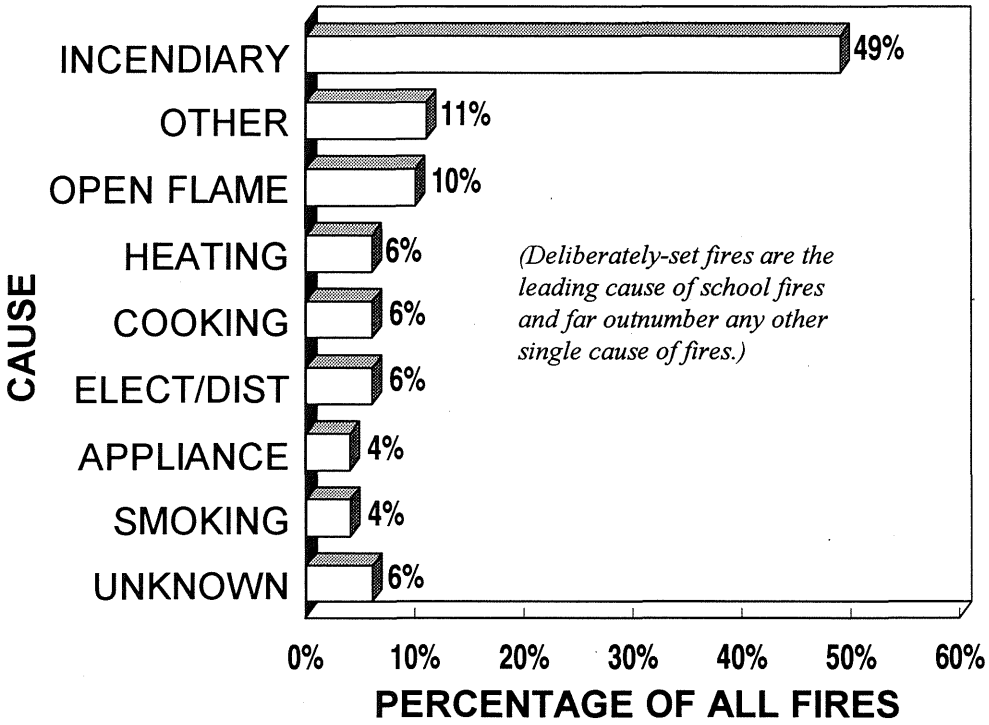
AREA OF FIRE ORIGIN

1. Kitchen/Cooking Area 18%
2. Chimney 10%
3. Sleeping Area 9%
4. Living/Family Room 6%

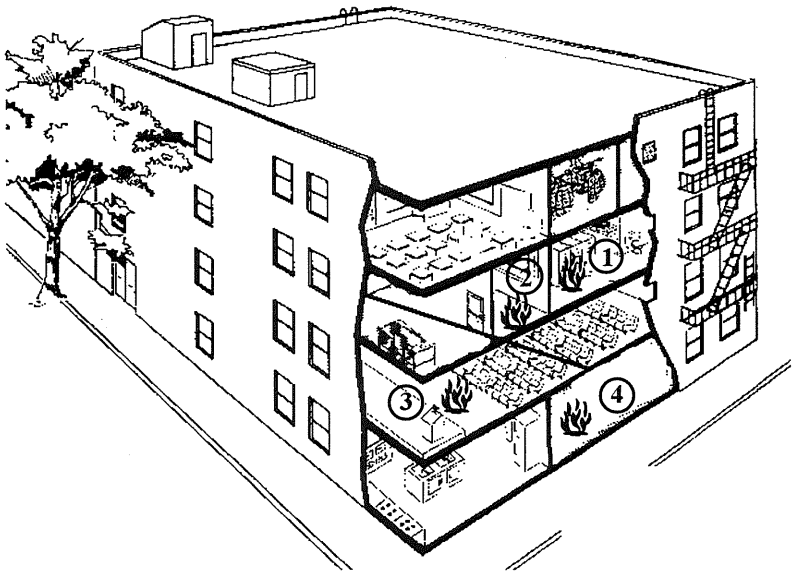
Other Areas of Fire Origin: 57%

EDUCATIONAL PROPERTY

LEADING FIRE CAUSES



(Deliberately-set fires are the leading cause of school fires and far outnumber any other single cause of fires.)



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	72	1	1	--	--	$3,105,168
% of Total	1%*	1%	<1%	--	--	2%

*Percent of structure fires

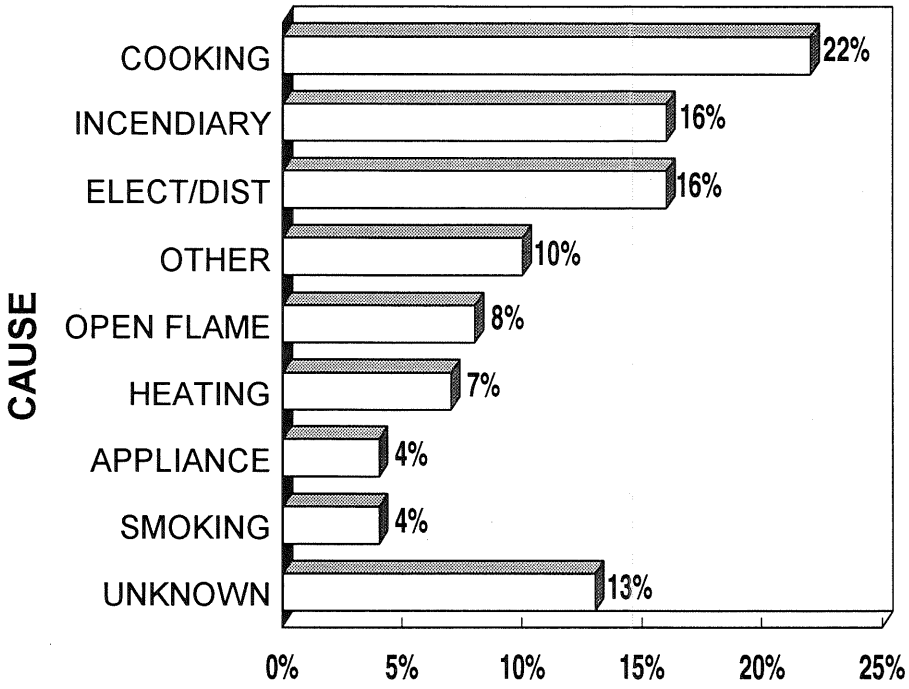
AREA OF FIRE ORIGIN

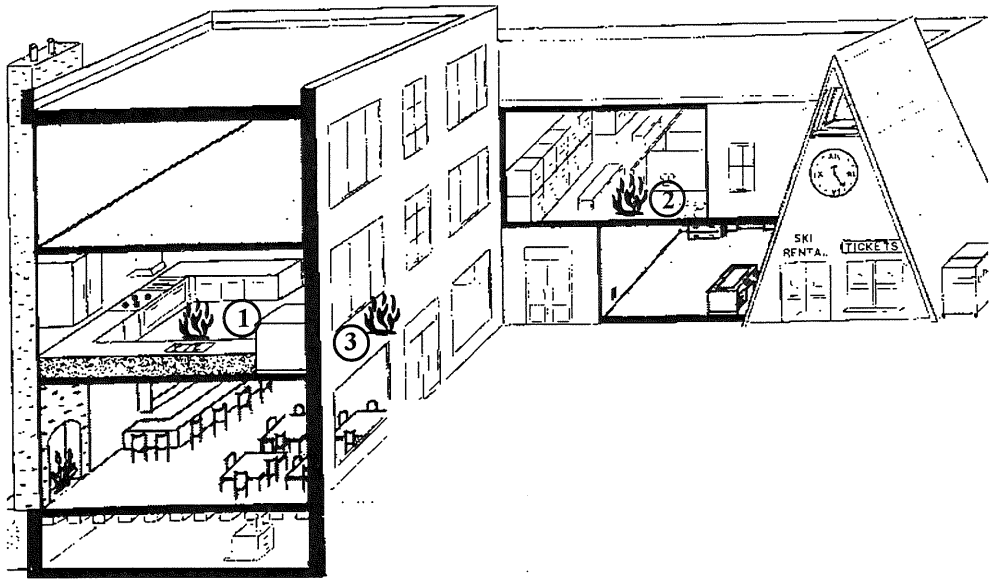
1. Lavatory/Locker Room 24%
2. Hallway/Corridor/Mall 17%
3. Small Assembly 7%
4. Heating/Equipment Room 6%

Other Areas of Fire Origin: 46%

PUBLIC ASSEMBLY PROPERTY

LEADING FIRE CAUSES





	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	226	1	10	--	--	$8,935,637
% of Total	3%*	1%	4%	--	--	6%

*Percent of structure fires

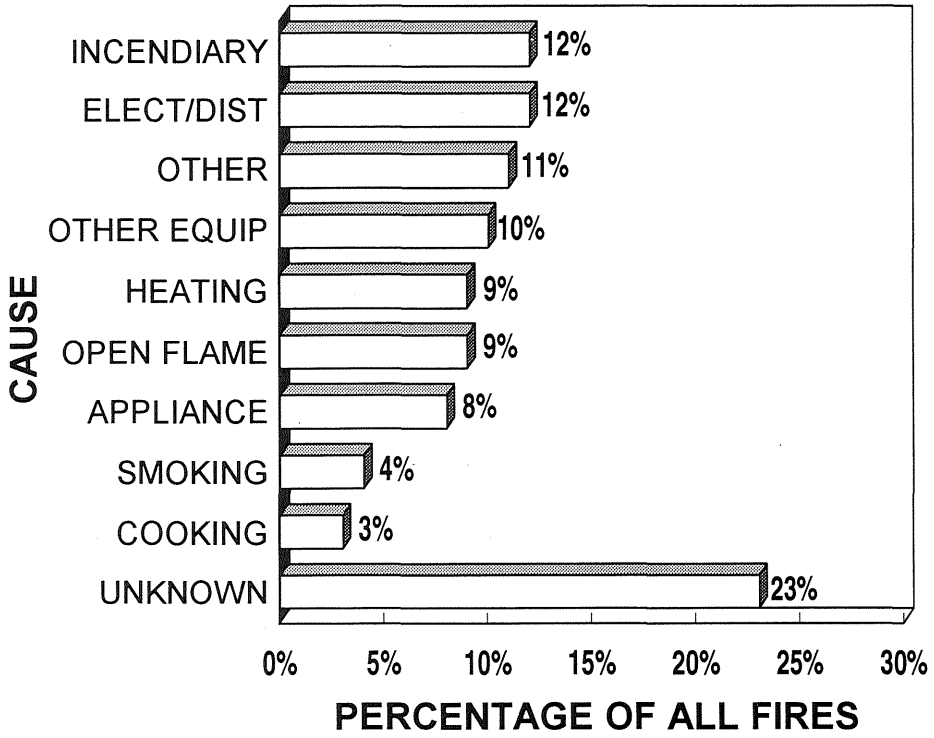
AREA OF FIRE ORIGIN

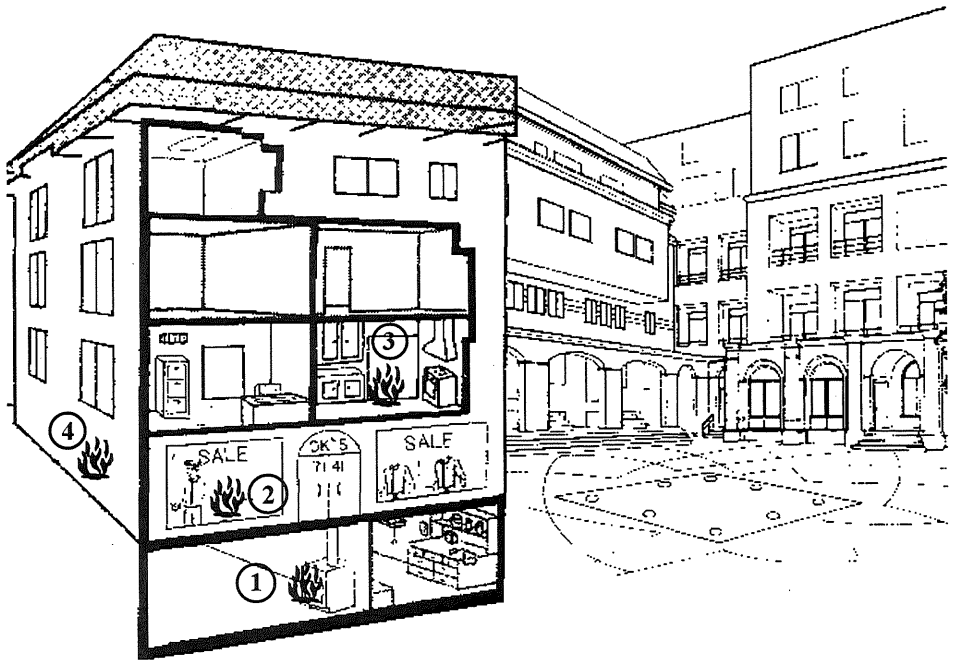
1. Kitchen/Cooking Area 25%
2. Lavatory/Locker Room 7%
3. Exterior Wall Surface 5%

Other Areas of Fire Origin: 63%

STORE AND OFFICE PROPERTY

LEADING FIRE CAUSES





	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	301	7	5	--	--	$13,896,768
% of Total	4%*	4%	2%	--	--	10%

*Percent of structure fires

AREA OF FIRE ORIGIN

1. Maintenance/Shop Area 6%
2. Sales/Showroom Area 5%
3. Lavatory/Locker Room 5%
4. Exterior Wall Surface 5%

Other Areas of Fire Origin: 79%*

***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 fires in Minnesota. These three causes resulted in 15 fire deaths and 113 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 63% of total structure fires) was identified as heating and cooking. Residential fires also accounted for 86% of all fire deaths, 71% of firefighter injuries, and 75% of civilian injuries.

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

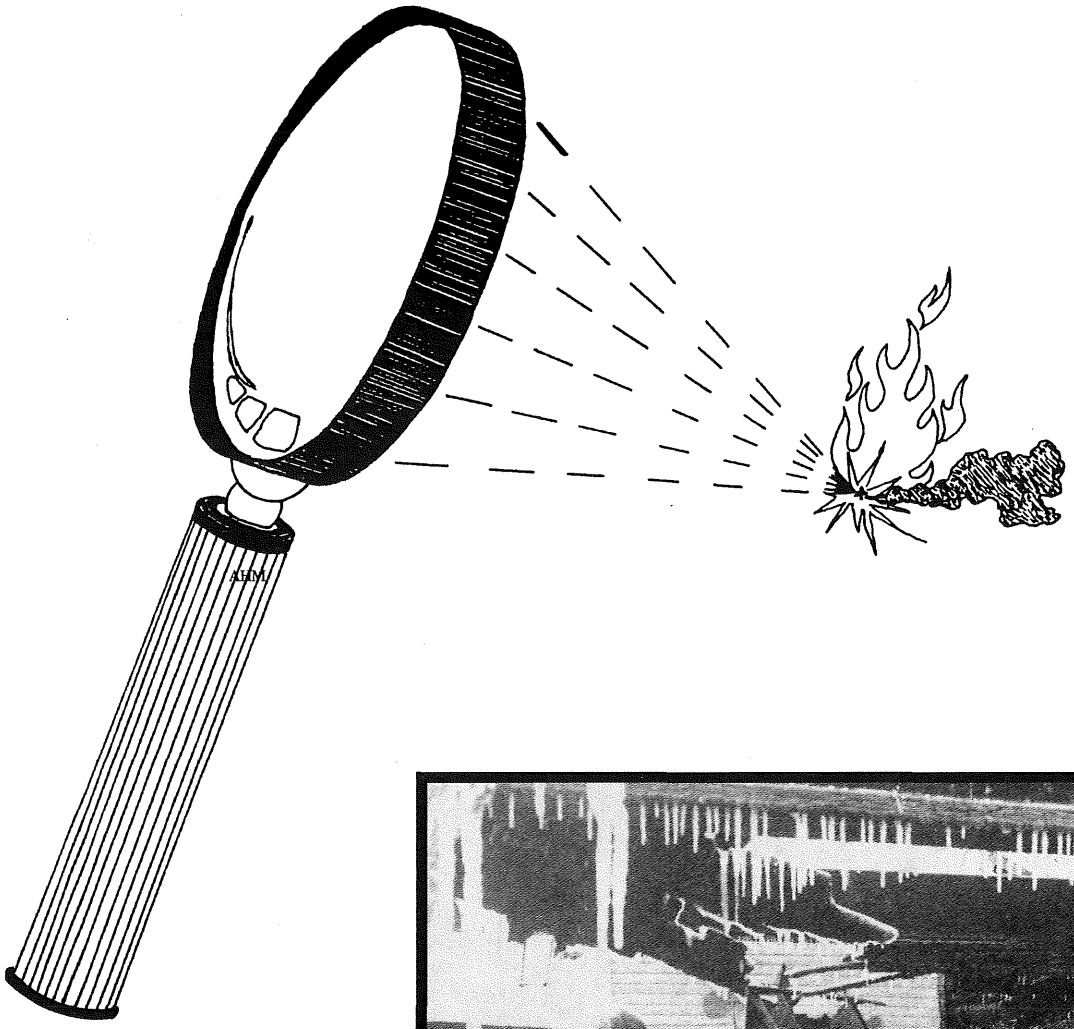
The most dangerous place to be, in regard to fire, continues to be the home. Fire prevention efforts relating to heating and cooking safety in residences must be one of our top priorities.

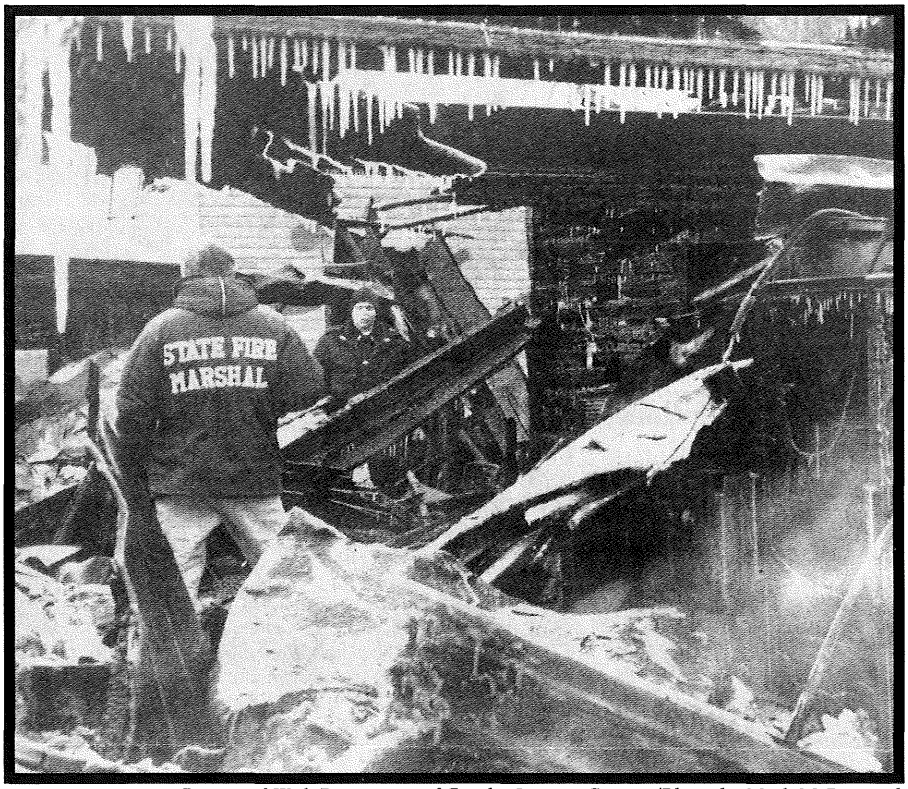
While careless smoking accounts for only 5% of overall fires, it represents 34% of all fire fatalities.

The 1997 National Fire Prevention Week theme is "Know When To Go -- React Fast To Fire!" Fast reaction, especially for escape, may save lives and prevent injuries, but the only way to stop fire is through education.

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

INCENDIARY TRENDS





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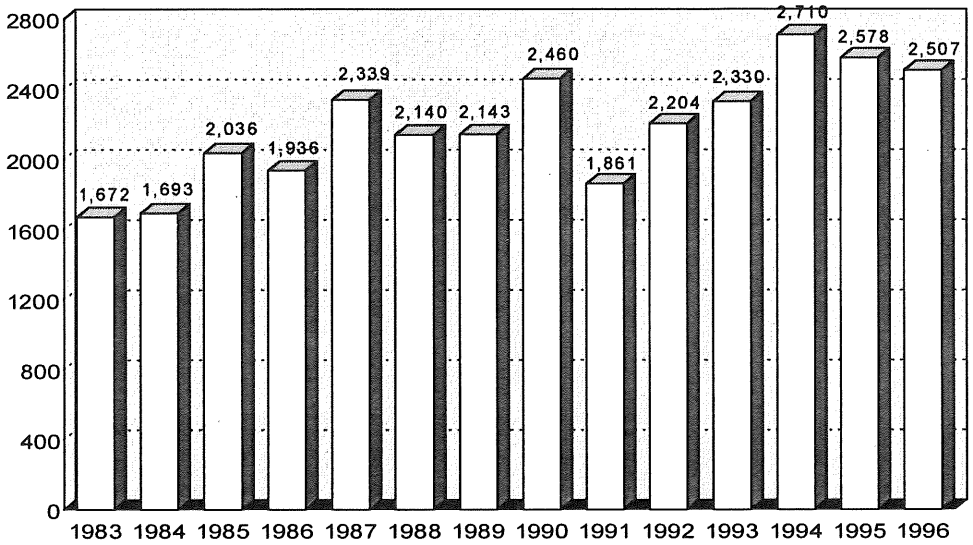
INCENDIARY TRENDS*

In 1996, although slightly decreased, arson fire numbers remained among the top five of the last ten years.

In 1996, arson fires decreased slightly, although arson was still identified as the leading cause of all reported dollar loss from fires in Minnesota. Additionally, 1,336 (20%) fires were reported as undetermined, and experts agree that many of these fires were probably incendiary in nature.

ARSON IN MINNESOTA

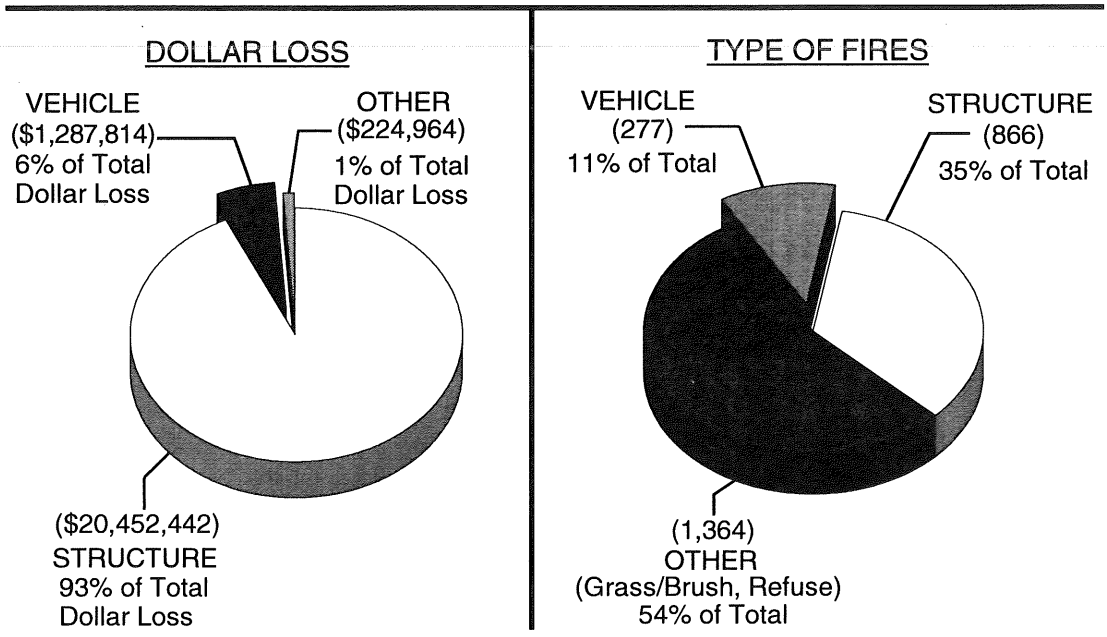


Arson Dollar Loss (In Millions)

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

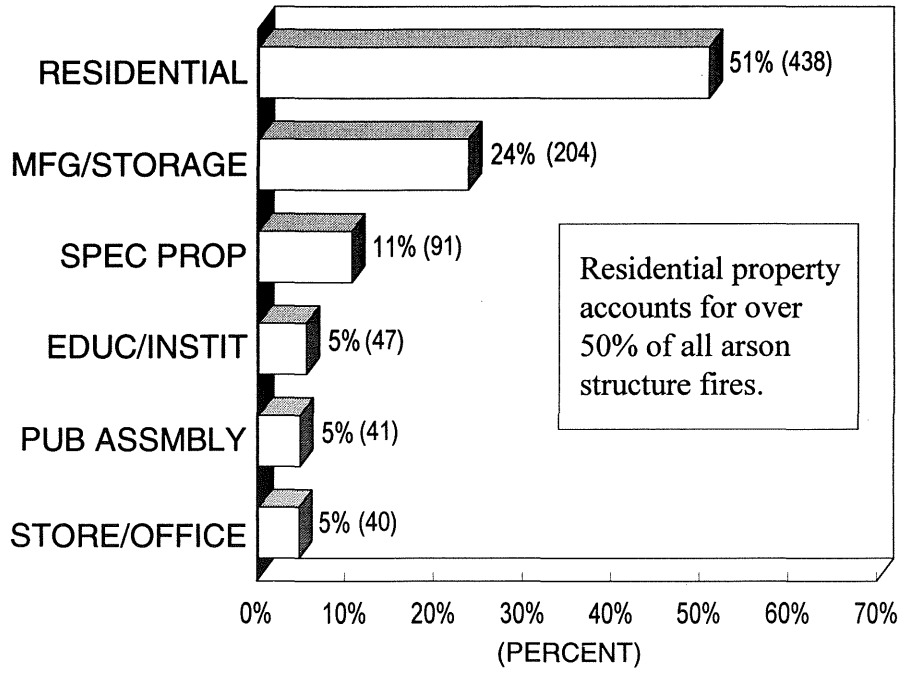
There were a total of 2,507 identified incendiary fires, a 3% decrease from 1995. The value of property destroyed was estimated at nearly $22 million, an increase of 22% from last year. The majority of the incendiary dollar loss (93%) occurred in structures. There were 4 reported fire deaths directly attributable to arson in 1996. Arson fires in vehicles were at an all-time high in 1996 at $1.3 million in loss.

INCENDIARY FIRES BY DOLLAR LOSS AND TYPE



*Does not include incidents from the city of Duluth.

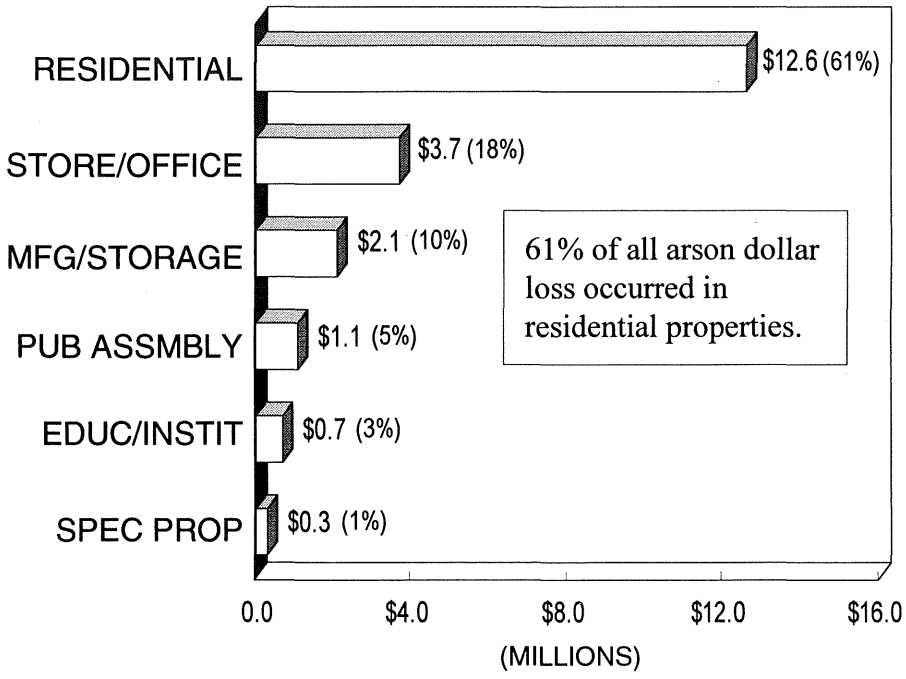
Arson Fire Incidents By Structure Type



Average dollar loss in arson-related residential structure fires is nearly $29,000, compared to $15,000 in all residential structure fires.

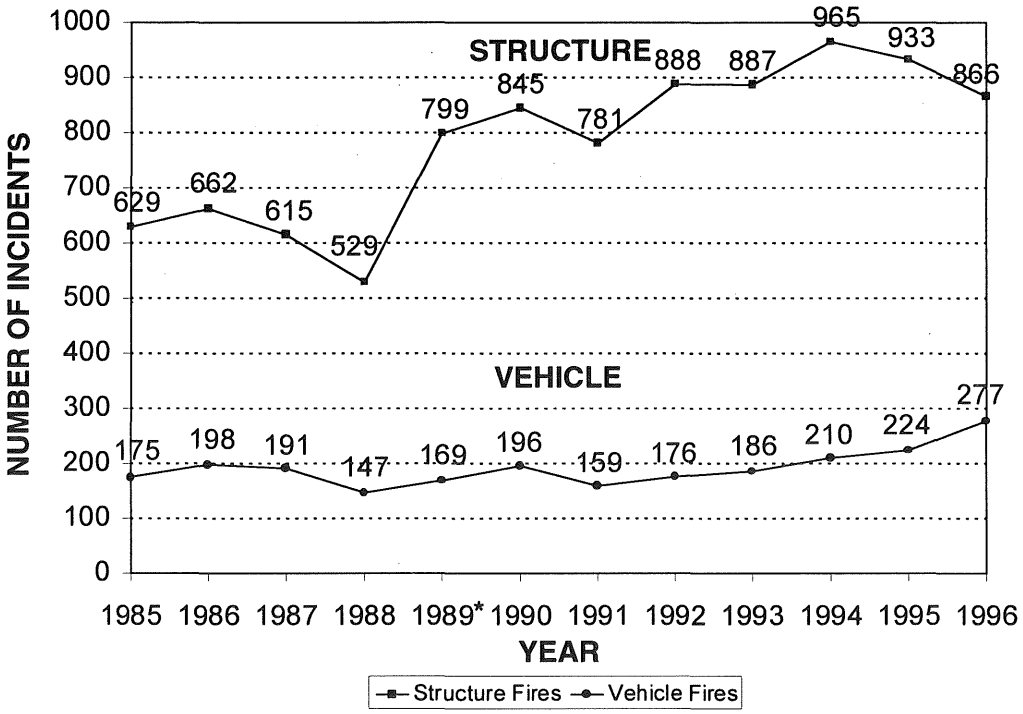
Over half of arson fires in structures (51%) occurred in residential properties, an increase of 2% over 1995. The dollar loss in those properties totalled $12.6 million or 62% of all arson dollar losses in structures. The average loss for a residential arson fire was nearly $29,000, compared to an average dollar loss of $15,000 for all residential structure fires.

Arson Fire Dollar Loss By Structure Type



Arson Structure Fires by Time of Day	
0001-0400	*209*
0401-0800	*104*
0801-1200	*73*
1201-1600	*113*
1601-2000	*144*
2001-2400	*216*
Time - Blank	*7*
Total	***866***

ARSON TREND IN STRUCTURE AND VEHICLE FIRES, 1985-1996



In 1996, arson was listed as the cause of 16% of all reported structure fires with known causes and 5% 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 $4,649. Fire investigators agree that arson vehicle fires are underreported and may not receive the attention that structure fires do.

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

RESIDENTIAL STRUCTURE ARSON FIRES

	1995		1996		
Property Type	**Incidents**	**Dollar Loss**	**Incidents**	**Dollar Loss**	**% of Total Dollar Loss**
One-Two Family Dwelling	294	$7.1M	304	$8.0M	63%
Apartment/Tenement/Flat	134	$3.6M	118	$4.6M	37%
Other Residential Occupancy	6	$.060M	3	$.002M	<1%
Hotel/Motel/Inn/Lodge	16	$.120M	5	$.003M	<1%
Dormitories	8	$.002M	6	<$.001M	<1%
Rooming/Boarding/Lodging/Housing	2	$.025M	2	$.035M	<1%
TOTAL	**460**	**$10.9M**	**438**	**$12.6M**	**100%**

When we look at overall fires, we find residential structures are at greatest risk. These same structures are also at greatest risk from arson. The 438 residential arson incidents reported in 1996 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.

County	Arson Incidents	Arson Fires/ 100,000 Pop.	Arson Dollar Loss
Aitkin	7	56	$169,700
Anoka	288	118	$2,390,997
Becker	17	61	$138,500
Beltrami	24	70	$954,700
Benton	0	0	$0
Big Stone	0	0	$0
Blue Earth	49	91	$137,410
Brown	14	52	$21,500
Carlton	25	85	$215,125
Carver	33	69	$209,242
Cass	11	50	$579,500
Chippewa	5	38	$42,000
Chisago	3	10	$75,000
Clay	15	30	$21,500
Clearwater	2	24	$23,000
Cook	1	26	$20,000
Cottonwood	3	24	$835,050
Crow Wing	27	61	$469,250
Dakota	230	84	$567,556
Dodge	2	13	$0
Douglas	8	28	$20,412
Faribault	2	12	$1,000
Fillmore	3	14	$60,000
Freeborn	19	57	$18,245
Goodhue	37	91	$42,300
Grant	0	0	$0
Hennepin	585	57	$8,171,885
Houston	1	5	$0
Hubbard	2	13	$30,500
Isanti	4	15	$105,000
Itasca	21	51	$182,500
Jackson	1	9	$500
Kanabec	5	39	$66,500
Kandiyohi	19	49	$163,603
Kittson	0	0	$0
Koochiching	6	37	$67,000
Lac Qui Parle	1	11	$10,000
Lake	4	38	$152,700
Lake of the Woods	0	0	$0
LeSueur	3	13	$100,100
Lincoln	0	0	$0
Lyon	6	24	$2,000
McLeod	10	31	$9,650
Mahnomen	0	0	$0
Marshall	10	91	$1,000
Martin	3	13	$1,200
Meeker	8	38	$25,000
Mille Lacs	9	48	$33,300
Morrison	1	3	$1,900
Mower	9	24	$4,201
Murray	2	21	$4,125
Nicollet	9	32	$4,850
Nobles	4	20	$10,100
Norman	7	88	$8,000
Olmsted	64	60	$113,305
Ottertail	14	28	$163,630
Pennington	5	38	$5,000
Pine	8	38	$249,040
Pipestone	4	38	$103,500
Polk	20	62	$120,550
Pope	5	47	$200,050
Ramsey	367	76	$2,013,114
Red Lake	0	0	$0
Redwood	1	6	$0
Renville	0	0	$0
Rice	35	71	$280,101
Rock	1	10	$0
Roseau	1	7	$5,000
**St. Louis	117	59	$752,410
Scott	53	92	$100,768
Sherburne	22	52	$558,600
Sibley	0	0	$0
Stearns	55	46	$144,576
Steele	20	65	$82,650
Stevens	1	9	$0
Swift	2	19	$50,000
Todd	4	17	$0
Traverse	1	22	$1,000
Wabasha	5	25	$124,000
Wadena	2	15	$83,900
Waseca	15	83	$142,076
Washington	75	51	$359,204
Watonwan	2	9	$60,000
Wilkin	1	13	$0
Winona	24	50	$42,080
Wright	27	39	$18,065
Yellow Medicine	1	9	$25,000
TOTAL	**2,507**	**59**	**$21,965,220**

* Based on data received from 690 departments. See pages 43-50 for MFIRS participation by county.
**Does not include data from Duluth.

JUVENILE FIRE SETTING

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

Children playing with fire resulted in $3.5 million in property loss in 1996. This is a 6% increase over 1995, and a very significant property loss. These fires resulted in an average dollar loss per fire of $7,100 each. This average dollar loss per fire is a 27% increase over the average for 1995. There was one fatality due to children playing with fire. Additionally, 13 injuries to civilians and 8 injuries to firefighters were a direct result of child-set fires.

Fires Involving Children Playing With Fire

	1996
Fires	491
Deaths	1
Civilians Injured	13
Firefighters Injured	8
Dollar Loss	$3.5 Million

Over the past eight years, 4,431 child-set fires accounted for $24.4 millions in property damage, 30 fire deaths and 241 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 initiative 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.

SUMMARY

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

The average dollar loss in a residential arson fire in 1996 was nearly $29,000 per incident, compared to $15,000 per incident in all residential fires.

Over half of all arson structure fires were in residential type dwellings where people sleep. These fires accounted for 61% of dollar loss from arson.

Of educational facility fires, 49% were determined to be deliberately set.

In the past eight years, arson-related fires caused 23 deaths and over $164 million in property loss. Arson prevention must continue to be a priority; arson kills, maims, and destroys at an alarming rate. **It is a crime against every Minnesotan.**

Fire Deaths and Smoke Detector Performance

Fire deaths down by 42% in 1996.

Fire deaths decreased dramatically in 1996. No large loss-of-life fires or significant numbers of multiple fire deaths occurred. Even so, 43 Minnesotans (86%) lost their lives in residential settings. These figures represent a 36% decrease in deaths in residential dwellings. In 53% of the dwelling fatalities, smoke detectors were either non-operating or absent altogether. In another 21% of the dwelling cases, it is not known whether a smoke detector was present or operating.

FIRE DEATHS IN RESIDENTIAL DWELLINGS

	Fatalities	% of Dwell. Fires	% of Total Deaths
No Smoke Detectors Present	13	30%	26%
Inoperable Smoke Detectors Present	10	23%	20%
Working Smoke Detectors Present	7	16%	14%
Unk. if Detectors Present/Working	9	21%	18%
Not a Factor/Suicides, Explosions	4	9%	8%
Total Deaths in Dwellings	**43**	**100%**	**86%**
Other Fire Deaths (not in dwellings)	7	--	14%
Total Fire Deaths	**50**	**--**	**100%**

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

	Fatalities	Percent
Elderly/Mobility Impaired	3	43%
Alcohol or Drug Impaired	2	29%
Irrational Action	1	14%
Unknown	1	14%
TOTAL	**7**	**100%**

In 53% 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 for the reasons listed above.

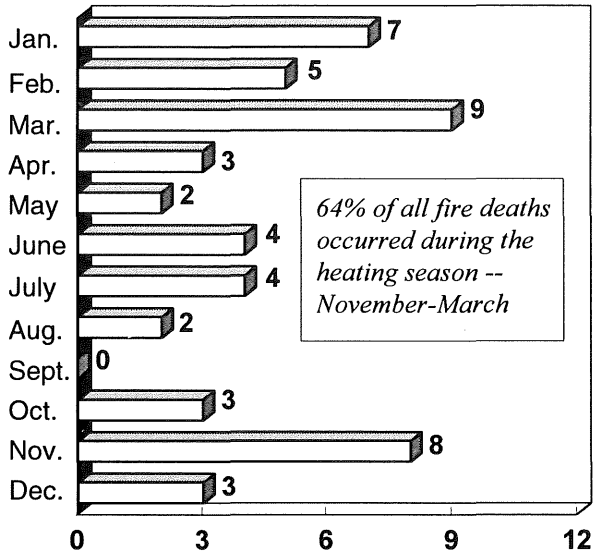
CIVILIAN FIRE DEATHS: WHO AND WHEN

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

FIRE DEATHS BY TIME OF DAY

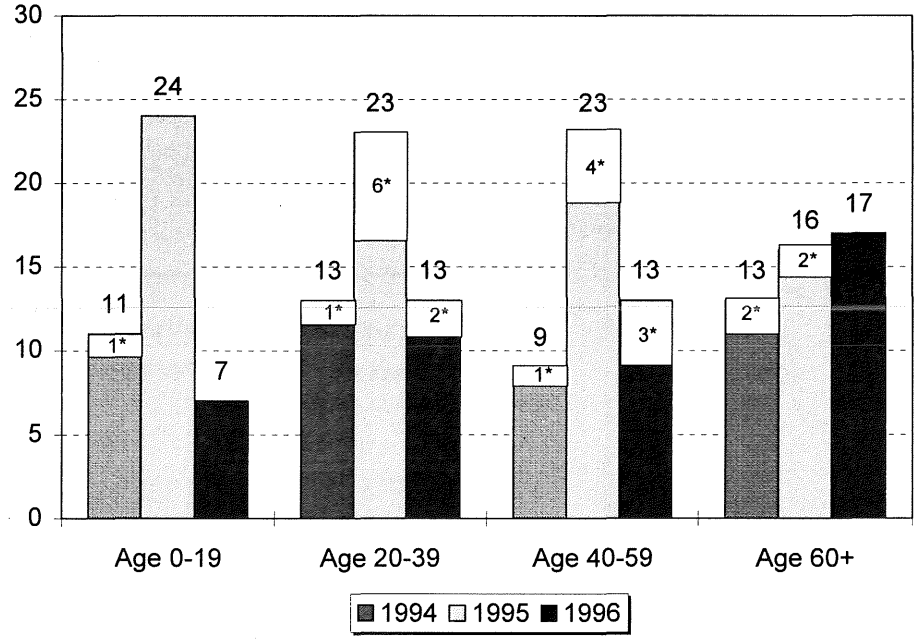
	TOTAL	0000-0600	0600-1200	1200-1800	1800-2400
Careless Smoking	17	9	5	1	2
Wood Heating	6	3	1	0	2
Flam. Liquid Use	5	1	0	2	2
Arson	4	3	0	0	1
Electrical Malfunct.	2	0	1	1	0
Vehicle	3	1	2	0	0
Cooking	2	1	1	0	0
Suicide	2	0	1	0	1
Combust. Too Close	3	1	2	0	0
Child Play	1	0	0	0	1
Other	3	1	1	0	1
Undetermined	2	1	0	1	0
Total	**50**	**21**	**14**	**5**	**10**

FIRE DEATHS BY MONTH



Alcohol/Drug impairment appeared in 85% of the fire deaths in the 20-39 age group.

FIRE DEATHS BY AGE

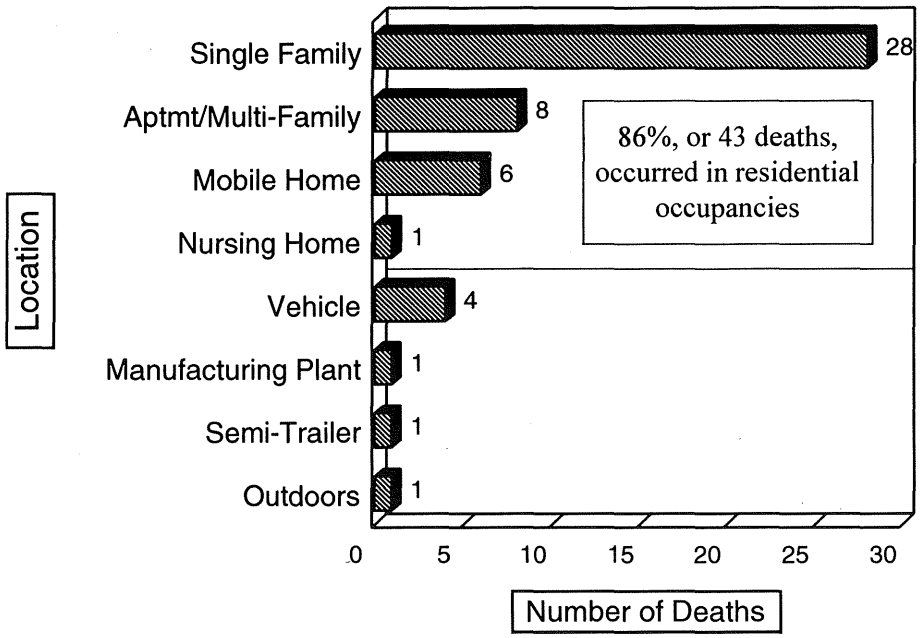


*Fire deaths listed as suicides or motor vehicle fire incidents.

In 1996, fire deaths in the 20-59 year-old age group showed high numbers of alcohol/drug impairment. Eighty-five percent of the 20-39 age group, and 67% of the 40-59 year-olds showed a BAL significant enough to impair their escape from a fire. Fire deaths in the elderly population has increased steadily for the past three years. This is an alarming trend that must be addressed. The 0-19 age group experienced a dramatic decrease in fire deaths -- it is at an all-time low!

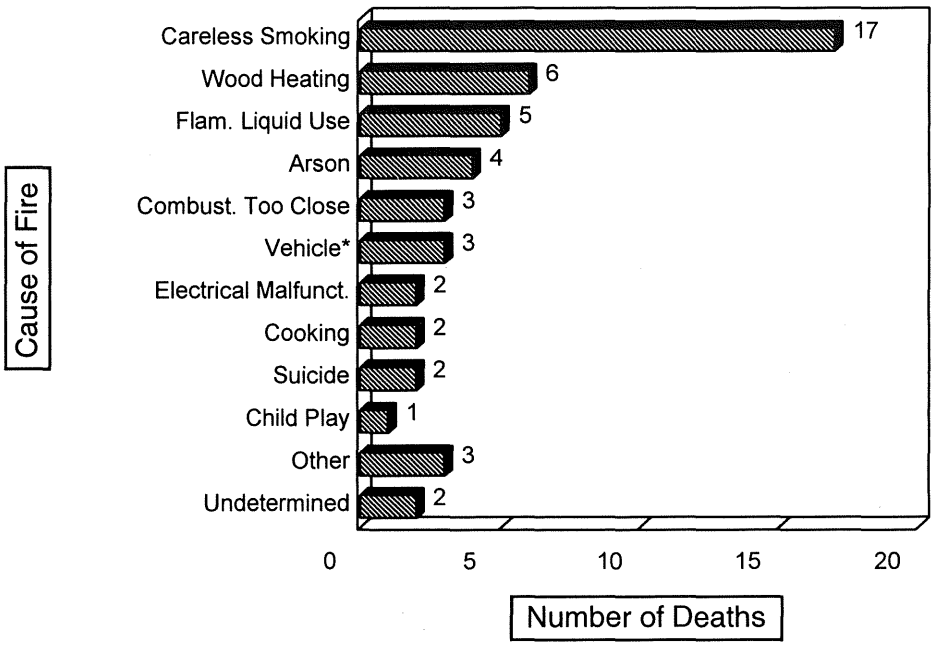
CIVILIAN FIRE DEATHS: WHERE AND WHY

86% of fire deaths occurred in residential property.



Careless smoking was identified as the cause of 34% of all fire deaths. Nearly 65% of those careless smoking deaths were also alcohol-related.

Eighty-six percent of the 1996 fire deaths occurred where people generally feel safest - at home. Careless smoking, wood heating, and careless use of flammable liquids were the three major causes of fire in these deaths.



*One vehicle death was counted in suicide category.

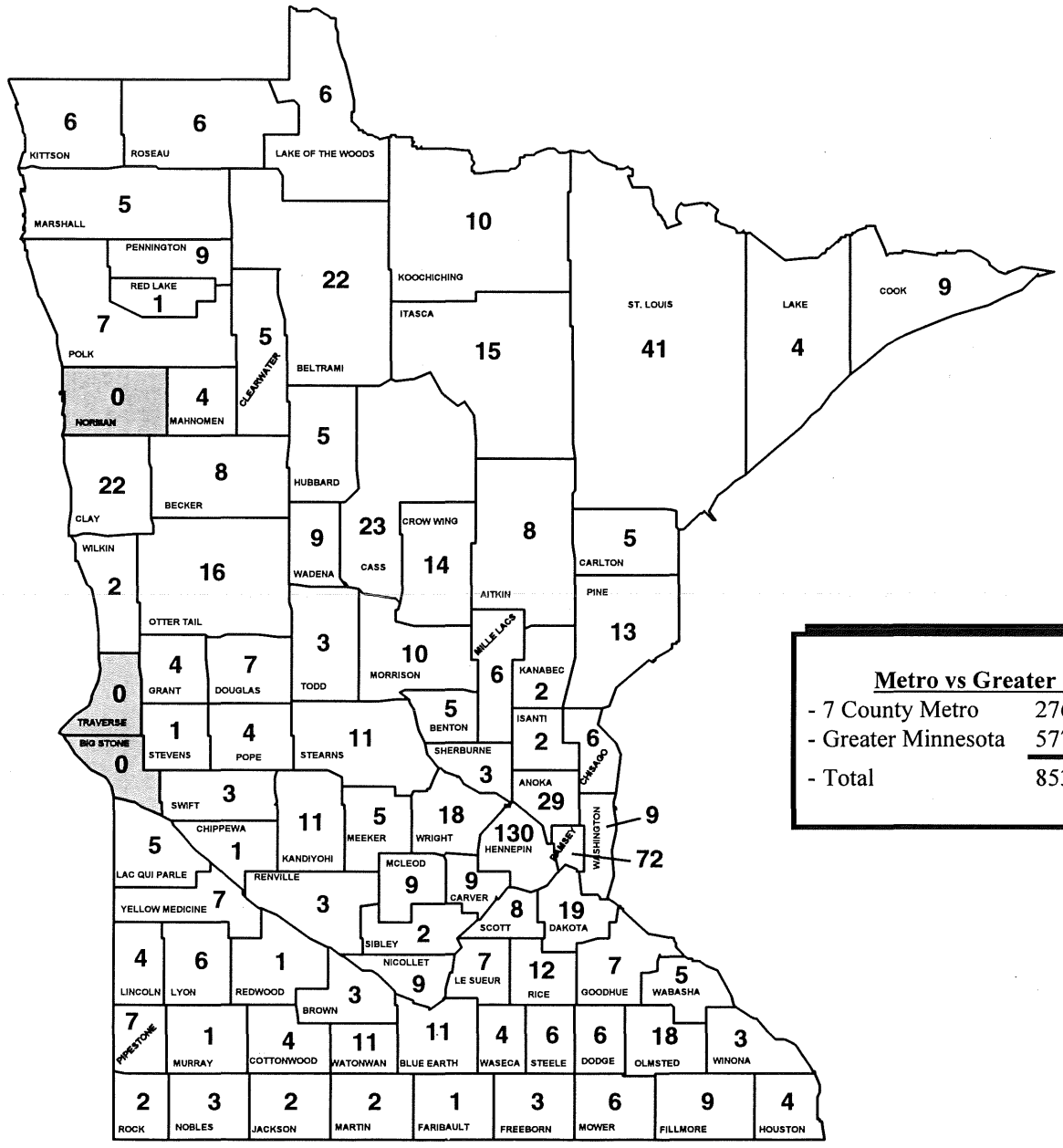
Alcohol/Drugs was clearly a factor in 44% of all fire deaths.

Careless smoking was the largest single identified fire cause where a fire death occurred (34%). Alcohol or other drug use was present or identified as an impairing factor in 44% of all fire deaths (22 deaths) and nearly 65% in fire deaths attributed to careless smoking.

Civilian Death Rates

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

In the past 13 years, 853 Minnesota civilians have died in fires (see distribution by county below). During that time, fire deaths in greater Minnesota have outpaced those in the seven county metro area by a rate of two to one. In 1996, greater Minnesota contained 49% of the state's population and experienced a per capita death rate of 1.6 for every 100,000 people. The per capita rate for the metro area in 1996 was 1 per 100,000, while the rate for the state as a whole was 1.1 per 100,000, compared to a national rate of 1.9 per 100,000 for the same period. (The United States consistently has among the highest per capita death rates in the world.) Three counties in the state have remained fatality free for 13 years. They are Norman, Traverse, and Big Stone.



Metro vs Greater MN

- 7 County Metro	276	32%
- Greater Minnesota	577	68%
- Total	853	100%

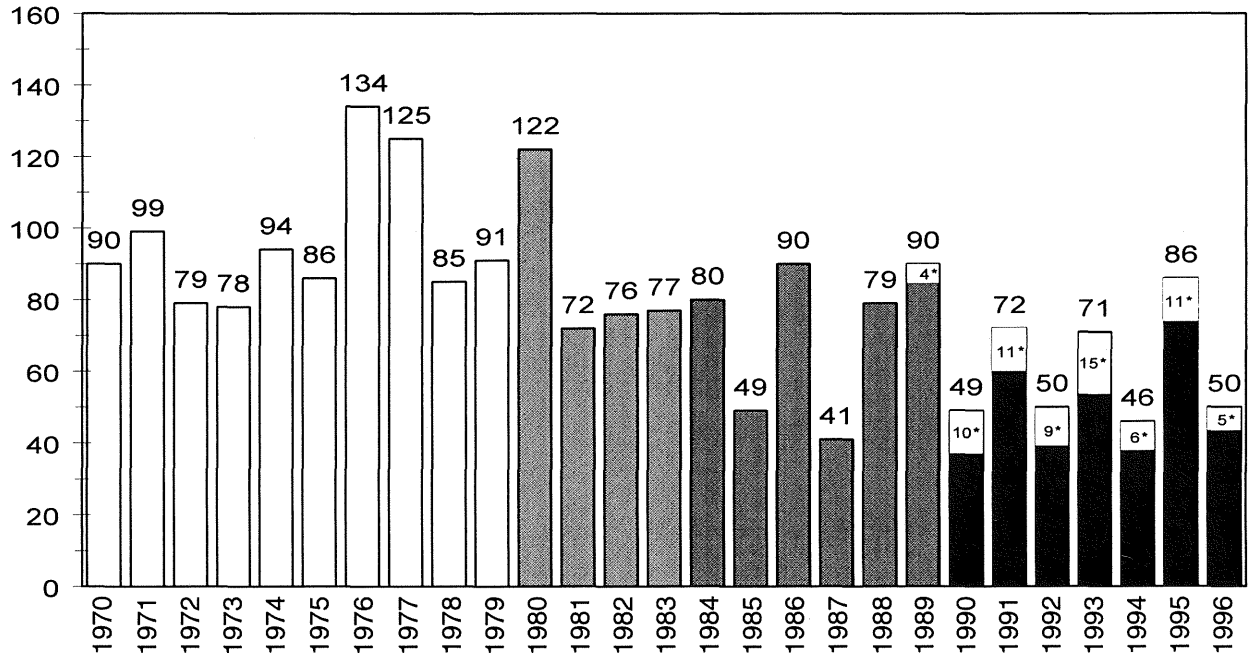
20 YEARS OF FIRE DEATH HISTORY

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 seven years of this decade, from January, 1990 through December, 1996, 424 Minnesotans have died in fires. Should this rate continue, the decade of the nineties will see a 22% decrease in fire deaths from the eighties.

1970's	*961 deaths*
1980's	*776 deaths*
1990's	*605 deaths (projected)*

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 - 1996



*Number of vehicle/suicide fires.

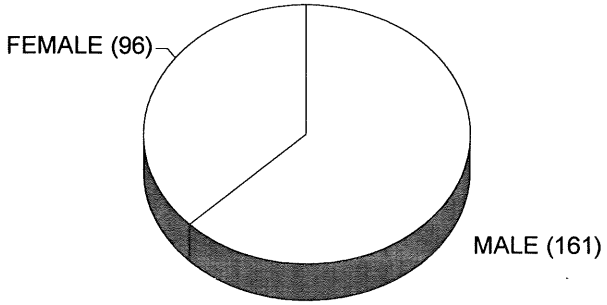
Since August 1, 1993, smoke detectors have been required in every dwelling in Minnesota that has a sleeping area.

Legislation passed by the 1993 Legislature contributed to this downward trend in fire fatalities. Since August 1, 1993, smoke detectors have been 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 1996, 257 civilians were injured in Minnesota fires. Injuries to males nearly outnumbered those to females by 2 to 1.

In 1996, 257 civilian injuries were reported through the MFIRS system, a 23% decrease from 1995. The numbers do not represent the actual number of fire injuries occurring in the state, as it includes only those victims who have direct contact with the fire department. Many burn victims are taken to emergency rooms by private car or ambulance.



AGE OF VICTIM	NO. OF VICTIMS
0-19	55
20-39	80
40-59	40
60-OVER	21
UNREPORTED	61
TOTAL	**257**

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

ACTIVITIES FOR ALL INJURIES

Activity	#	%
Fire Control	87	34%
Escape	40	16%
Sleeping	30	12%
Unable to act	12	5%
Rescue attempt	10	4%
Irrational act	9	4%
Other	28	11%
Unkn/unrep	41	16%
	257	100%

People trying to control the fire accounted for 34% of all injuries, indicating a need to educate people on how to react to a fire.

ACTIVITIES FOR 20-39 YEAR OLDS

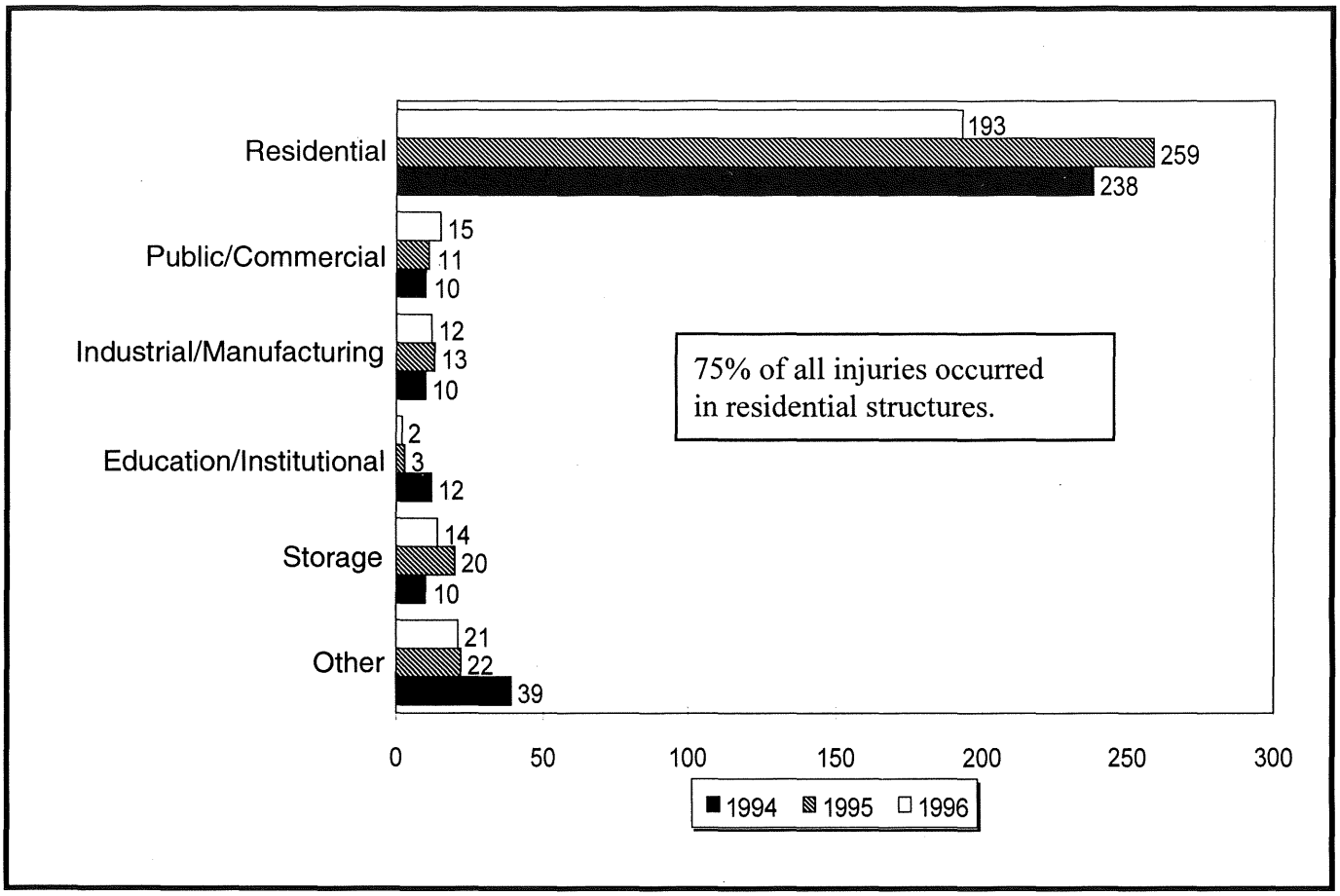
Activity	#	%
Fire Control	29	36%
Escape	14	18%
Sleeping	8	10%
Rescue attempt	8	10%
Unable to act	4	5%
Irrational act	2	3%
Other	9	11%
Unkn/unrep	6	8%
	80	100%

Thirty-four percent of all injuries were to people trying to control or extinguish the fire.

CIVILIAN INJURIES BY ACTIVITY AND STRUCTURE

	Residential	Educ/Inst	Pub/Comm	Indus/Manu	Storage	Other
Fire Control	59	--	5	6	7	10
Escaping	37	--	1	1	1	--
Sleeping	30	--	--	--	--	--
Other	11	1	5	3	2	6
Rescue Attempt	10	--	--	--	--	--
Unable to Act	10	--	1	1	--	--
Irrational Action	6	1	--	--	1	1
Unknown	30	--	3	1	3	4
TOTAL	**193**	**2**	**15**	**12**	**14**	**21**

CIVILIAN INJURIES BY PROPERTY TYPE



FIREWORKS INJURIES

In the last eight years, 307 people have been seriously injured by illegal fireworks. Fifty-nine percent (59%) of these are children. During the same period, over $1 million in property was destroyed. More than half of the incidents, and the majority of property damage each year, occur during June and July. From 1989 - 1996, 78% of those seriously injured were male. Forty-three percent (43%) 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, *fireworks losses since 1989 caused:*

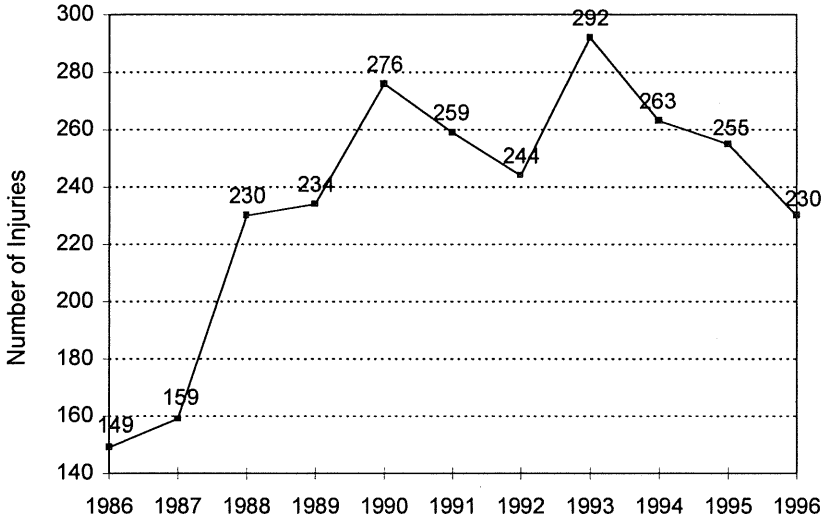
- *over $1 million loss*
- *307 injured*
- *59% of injuries were children*

FIREFIGHTER INJURIES

Firefighter injuries have declined steadily since 1993. In 1996, 230 Minnesota firefighters were injured while responding to, involved in, or returning from emergency situations (a 13% decrease from 1995). Of these 230 injuries, 173 were directly fire related. (This does not include injuries that occur during training or at the stations.) Seventy-one percent of these injuries occurred while firefighters were fighting residential structure fires.

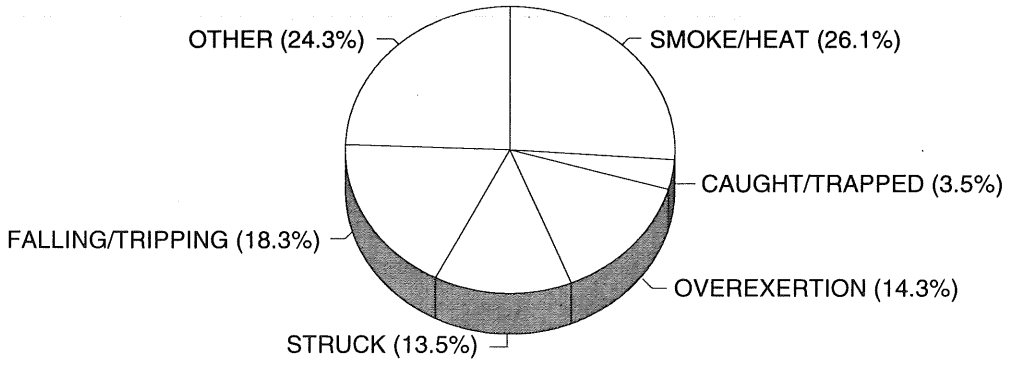
Of the 230 firefighter injuries, 173 (75%) occurred in the course of fighting fires.

TEN-YEAR HISTORY OF MINNESOTA FIREFIGHTER INJURIES



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

MINNESOTA FIREFIGHTER INJURIES: CAUSES



Exposure to smoke and heat accounted for 26.1% of the injuries. Falling or tripping also caused 18.3% of Minnesota firefighter injuries. These percentages are comparable with national averages.

SUMMARY

Clearly, Minnesotans are most at risk from fire death and injury at home. **Eighty-six percent of the state's fire deaths and 75% of civilian injuries in 1996 occurred in residential occupancies.**

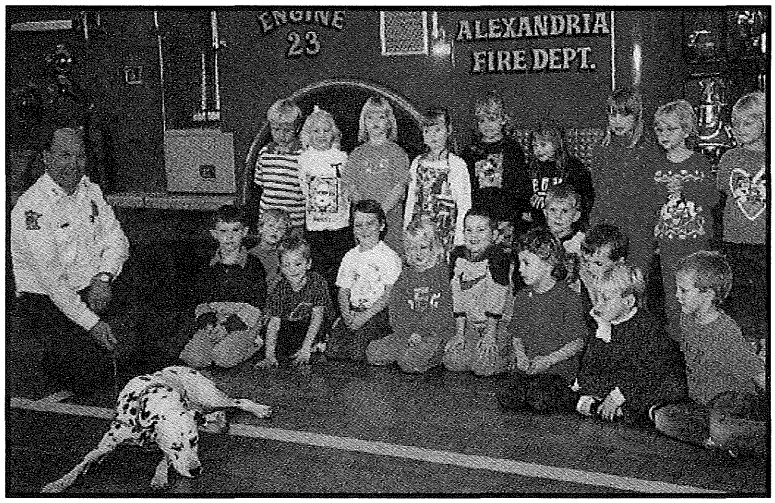
The presence or absence of working smoke detectors in dwellings is a critical factor in fire fatalities. In 74% of the 43 fire fatalities occurring in dwellings, either no smoke detectors were present, or they were present but not working, or it was not known whether detectors were present or functioning.

Six residential fires resulted in the death of thirteen Minnesotans, four of whom were children.

Careless smoking (34%), again, was the leading cause of fire deaths in 1996. Alcohol or other drug use was an impairing factor in 44% of all fire deaths; these fires resulted in 22 fatalities.

Three-fourths of all fire-related civilian injuries were sustained in residential dwellings. Over a third of all civilian fire injuries occurred during attempts to control the fire. **Seventy-one percent of firefighter injuries occurred in the course of battling residential fires.**

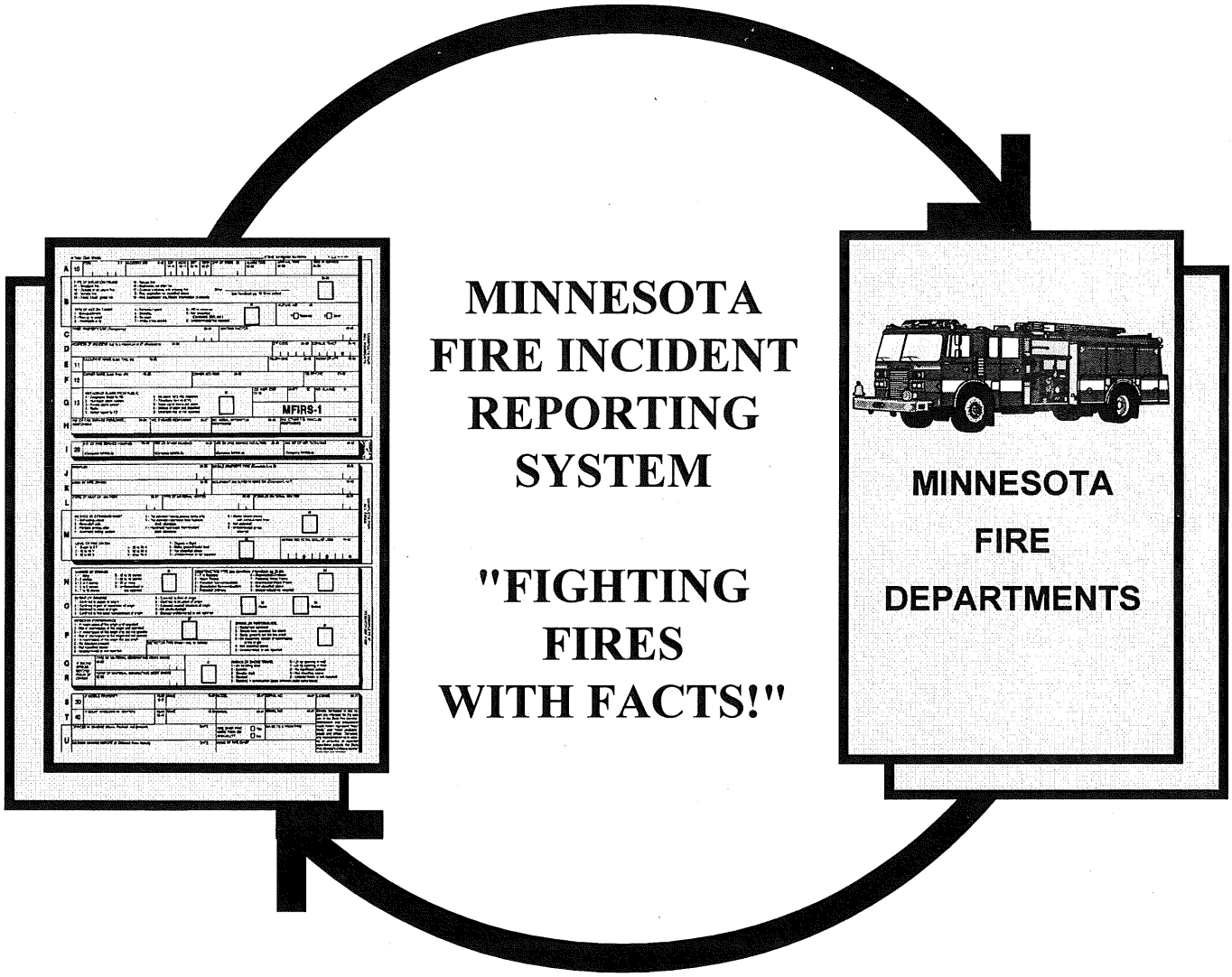
Since 1984, fire deaths in greater Minnesota have outpaced those in the metro area at a rate of two to one. Overall, fire deaths have decreased over the past twenty years, even as Minnesota's population has grown. Total fire deaths during the eighties reflected a 19% drop from the seventies. If current trends continue, the decade of the nineties will see a 22% decrease in fire deaths. However, many preventable tragedies continue to occur. **Prevention efforts, particularly those targeting the home, children, and families are essential to reducing this needless tragic loss.**



Champion Dennis Stark, Fire Marshal in Alexandria, MN, rewards students who have successfully completed the LNTB program with a visit to the fire station.

Casualties 1996

PARTICIPATION



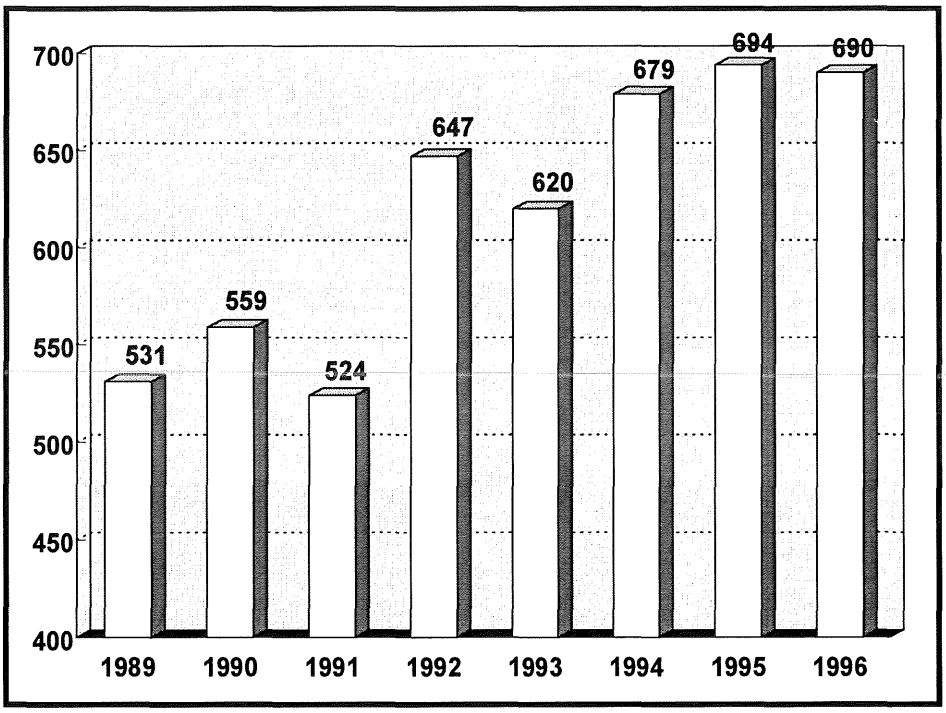
PARTICIPATION - Minnesota Fire Incident Reporting System

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

The Minnesota State Fire Marshal Division appreciates the efforts of the fire departments who submitted MFIRS reports in 1996. 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 1992 - 1996 is listed on the following pages. Departments are listed by county, with the total percent of those reporting in 1996 indicated. In 33 counties (over 1/3 of all counties), 100% of the fire departments reported to the MFIRS system.

FIRE DEPARTMENTS' MFIRS PARTICIPATION



Participation in MFIRS decreased in 1996 with a net loss of four reporting departments. 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

92	93	94	95	96	
*	*	*	*	*	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

(6) - 100% Reporting

92	93	94	95	96	
	*	*	*	*	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
		*		*	SKYLINE
*	*	*	*	*	SOUTH BEND
*	*	*	*	*	ST CLAIR
*	*		*		Vernon Center

BROWN COUNTY

60% Reporting

92	93	94	95	96	
*	*	*	*	*	COMFREY
*	*	*	*	*	NEW ULM
*		*	*	*	SLEEPY EYE
					Hanska
		*			Springfield Vol

CARLTON COUNTY

86% Reporting

*	*	*	*	*	BARNUM VOL
*	*	*	*	*	BLACKHOOF
*	*	*	*	*	CARLTON VOL
*	*	*	*	*	CLOQUET
*	*	*	*	*	CROMWELL VOL
*	*	*	*	*	HOLYOKE VOL
*	*	*	*	*	KETTLE RIVER
	*	*	*	*	MAHTOWA
*	*	*	*	*	PERCH LAKE VOL
*	*	*	*	*	SCANLON VOL
*	*	*	*	*	THOMSON TWP
*	*	*	*	*	WRENSHALL
*	*	*	*		Moose Lake
*	*	*	*		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.

CASS COUNTY
91% Reporting

92 93 94 95 96
* * * * * BACKUS VOL
* * * * * CASS LAKE
* * * * CROOKED LAKE VOL
* * * FEDERAL DAM
* * * * * HACKENSACK AREA
* * * * * LONGVILLE VOL
* * * * * PILLAGER AREA
* * * * * PINE RIVER
* * * * * REMER
* * * * WALKER
Bena

CHIPPEWA COUNTY
(5) - 100% Reporting

* * * * * CLARA CITY
* * * * * MAYNARD
* * * MILAN
* * * * * MONTEVIDEO
* * * * * WATSON

CHISAGO COUNTY
73% Reporting

* * * * * CENTER CITY
* * CHISAGO CITY
* * * * * HARRIS
* * * * * LINDSTROM
* * * * * NORTH BRANCH
* * * * * RUSH CITY
* * * * STACY
* * * * * WYOMING
* * * * Almelund
* * * * Shafer
* * Taylors Falls

CLAY COUNTY
78% Reporting

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

CLEARWATER COUNTY
50% Reporting

92 93 94 95 96
* * * * * BAGLEY
* BEAR CREEK
* * * * * CLEARBROOK
* Gonvick
* * Hangaard Twp
* * Shevlin

COOK COUNTY
50% Reporting

* * * * * GUNFLINT TRAIL
* * * * * HOVLAND
* * * LUTSEN TWP VOL
* * * * * TOFTE
Grand Marais Vol
Grand Portage
* Maple Hill
* * * Schroeder

COTTONWOOD COUNTY
(5) - 100% Reporting

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

CROW WING COUNTY
(14) - 100% Reporting

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

DAKOTA COUNTY
(14) - 100% Reporting

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

DODGE COUNTY
(6) - 100% Reporting

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

DOUGLAS COUNTY
(11) - 100% Reporting

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

FARIBAULT COUNTY
(11) - 100% Reporting

92	93	94	95	96	
*	*	*	*	*	BLUE EARTH
*	*	*	*	*	BRICELYN
*	*	*	*	*	DELAVAN VOL
*	*	*	*	*	EASTON VOL
		*	*	*	ELMORE
*	*	*	*	*	FROST
*	*	*	*	*	KIESTER
*	*	*		*	MINNESOTA LAKE
*	*	*	*	*	WALTERS VOL
*	*	*	*	*	WELLS
*	*	*	*	*	WINNEBAGO VOL

FILLMORE COUNTY
(11) - 100% Reporting

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

FREEBORN COUNTY
63% Reporting

*	*	*	*	*	ALBERT LEA
*	*	*	*	*	ALBERT LEA TWP
			*	*	ALDEN
*			*	*	EMMONS
		*	*	*	FREEBORN
*	*	*	*	*	HARTLAND
*	*	*	*	*	LONDON
*	*	*	*	*	MANCHESTER
		*	*	*	MYRTLE
				*	TWIN LAKES
					Clarks Grove Vol
		*			Conger
	*		*		Geneva
					Glenville
*		*			Hayward
*	*	*	*		Hollandale

GOODHUE COUNTY
75% Reporting

92	93	94	95	96	
*	*	*	*	*	CANNON FALLS
*	*		*	*	DENNISON
*	*	*	*	*	GOODHUE
*	*	*	*	*	PINE ISLAND
*	*	*	*	*	RED WING
*	*	*		*	ZUMBROTA
					Kenyon
*	*				Wanamingo

GRANT COUNTY
(6) - 100% Reporting

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

HENNEPIN COUNTY
(32) - 100% Reporting

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

92	93	94	95	96	
*	*	*	*	*	ST ANTHONY
*	*	*	*	*	ST BONIFACIUS
*	*	*	*	*	ST LOUIS PARK
*	*	*	*	*	WAYZATA

HOUSTON COUNTY
86% Reporting

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

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
94% Reporting

*	*	*	*	*	BALSAM VOL
		*	*	*	BEARVILLE TWP
				*	BIGFORK VOL
*	*	*	*	*	BOVEY
*	*	*	*	*	CALUMET
*	*	*	*	*	COHASSET
*	*	*	*	*	COLERAINE
*	*	*	*	*	DEER RIVER
*	*	*	*	*	GOODLAND
*	*	*	*	*	GRAND RAPIDS
		*	*	*	KEEWATIN VOL
*	*	*	*	*	MARBLE
*	*	*	*	*	NASHWAUK
*	*	*	*	*	TACONITE
*	*	*	*	*	WARBA
					Squaw Lake

JACKSON COUNTY
80% Reporting

92	93	94	95	96	
	*	*	*	*	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

KITTSON COUNTY
(5) - 100% Reporting

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

KOOCHICHING COUNTY
(6) - 100% Reporting

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

LAC QUI PARLE COUNTY
57% Reporting

92	93	94	95	96	
			*	*	BELLINGHAM
*	*	*	*	*	DAWSON
*		*		*	LOUISBURG
*	*	*	*	*	MADISON
		*			Boyd
*	*				Marietta
*	*	*	*		Nassau

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
60% Reporting

*	*	*	*	*	IVANHOE
*		*	*	*	LAKE BENTON
*	*	*	*	*	TYLER
*		*	*		Arco
		*			Hendricks

LYON COUNTY
90% Reporting

92	93	94	95	96	
*	*	*	*	*	BALATON
*	*	*	*	*	GARVIN
*		*	*	*	GHENT
*	*	*	*	*	LYND
*	*	*	*	*	MARSHALL
*	*	*	*	*	MINNEOTA
*				*	RUSSELL
*	*	*		*	TAUNTON
*	*	*	*	*	TRACY
					Cottonwood

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
	*			*	MIDDLE RIVER
*		*	*	*	NEWFOLDEN
*	*	*	*	*	OSLO
*		*	*	*	STEPHEN
*	*	*	*	*	WARREN
			*		Grygla

92	93	94	95	96	
*	*	*	*	*	COOK
*	*	*	*	*	COTTON VOL
*		*	*	*	CULVER
	*	*	*	*	EAGLES NEST
	*	*	*	*	ELLSBURG
*	*	*	*	*	ELMER
*	*	*	*	*	ELY
*	*	*	*	*	EMBARRASS VOL
*	*	*	*	*	EVELETH
*	*	*	*	*	FAYAL
	*	*	*	*	FLOODWOOD
*	*	*	*	*	FREDENBERG
*	*	*	*	*	FRENCH VOL
				*	GILBERT
*	*		*	*	GNESEN VOL
		*	*	*	GRAND LAKE VL
*	*	*	*	*	GREENWOOD TP
		*	*	*	HERMANTOWN VOL
*	*	*	*	*	HIBBING
*	*	*	*	*	HOYT LAKES
*	*	*		*	INDUSTRIAL VOL
*	*	*	*	*	KABETOGAMA
*	*	*	*	*	KINNEY-GRT SCOTT
*	*	*	*	*	LAKELAND VOL
*	*	*	*	*	LAKEWOOD TWP
*	*	*	*	*	MAKINEN
*	*	*	*	*	MC DAVITT
*		*	*	*	MC KINLEY VOL
*	*	*	*	*	MEADOWLNDS AREA
				*	MORSE VOL
*	*	*	*	*	MOUNTAIN IRON
				*	NORMANNA VOL
*	*	*	*	*	NORTH STAR TWP
*	*	*	*	*	NORTHLAND
*	*	*	*	*	ORR VOL
*	*	*	*	*	PALO TWP
*			*	*	PIKE-SANDY BRITT
*	*	*	*	*	PROCTOR
*	*	*	*	*	RICE LAKE VOL
	*	*	*	*	SILICA AREA
*	*	*	*	*	SOLWAY RURAL
*	*		*	*	TOIVOLA TWP
*	*	*	*	*	TOWER
*	*	*	*	*	VERMILLION LK
*	*	*	*	*	VIRGINIA
*	*	*	*		Brimson Area Vol
	*	*			Buyck Comm Vol
*	*	*	*		Central Lakes Vol
*		*	*		Crane Lake
*	*	*	*		Duluth
*	*	*			Evergreen
					Greaney-Rauch-Slvrdl
*		*	*		Kelsey Vol
					Nett Lake
*			*		Pequaywan Lake
	*	*	*		Sturgeon Twp

SCOTT COUNTY

(7) - 100% Reporting

92	93	94	95	96	
*	*	*	*	*	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

(23) - 100% Reporting

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

92	93	94	95	96	
*	*	*	*	*	SARTELL-LESAUK
*	*	*	*	*	SAUK CENTRE
*	*	*	*	*	WAITE PARK

STEELE COUNTY

75% Reporting

*	*	*	*	*	BLOOMING PRAIRIE
*	*	*	*	*	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

88% Reporting

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

TRAVERSE COUNTY

50% Reporting

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

WABASHA COUNTY

(7) - 100% Reporting

92	93	94	95	96	
*	*	*	*	*	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

93% Reporting

*	*	*	*	*	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
*	*	*	*		Bayport

WATONWAN COUNTY

63% Reporting

92	93	94	95	96	
*	*	*	*	*	DARFUR
		*	*		LEWISVILLE
*	*	*	*	*	MADELIA
*	*	*	*	*	ODIN
				*	ORMSBY
					Butterfield
		*			LaSalle
*	*				St James

WILKIN COUNTY

83% Reporting

*	*	*	*	*	BRECKENRIDGE
*		*	*	*	CAMPBELL
				*	KENT-AMBRCRMBIE
*	*	*	*	*	ROTHSAY
*	*	*	*	*	WOLVERTON
					Foxhome

WINONA COUNTY

92% Reporting

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

WRIGHT COUNTY

86% Reporting

92	93	94	95	96	
*	*	*	*	*	ANNANDALE
*	*	*		*	BUFFALO
*	*	*	*	*	CLEARWATER
*	*	*	*	*	COKATO
	*	*	*	*	DELANO VOL
*		*	*	*	HOWARD LAKE
*	*	*	*	*	MAPLE LAKE
*	*	*		*	MONTICELLO
*	*	*	*	*	MONTROSE
*	*	*	*	*	ROCKFORD
*	*	*	*	*	SOUTH HAVEN
*	*	*	*	*	WAVERLY
*	*	*	*		Albertville
*	*	*			St Michael

YELLOW MEDICINE COUNTY

75% Reporting

		*	*	*	CANBY
*	*	*	*	*	ECHO
	*	*		*	GRANITE FALLS
*	*	*	*	*	HANLEY FALLS
*	*	*	*	*	PORTER
	*	*	*	*	WOODLAKE
*	*	*	*		Clarkfield
					St Leo

Thirty-nine departments began participating in 1996.

We welcome in and welcome back the following departments reporting in 1996:

Bigfork Vol.
Birchdale Rural
Borup
Buffalo
Canosia Vol.
Canton
Cosmos
Crooked Lake Vol.
Fifty Lakes
Gilbert
Granite Falls
Hokah Vol.
Industrial Vol.
Jeffers
Kenneth Vol.
Kent/Ambercrombie
Louisburg
Lutsen Twp. Vol.
Middle River
Minnesota Lake
Monticello
Normanna Vol.
Northome
Ormsby
Perley-Lee Twp.
Pickwick Area
Royalton
Russell
Sacred Heart
Seaforth
Shelly
Skyline
Solway
Storden
Swanville
Taunton
Twin Lakes
Wahkon
Zumbrota

We lost the following departments in 1996 and would like to welcome them back next year:

Albertville
Almelund
Arco
Askov Vol.
Bayport
Bigelow
Brimson Area Vol.
Central Lakes Vol.
Ceylon
Clarkfield
Crane Lake
Dent
Duluth
Eagle Bend
Ellendale Vol.
Felton Comm.
Franklin
Geneva
Grygla
Hardwick
Hawley
Hidden Valley
Hollandale
Kelsey Vol.
Lamberton
Lismore
Moose Lake
Nassau
Nielsville
Parkers Prairie
Pelican Rapids Vol.
Pequaywan Lake
Sedan
Shafer
Shevlin
Sturgeon Twp.
Taylors Falls
Trimont
Vernon Center
Wilmont
Wright Vol.

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 1996 there was one fire for every 197 people.)*

County	Population	Total Fire Runs	Total Other Runs	Total Co. Dollar Loss	Fire Rate	Average Dollar Loss/Fire	Fire Deaths
*Hennepin	1,032,431	5,318	49,670	$33,565,592	197	$6,406	6
*Ramsey	485,765	2,438	18,856	$10,579,246	201	$4,370	4
*Dakota	275,227	1,203	7,092	$10,148,331	236	$8,696	3
Anoka	243,641	1,366	11,829	$8,622,892	185	$6,537	
St. Louis	198,213	803	3,789	$7,309,575	293	$10,813	3
*Crow Wing	44,249	267	535	$3,892,617	180	$15,824	1
Washington	145,896	662	4,682	$3,592,844	249	$6,131	
*Stearns	118,791	562	886	$3,268,944	227	$6,238	
*Sherburne	41,945	282	668	$2,939,280	160	$11,219	
Wright	68,710	392	1,408	$2,838,722	189	$7,799	4
Becker	27,881	256	215	$2,649,300	142	$13,517	
Blue Earth	54,044	282	1,821	$2,238,464	200	$8,291	
*Beltrami	34,384	187	678	$2,238,100	184	$11,968	1
*Scott	57,846	354	1,157	$2,117,751	178	$6,516	
*Douglas	28,674	193	261	$2,066,173	161	$11,608	1
Itasca	40,863	276	612	$2,057,995	177	$8,909	3
*Faribault	16,937	105	75	$2,002,000	204	$24,120	
Freeborn	33,060	125	217	$1,997,612	295	$17,836	
*Olmsted	106,470	397	1,979	$1,846,480	270	$4,686	1
*Rice	49,183	210	246	$1,566,401	240	$7,641	3
*Cottonwood	12,694	55	22	$1,550,030	244	$29,808	
*Wabasha	19,744	113	197	$1,516,380	192	$14,722	1
*Carver	47,915	222	2,291	$1,396,907	241	$7,020	2
Carlton	29,259	253	745	$1,283,625	159	$6,976	1
Pine	21,264	135	71	$1,258,840	222	$13,113	
Goodhue	40,690	217	775	$1,221,069	193	$5,787	
Kandiyohi	38,761	227	409	$1,211,002	195	$6,085	1
Polk	32,498	201	1,050	$1,110,270	168	$5,753	
Cass	21,791	178	190	$1,095,050	127	$6,404	1
*Pennington	13,306	101	129	$1,049,395	139	$10,931	
Redwood	17,254	90	39	$1,013,550	224	$13,163	
Chisago	30,521	190	177	$877,153	193	$5,552	
Ottertail	50,714	234	140	$866,230	244	$4,165	2
*Nicollet	28,076	117	216	$864,370	273	$8,392	
Morrison	29,604	92	84	$840,400	325	$9,235	
Winona	47,828	197	1,367	$747,864	256	$3,999	
*Fillmore	20,777	129	107	$721,650	178	$6,168	2
*Mille Lacs	18,670	166	324	$716,400	123	$4,713	
Lyon	24,789	118	113	$700,610	267	$7,533	1
Steele	30,729	126	175	$693,100	246	$5,545	
Renville	17,673	62	50	$690,210	305	$11,900	
*Koochiching	16,299	56	35	$688,100	296	$12,511	
*LeSueur	23,239	109	198	$682,550	223	$6,563	
*Meeker	20,846	122	179	$668,200	183	$5,861	
Nobles	20,098	68	75	$643,734	324	$10,383	

County	Population	Total Fire Runs	Total Other Runs	Total Co. Dollar Loss	Fire Rate	Average Dollar Loss/Fire	Fire Deaths
Swift	10,724	66	45	$602,450	202	$11,367	
Benton	30,185	88	113	$591,805	355	$6,962	
Marshall	10,993	84	113	$587,620	149	$7,997	
McLeod	32,030	107	282	$569,292	341	$5,170	
*Dodge	15,731	65	55	$563,050	254	$9,081	2
Todd	23,363	130	103	$511,100	195	$4,259	
Clay	50,422	202	1,853	$485,965	260	$2,505	1
*Isanti	25,921	121	118	$475,400	227	$4,170	
Mower	37,385	84	208	$469,001	456	$5,720	
Brown	26,984	55	90	$447,720	519	$8,610	
Aitkin	12,425	79	92	$445,372	168	$6,019	1
Martin	22,914	67	134	$443,850	382	$7,423	
Pope	10,745	56	74	$428,400	207	$8,238	2
Hubbard	14,939	67	21	$387,700	241	$6,253	1
Sibley	14,366	55	93	$374,418	299	$7,800	1
*Pipestone	10,491	54	42	$360,951	210	$7,219	
Jackson	11,677	43	76	$360,551	316	$9,745	1
*Lake	10,415	46	47	$356,250	248	$8,482	
Waseca	18,079	60	166	$323,300	323	$5,773	
Murray	9,660	49	29	$315,525	236	$7,696	
Houston	18,497	75	205	$315,450	298	$5,088	
Wadena	13,154	50	52	$310,700	286	$6,754	
*Lake of the Woods	4,076	14	0	$260,000	314	$20,000	
Clearwater	8,309	66	47	$257,650	141	$4,367	
*Chippewa	13,228	57	74	$231,600	250	$4,370	
*Roseau	15,026	56	54	$204,000	268	$3,643	
Big Stone	6,285	23	23	$194,250	314	$9,713	
Norman	7,975	38	12	$187,500	235	$5,515	
*Kanabec	12,802	62	45	$180,250	213	$3,004	
Yellow Medicine	11,684	36	9	$171,800	344	$5,053	
Watonwan	11,682	30	14	$121,800	508	$5,296	
*Grant	6,246	24	1	$120,800	260	$5,033	
Traverse	4,463	14	15	$116,750	343	$8,981	
Lincoln	6,890	29	5	$114,100	238	$3,934	
*Kittson	5,767	69	81	$98,505	111	$1,894	
Rock	9,806	40	44	$93,070	280	$2,659	
*Stevens	10,634	41	22	$81,847	280	$2,154	
Mahnomen	5,044	25	24	$74,200	240	$3,533	
Cook	3,868	7	0	$58,000	774	$11,600	
Lac Qui Parle	8,924	26	24	$48,150	446	$2,408	
Red Lake	4,525	7	1	$43,200	754	$7,200	
Wilkin	7,516	23	56	$4,250	342	$193	
TOTAL		**21,646**	**120,396†**	**$144,032,600**	**215**	**$7,070**	**50**

*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
ADAMS VOL	3	1	$7,500
ADRIAN	6	1	$367,634
AITKIN	36	43	$352,372
ALASKA	9	0	$151,200
ALBANY	27	63	$0
ALBERT LEA	83	167	$826,562
ALBERT LEA TWP	11	1	$8,000
ALBORN	8	20	$48,500
ALDEN	11	29	$13,250
*ALDEN TWP	0	0	$0
ALEXANDRIA	78	104	$1,392,803
ALPHA	4	1	$0
ALTURA	4	1	$0
ALVARADO VOL	10	20	$115,000
AMBOY	7	23	$33,000
ANDOVER	56	643	$146,075
ANNANDALE	30	104	$313,601
ANOKA-CHAMPLIN	135	634	$1,323,925
APPLE VALLEY	116	887	$344,835
APPLETON	3	0	$44,000
ARGYLE	13	45	$32,500
ARROWHEAD	11	19	$3,000
ASHBY	3	0	$27,000
ATWATER	16	37	$155,700
AUDUBON	36	10	$50,500
AURORA	8	19	$26,200
AUSTIN	63	207	$433,501
AVON	20	34	$229,700
BABBITT VOL	13	44	$35,000
BACKUS VOL	4	1	$170,000
BADGER	9	1	$0
BAGLEY	46	25	$197,150
BALATON	17	1	$37,200
BALSAM VOL	6	48	$59,600
BARNESVILLE	32	16	$15,000
BARNUM VOL	22	63	$22,150
BARRETT	6	1	$0
BAUDETTE	8	0	$194,500
BEAR CREEK	2	0	$0
BEARVILLE TWP	2	1	$65,000
BEAVER BAY VOL	6	0	$0
BEAVER CREEK	6	5	$0
BECKER VOL	30	149	$733,500
BELGRADE	8	0	$88,000
BELLE PLAINE	27	39	$134,700
BELLINGHAM	14	13	$34,050
BELTRAMI	5	6	$0
BELVIEW	5	0	$0
BEMIDJI	134	672	$956,700
BENSON	30	39	$143,500
BERTHA	15	1	$100,400
BETHEL	15	12	$0
BIG FALLS	1	0	$20,000
BIG LAKE	57	65	$615,300
BIGFORK VOL	17	10	$98,000
BIRCHDALE RURAL	2	1	$0
BIRD ISLAND	12	0	$151,510
BIWABIK TWP VOL	4	0	$7,000
BIWABIK VOL	5	4	$10,600
BLACKDUCK	11	4	$280,000
BLACKHOOF	10	11	$4,000
BLOMKEST	20	7	$0
BLOOMING PRAIRIE	34	7	$255,000
BLOOMINGTON	296	974	$4,558,815
BLUE EARTH	30	36	$85,000
BLUFFTON	13	0	$16,500
BORUP	3	0	$0
BOVEY	16	41	$4,500
BOWLUS	8	0	$169,800
BRAHAM	6	0	$0
BRAINERD CITY	137	273	$876,701
BRANDON	5	8	$90,000
BRECKENRIDGE	3	11	$4,000
BREITUNG	7	4	$50,000
BREVATOR	23	36	$196,000
BREWSTER	5	11	$4,500
BRICELYN	8	0	$30,000
BROOK PARK	9	1	$10,000
BROOKLYN CENTER	125	676	$658,421
BROOKLYN PARK	246	1,131	$1,554,855
BROOTEN	20	21	$42,000
BROWERVILLE	23	8	$96,000
BROWNSDALE	3	0	$23,000
BROWNSVILLE	9	29	$3,000
BROWNTON VOL	17	60	$4,000
BRUNO	9	1	$2,700
BUFFALO	76	150	$305,605
BUFFALO LAKE	5	0	$4,300
BUHL VOL	2	1	$20,000
BURNSVILLE	219	1,667	$960,430
BYRON	12	46	$445,000
CALEDONIA	16	32	$94,650
CALLAWAY	8	0	$21,000
CALUMET	12	56	$0
CAMBRIDGE	54	58	$336,000
CAMPBELL	2	0	$0
CANBY	2	0	$50,000
CANNON FALLS	41	233	$465,914
CANOSIA VOL	0	1	$0
CANTON	1	0	$0
CARLOS	19	50	$160,000
CARLTON VOL	34	26	$44,550
CARSONVILLE VOL	31	51	$183,500
CARVER	13	86	$62,310
CASS LAKE	58	51	$0
CENTENNIAL	103	784	$773,581
CENTER CITY	3	17	$12,000
CHANDLER	3	14	$18,500
CHANHASSEN	39	604	$126,300
CHASKA	49	666	$250,376
CHATFIELD	16	20	$78,800
CHERRY TWP	6	34	$45,000
CHISAGO CITY	12	9	$13,351
CHISHOLM	42	57	$161,700
CHOKIO	8	3	$11,000
CLARA CITY	7	21	$64,000
CLAREMONT	4	1	$4,200
CLARISSA	13	46	$16,500
CLEAR LAKE	29	106	$123,000
CLEARBROOK	18	22	$60,500
CLEARWATER	33	141	$110,750
CLEMENTS	2	0	$50,000
CLEVELAND	9	48	$59,500
CLIFTON TWP	13	5	$111,050
CLINTON	2	0	$2,500
CLINTON VOL	3	0	$0
*CLITHERALL	0	0	$0
CLONTARF	4	0	$90,000
CLOQUET	81	494	$429,975
COHASSET	32	84	$554,600
COKATO	16	48	$234,500
COLD SPRING	3	9	$3,300
COLERAINE	11	66	$0
COLOGNE	5	35	$65,000
COLUMBIA HEIGHTS	68	1,983	$176,600

City	Total Fire Runs	Total Other Runs	Dollar Loss
COLVIN TWP	13	3	$0
COMFREY	5	1	$2,500
COOK	30	16	$55,700
COON RAPIDS	251	3,217	$2,512,660
COSMOS	6	9	$41,000
COTTAGE GROVE	100	1,657	$394,828
COTTON VOL	6	21	$31,000
COURTLAND	17	16	$82,450
CROMWELL VOL	11	5	$101,500
CROOKED LAKE VOL	3	4	$50,050
CROOKSTON	59	212	$513,550
CROSBY VOL	20	65	$235,000
CROSSLAKE	1	0	$225,000
CRYSTAL	98	976	$1,046,360
CULVER	20	0	$50,000
CURRIE VOL	14	3	$114,200
CUYUNA	2	0	$0
DAKOTA	5	16	$2,500
DALBO	25	48	$115,700
DALTON	26	1	$16,500
DANVERS	13	1	$213,500
DARFUR	4	1	$0
DASSEL	27	118	$207,600
DAWSON	2	0	$10,000
DAYTON	33	174	$1,742,208
DEER CREEK	8	40	$67,500
DEER RIVER	55	38	$654,500
DEERWOOD	14	16	$22,000
DELANO VOL	28	271	$274,000
DELAVAN VOL	3	0	$43,400
*DENNISON	0	0	$0
DETROIT LAKES	87	121	$879,200
DILWORTH	17	36	$0
DODGE CENTER	14	18	$85,500
DONNELLY	4	2	$63,007
DOVER	5	3	$55,000
DOVRAY	7	0	$3,700
DULUTH	24	495	$3,510
DUMONT	2	0	$34,250
DUNDEE	3	4	$30,000
DUNNELL-LK FREMONT	6	14	$81,500
E COUNTY LINE I	53	1,125	$191,389
E COUNTY LINE II	11	1,003	$6,300
EAGAN	129	795	$438,650
EAGLE LAKE VOL	19	82	$8,000
EAGLES NEST	2	3	$0
EAST BETHEL	75	344	$433,075
EAST GRAND FORKS	62	724	$217,620
E HUBBARD CO	10	0	$0
EASTON VOL	7	9	$0
ECHO	4	1	$1,000
EDEN PRAIRIE	129	1,019	$1,088,850
EDEN VALLEY	26	11	$32,000
EDGERTON	12	7	$84,100
EDINA	109	3,802	$812,626
ELBOW LAKE	7	0	$87,000
ELBOW-TULABY LKS	5	1	$7,000
ELGIN	13	8	$73,500
ELIZABETH	22	9	$34,400
ELK RIVER	106	309	$1,200,480
ELLSBURG VOL	1	3	$0
ELLSWORTH	8	21	$63,000
ELMER	1	0	$0
ELMORE	5	3	$114,000
ELROSA	5	7	$800
ELY	31	18	$455,300
ELYSIAN	10	43	$95,000
EMBARRASS VOL	13	53	$150,500
EMILY VOL	11	11	$43,400
EMMONS	13	18	$30,000
ERSKINE	4	0	$47,000
EVANSVILLE	7	4	$0
EVELETH	24	56	$111,100
EXCELSIOR	44	642	$564,000
EYOTA VOL	14	7	$10,550
FAIRFAX	7	3	$96,800
FAIRMONT	46	117	$215,650
FALCON HEIGHTS	14	324	$111,750
FARIBAULT	116	150	$1,100,000
FARMINGTON	49	104	$211,104
FAYAL	19	45	$6,000
FEDERAL DAM	3	3	$0
FERGUS FALLS	65	74	$344,830
FERTILE	21	13	$189,000
*FIFTY LAKES	0	0	$0
FINLAND	4	9	$52,400
FINLAYSON	14	43	$151,200
*FISHER	0	0	$0
FLOODWOOD	7	23	$69,500
FOLEY	35	42	$249,505
FORADA TWP	7	21	$268,200
FOREST LAKE	128	229	$736,800
FORESTON	6	50	$5,000
FORT SNELLING	23	411	$4,500
FOSSTON	23	31	$121,300
FOUNTAIN	3	0	$0
FRAZEE	45	12	$1,249,700
FREDENBERG	13	38	$10,500
FREEBORN	1	0	$90,000
FREEPORT	1	0	$14,000
FRENCH TWP VOL	10	7	$33,075
FRIDLEY	156	2,318	$492,326
FROST	4	0	$1,400,200
FULDA	4	5	$56,800
GARFIELD	8	6	$0
GARRISON	29	103	$16
GARVIN	10	0	$1,000
GARY VOL	4	0	$500
GAYLORD	19	6	$87,518
GHENT	7	6	$100,500
GIBBON	13	2	$92,500
GILBERT	1	0	$120,000
GLADSTONE	28	919	$112,316
GLADSTNE/HAZELWD	20	758	$18,105
GLENCOE	37	83	$234,150
GLENWOOD	36	46	$203,000
GLYNDON VOL	21	2	$137,500
GNESEN VOL	14	2	$0
GOLDEN VALLEY	66	601	$171,727
GOOD THUNDER	15	34	$26,500
GOODHUE	21	6	$328,550
GOODLAND	2	11	$0
GOODRIDGE AREA	13	6	$42,200
GOODVIEW	6	25	$501
GRACEVILLE	10	16	$71,750
GRANADA	5	0	$4,500
GRAND LAKE VOL	15	10	$70,000
GRAND MEADOW	12	0	$0
GRAND RAPIDS	91	134	$396,775
GRANITE FALLS	18	7	$0
*GRASSTON	0	0	$0
GREEN ISLE	5	34	$105,000
GREENBUSH	8	1	$53,000
GREENWOOD TWP VOL	12	80	$196,000
GREY EAGLE	14	1	$35,700
GROVE CITY	13	0	$23,000
GUNFLINT TRAIL VOL	1	0	$0
HACKENSACK AREA	12	8	$41,500
HALLOCK	12	20	$0
HALSTAD	4	1	$0
HAM LAKE	77	443	$1,028,900

City	Total Fire Runs	Total Other Runs	Dollar Loss
HAMBURG	2	40	$0
HAMEL	27	114	$189,041
*HAMPTON	0	0	$0
HANCOCK	15	7	$7,840
HANLEY FALLS	4	0	$68,600
HANOVER	26	84	$0
HARMONY	9	8	$40,000
HARRIS	24	2	$29,500
*HARTLAND	0	0	$0
HASTINGS	136	422	$5,330,200
HAYFIELD	18	14	$196,000
HECTOR	6	10	$95,800
HENDERSON	8	47	$43,500
HENNING VOL	10	6	$42,800
HERMAN VOL	1	0	$2,400
HERMANTOWN VOL	21	256	$331,200
HERON LAKE VOL	7	11	$38,500
HEWITT	6	0	$30,000
HIBBING	127	229	$3,385,445
HILL CITY	16	16	$0
HILLS	5	0	$13,500
HINCKLEY VOL	39	13	$153,990
HITTERDAL	3	0	$39,000
HOFFMAN	3	0	$4,100
HOKAH VOL	6	1	$0
HOLDINGFORD	8	58	$11,000
HOLLAND	3	0	$100,000
HOLYOKE VOL	1	1	$0
HOPKINS	56	425	$184,063
HOUSTON	17	6	$53,400
HOVLAND	2	0	$0
HOWARD LAKE	15	39	$174,000
HOYT LAKES	2	6	$0
HUGO	24	159	$160,500
IDEAL TWP	11	5	$0
INDUSTRIAL VOL	5	19	$30,000
INTERNATIONAL FLLS	28	20	$533,700
INVER GROVE HTS	129	290	$365,640
*IONA	0	0	$0
IRONTON	1	0	$0
ISANTI VOL	36	12	$23,700
ISLE	1	0	$2,000
IVANHOE	9	1	$10,000
JACKSON	21	47	$287,051
JACOBSON	3	19	$2,000
JANESVILLE	19	89	$97,500
JASPER	12	14	$15,500
JEFFERS	1	0	$0
JORDAN	34	61	$133,300
KABETOGAMA	3	0	$150,000
KANDIYOHI	9	38	$90,000
KARLSTAD VOL	28	23	$5,005
KASOTA	7	0	$101,000
KASSON	13	12	$176,250
KEEWATIN VOL	8	60	$174,020
KELLIHER VOL	4	0	$70,000
KELLOGG	12	1	$0
KENNEDY	16	21	$50,000
*KENNETH	0	0	$0
KENSINGTON	8	0	$1,000
*KENT-AMBERCRMBIE	0	0	$0
KERKHOVEN	16	5	$111,450
KETTLE RIVER	4	0	$61,000
KIESTER	5	1	$6,000
KILKENNY	1	3	$0
KIMBALL	23	116	$209,550
KINNEY-GREAT SCOTT	3	3	$60,000
LACRESCENT	10	131	$60,000
LAFAYETTE	7	10	$17,300
LAKE BENTON	12	0	$83,500
LAKE BRONSON	9	13	$0
LAKE CITY	23	48	$216,500
LAKE CRYSTAL	19	43	$136,000
LAKE ELMO	46	313	$113,100
LAKE GEORGE	10	1	$12,300
LAKE HENRY	4	0	$1,100
LAKE JOHANNA VOL	97	415	$659,225
LAKE LILLIAN	7	2	$0
LAKE PARK	25	16	$169,400
LAKE WILSON	5	2	$65,500
LAKEFIELD	11	17	$35,000
LAKELAND VOL	2	0	$90,000
LAKEVILLE	116	561	$201,784
LAKEWOOD TWP	31	36	$166,000
LANCASTER	4	4	$43,500
LANESBORO	10	19	$143,500
LAPORTE/LAKEPORT	15	7	$180,000
LE CENTER	16	5	$162,400
LEAF VALLEY TWP	4	1	$200
LESTER PRAIRIE	22	95	$37,170
LESUEUR	31	25	$244,050
LEWISTON	19	11	$86,350
LEWISVILLE	2	0	$69,500
LEXINGTON	7	57	$49,900
LINDSTROM	16	28	$2,500
LINWOOD VOL	32	128	$113,900
LITCHFIELD	41	40	$19,600
LITTLE CANADA	36	127	$343,100
LITTLE FALLS	7	0	$160,500
LITTLEFORK	12	6	$134,400
*LOMAN RURAL	0	0	$0
LONG LAKE	35	284	$369,000
LONG PRAIRIE	32	19	$0
LONGVILLE VOL	16	9	$0
LONSDALE	29	82	$90,801
LORETTO VOL	17	105	$90,500
*LOUISBURG	0	0	$0
LOWER ST CROIX VLY	20	240	$48,165
LOWRY	3	0	$0
LUCAN	5	0	$8,000
LUTSEN TWP VOL	2	0	$0
LUVERNE	27	37	$79,570
LYND	3	0	$13,500
MABEL VOL	19	0	$4,000
MADELIA	17	13	$44,800
MADISON	10	11	$4,100
MADISON LAKE	8	50	$16,700
MAGNOLIA	2	2	$0
MAHNOMEN	20	23	$67,200
MAHTOMEDI	37	402	$54,600
MAHTOWA	6	0	$25,000
MAKINEN	3	0	$0
MANCHESTER	3	2	$1,027,000
MANKATO	151	1407	$891,114
MANTORVILLE	8	10	$101,100
MAPLE GROVE	149	701	$800,600
MAPLE LAKE	33	23	$746,301
MAPLE PLAIN	6	63	$1,100
MAPLETON	13	80	$106,150
MARBLE	6	41	$0
MARINE ON ST CROIX	10	31	$0
MARSHALL	45	83	$420,510
MAYER	9	49	$7,500
MAYNARD	4	15	$55,500
MAZEPPA VOL	7	42	$187,600
MC DAVITT	8	20	$30,500
MC GREGOR VOL	1	0	$50,000
MC KINLEY VOL	1	2	$0
MCGRATH	4	0	$41,000
MCINTOSH	8	25	$7,300
MEADOWLANDS AREA	4	0	$0

City	Total Fire Runs	Total Other Runs	Dollar Loss
MEDFORD VOL	1	0	$20,000
MEDICINE LAKE	3	24	$0
MELROSE	30	52	$225,700
MENDOTA HEIGHTS	47	282	$439,033
MENTOR	19	39	$14,500
MIDDLE RIVER	1	0	$2,000
MIESVILLE VOL	9	22	$25,000
MILACA	44	52	$355,750
MILAN	3	0	$55,000
MILLERVILLE	8	1	$14,200
MILROY	9	2	$242,100
MILTONA	11	36	$41,000
MINNEAPOLIS	2,766	25,410	$11,003,404
MINNEOTA	13	13	$43,500
MINNESOTA CITY	9	0	$0
MINNESOTA LAKE	0	1	$0
MINNETONKA	152	723	$2,463,005
MISSION TWP	12	39	$18,000
MONTEVIDEO	36	38	$52,100
MONTGOMERY	26	15	$5,000
MONTICELLO	70	214	$398,465
MONTROSE	12	129	$161,000
MOORHEAD	110	1,783	$262,765
MORA	35	41	$119,250
MORGAN	13	0	$544,100
MORRIS	14	10	$0
MORRISTOWN	12	5	$4,200
MORSE TWP VOL	3	1	$46,000
MORTON	3	0	$80,000
MOTLEY	16	70	$10,000
MOUND	46	728	$386,350
MOUNTAIN IRON	16	50	$34,200
MOUNTAIN LAKE	4	0	$320,000
MPLS/ST PAUL AIRPT	64	2,466	$0
MYRTLE	3	0	$2,800
NASHWAUK	13	22	$26,000
*NASSAU	0	0	$0
*NERSTRAND VOL	0	0	$0
NEW AUBURN	3	0	$27,700
NEW BRIGHTON	65	266	$0
NEW GERMANY	4	38	$20
NEW HOPE	84	571	$287,569
NEW LONDON	32	30	$94,300
NEW MARKET	32	130	$190,500
NEW MUNICH	2	4	$1,000
NEW PRAGUE	49	50	$673,909
NEW RICHLAND	6	3	$16,800
NEW SCANDIA	23	121	$257,300
NEW ULM	46	89	$255,220
NEW YORK MILLS	27	3	$104,700
NEWFOLDEN	26	10	$260,120
NEWPORT	34	64	$19,400
NICOLLET	26	59	$236,000
NODINE VOL	6	13	$50
NORMANNA VOL	9	1	$1,000
NORTH BRANCH	53	50	$265,100
NORTH MANKATO	26	105	$256,450
NORTH ST PAUL	67	803	$1,414,160
NORTH STAR TWP	6	4	$15,100
NORTHFIELD	53	9	$371,400
NORTHLAND	1	0	$20,000
NORTHOME	13	8	$0
NORTHROP	1	0	$125,000
NORWOOD	15	103	$105,050
OAKDALE	56	453	$155,800
ODESSA	2	0	$120,000
ODIN	6	0	$7,500
OGILVIE	27	4	$61,000
OKLEE	7	1	$43,200
OLIVIA	13	6	$200,500
ONAMIA	30	35	$215,000
ORMSBY	1	0	$0
ORONOCO	3	14	$0
ORR VOL	7	0	$37,150
ORTONVILLE	9	7	$0
OSAKIS	38	30	$98,770
OSLO	3	0	$20,000
OSSEO	7	2	$1,511,550
OSTRANDER	6	3	$85,000
OTTERTAIL	12	1	$28,500
OWATONNA	91	168	$418,100
PALISADE VOL	19	14	$0
PALO REGIONAL	11	46	$31,750
PARK RAPIDS	32	13	$195,400
PARKSIDE	18	537	$72,500
PAYNESVILLE	25	8	$424,000
PEMBERTON	6	0	$145,000
PEQUOT LAKES	28	21	$2,467,500
PERCH LAKE VOL	27	23	$36,000
PERHAM	22	2	$0
*PERLEY-LEE TWP	0	0	$0
PICKWICK AREA	6	0	$0
PIERZ	29	6	$211,000
PIKE-SANDY-BRITT	1	0	$20
PILLAGER AREA	14	78	$194,000
PINE ISLAND	25	134	$68,100
PINE RIVER	35	22	$19,000
PIPESTONE	16	19	$134,851
PLAINVIEW	25	11	$225,380
PLATO	14	30	$108,472
PLYMOUTH	172	1,123	$2,097,920
PORTER	5	1	$2,200
PRESTON	13	4	$326,100
PRINCETON	85	187	$138,650
PRINSBURG	5	0	$100
PRIOR LAKE	81	353	$419,413
PROCTOR	30	12	$411,000
RAMSEY	77	245	$0
RANDALL	16	7	$79,200
RANDOLPH	8	5	$36,000
RAYMOND	13	3	$100,500
RED LAKE	20	0	$759,400
RED WING	118	379	$356,550
REDWOOD FALLS	23	31	$0
REMER	15	5	$191,000
RENVILLE	9	26	$55,500
REVERE	1	0	$300
RICE LAKE VOL	22	81	$62,000
RICHFIELD	181	1,828	$227,704
RICHMOND	5	0	$113,000
RIDGEWAY COMM	8	15	$82,020
RIVERTON	1	2	$5,000
ROBBINSDALE	58	318	$478,689
ROCHESTER	307	1,736	$1,212,430
ROCHESTER AIRPORT	0	44	$0
ROCHESTER-RURAL	41	111	$19,100
ROCKFORD	34	201	$10,000
ROCKVILLE	28	81	$57,000
ROGERS	48	186	$15,000
ROLLINGSTONE	10	23	$83,000
ROSE CREEK AREA	3	0	$5,000
ROSEAU	19	11	$0
ROSEMOUNT	53	298	$1,096,100
ROSEVILLE	111	570	$542,564
ROTHSAY	8	44	$0
ROUND LAKE	2	0	$85,000
ROYALTON	8	1	$175,000
RUSH CITY	9	8	$8,500
RUSHFORD	20	25	$32,500
RUSHMORE	1	0	$0
RUSSELL	4	0	$0

City	Total Fire Runs	Total Other Runs	Dollar Loss
RUTHTON	6	1	$25,500
SABIN-ELMWOOD	10	15	$5,000
SACRED HEART	7	5	$5,800
SANBORN	6	0	$32,000
SANDSTONE VOL	28	8	$442,700
SARTELL	31	36	$37,501
SAUK CENTRE	34	32	$224,700
SAUK RAPIDS	53	71	$342,300
SAVAGE	52	268	$184,850
SCANDIA VALLEY	3	0	$2,500
SCANLON VOL	12	25	$30,600
SEAFORTH	3	0	$1,800
SHAKOPEE	79	256	$381,079
SHELLY	5	4	$50,000
SHERBURN	8	3	$11,200
SILICA AREA	0	7	$0
SILVER BAY	9	11	$204,300
SILVER LAKE	8	14	$4,500
SKYLINE	1	0	$15,000
SLAYTON	16	5	$56,825
SLEEPY EYE	4	0	$190,000
SOLWAY	9	2	$20,800
SOLWAY TWP	17	39	$5,000
SOUTH BEND	20	25	$718,500
SOUTH HAVEN	20	12	$60,500
SOUTH ST PAUL	98	1,285	$152,300
SPICER	12	17	$63,200
SPRING GROVE	17	6	$104,400
SPRING LAKE PARK	282	830	$1,446,450
SPRING VALLEY	18	27	$11,750
ST ANTHONY	24	698	$59,035
ST BONIFACIUS	14	156	$311,500
ST CHARLES	5	1	$395
ST CLAIR	23	77	$142,500
ST CLOUD	208	22	$1,285,918
ST FRANCIS	32	191	$125,500
ST HILAIRE	13	32	$13,750
ST JOHN'S UNIVERSITY	6	24	$10,500
ST JOSEPH VOL	28	212	$70,375
ST LOUIS PARK	180	3,051	$675,100
ST MARTIN	6	16	$45,000
ST PAUL	1,772	11,117	$6,188,702
ST PAUL PARK VOL	24	78	$43,000
ST PETER	41	26	$272,170
ST STEPHEN	19	42	$73,300
STACY-LENT	41	15	$163,702
STAPLES	27	28	$232,500
STARBUCK	13	28	$206,000
STEPHEN	9	7	$39,000
STEWART	6	0	$128,000
STEWARTVILLE	15	18	$104,400
STILLWATER	65	637	$167,777
STORDEN	7	0	$6,000
STURGEON LAKE	22	0	$32,250
SUNBURG	10	1	$103,500
SWANVILLE	5	0	$32,400
TACONITE	3	0	$5,000
*TAUNTON	0	0	$0
THIEF RIVER FALLS	75	91	$993,445
THOMPSON TWP	26	69	$241,750
TOFTE	2	0	$58,000
TOIVOLA TWP	1	0	$0
TOWER	3	0	$2,000
TRACY	19	10	$84,400
TRUMAN	1	0	$6,000
*TWIN LAKES	0	0	$0
TWIN VALLEY	22	7	$137,000
TWO HARBORS	27	27	$99,550
TYLER	8	4	$20,600
ULEN	9	1	$26,700
UNDERWOOD	8	2	$98,000
VADNAIS HEIGHTS	44	472	$467,850
VERGAS	21	2	$112,500
VERMILLION LAKE	8	2	$15,000
VERNDALE	26	43	$137,400
VESTA	1	0	$0
VICTORIA	14	153	$18,000
VILLARD VOL	4	0	$19,400
VIRGINIA	57	1,858	$309,975
WABASHA	22	36	$789,100
WABASSO VOL	1	1	$500
WACONIA	31	268	$399,251
WADENA	24	9	$173,300
WAITE PARK	21	49	$101,500
WALKER	18	9	$429,500
WALNUT GROVE	17	5	$83,750
WALTERS VOL	7	0	$32,500
WANDA	4	0	$51,000
WARBA-FEELEY-SAGO	2	0	$20,000
WARREN	22	31	$119,000
WARROAD	20	41	$151,000
WASECA	35	74	$209,000
WATERTOWN	28	184	$260,500
WATERVILLE	9	59	$15,600
WATKINS	9	1	$345,000
WATSON	7	0	$5,000
*WAUKON	0	0	$0
WAVERLY	25	76	$50,000
WAYZATA	34	204	$212,100
WELLS	13	14	$44,700
WENDELL	4	0	$300
WEST CONCORD	8	0	$0
WEST ST PAUL	94	474	$547,255
WESTBROOK	9	4	$845,200
WHEATON	12	15	$82,500
WHITE BEAR LAKE	98	420	$400,285
WILLIAMS	6	0	$65,500
WILLMAR	103	274	$603,702
WILLOW RIVER	14	5	$466,000
WILSON VOL	15	19	$800
WINDOM	34	18	$378,830
WINNEBAGO VOL	23	11	$246,200
WINONA	104	1,243	$492,248
WINSTED	3	0	$53,000
WINTHROP VOL	7	4	$18,200
WOLF LAKE	24	5	$96,000
WOLVERTON	10	1	$250
WOODBURY	95	298	$1,441,574
WOODLAKE	3	0	$50,000
WOODSTOCK	5	1	$1,000
WORTHINGTON	43	38	$93,600
WRENSHALL	19	28	$287,100
WYKOFF	14	1	$0
WYOMING	32	48	$382,500
YOUNG AMERICA	13	65	$102,600
ZIMMERMAN	60	39	$267,000
ZUMBRO FALLS	11	51	$24,300
ZUMBROTA VOL	12	23	$1,955

*These fire departments reported no fire/nonfire runs for 1996.

NON-REPORTING FIRE DEPARTMENTS

ALBERTVILLE
ALMELUND
ARCO
ARLINGTON
ASKOV VOL.
AVOCA
BATTLE LAKE
BAYPORT
BEARDSLEY
BENA
BIGELOW
BOYD
BRIMSON AREA VOL.
BROWNS VALLEY
BUTTERFIELD
BUYCK COMM. VOL.
CENTRAL LAKES VOL.
CEYLON
CLARKFIELD
CLARKS GROVE VOL.
CLIMAX
CONGER
CORRELL
COTTONWOOD
CRANE LAKE
CYRUS
DANUBE
DEGRAFF
DENT
DEXTER VOL.
DULUTH
EAGLE BEND
EITZEN
ELLENDALE VOL.
EVERGREEN
FELTON COMM.
FLENSBURG
FOXHOME
FRANKLIN
GENEVA
GLENVILLE
GONVICK
GRAND MARAIS VOL.
GRAND PORTAGE
GREANEY-RAUCH-SLVRDLE
GRYGLA
HANGAARD TWP.
HANSKA
HARDWICK
HAWLEY
HAYWARD
HENDRICKS
HENDRUM
HIDDEN VALLEY
HOLLANDALE
HUTCHINSON
KELSEY VOL.
KENYON
KERRICK
LAMBERTON
LASALLE
LE ROY
LISMORE
LYLE
MAPLE HILL
MAPLEVIEW
MARIETTA
MENAGHA
MOOSE LAKE
MURDOCK
NASSAU
NETT LAKE
NEVIS
NIELSVILLE
OAK GROVE
OGEMA
OKABENA
PARKERS PRAIRIE
PELICAN RAPIDS VOL.
PENNOCK
PEQUAYWAN LAKE
PINE CITY
PLUMMER
RED LAKE FALLS
RICE
SCHROEDER
SEBEKA
SEDAN
SHAFER
SHEVLIN
SPRINGFIELD VOL.
SQUAW LAKE
ST. JAMES
ST. LEO
ST. MICHAEL
STURGEON TWP.
TAMARACK
TAYLORS FALLS
TINTAH
TRIMONT
UPSALA
VERNON CENTER
VINING
WALDORF
WANAMINGO
WAUBUN
WELCOME
WHITE EARTH VOL.
WILMONT
WINGER
WRIGHT VOL.

STATE FIRE MARSHAL ANNUAL REPORT

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

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

SUBJECT: State Fire Marshal Division - Annual Report 1996

We've often heard the statement, "The difficult we do right away, the impossible takes a little longer." That statement can certainly be applied to the dedicated staff of the State Fire Marshal Division. Once again in 1996, the Division completed the tasks needed to successfully accomplish the goals and mission of the Division, while working with a reduced work force. The men and women of the State Fire Marshal Division must be commended for their hard work and loyalty to the cause to protect life and property.

The Department of Public Safety and the Fire Service experienced grief at the loss of a former employee and colleague, Mark Huge, who passed away in June, 1997. Mark was a former Deputy State Fire Marshal and was also the Chief of the Shakopee Fire Department. While he worked for the State Fire Marshal Division, Mark played a key role in producing "Fire in Minnesota." Our sincere sympathies are extended to Mark's family.

The Attorney General Arson Task Force continued their efforts to study arson in Minnesota. A report was published in early 1997 that included 16 recommendations from the task force. The Division secured two grants for arson prevention research. The grant was to research the relationship between the criminal use and/or abuse of drugs or alcohol as it relates to arson in Minnesota.

The Division continued to closely monitor national initiatives to develop a single building and fire code for the nation. We continued our excellent representation in this process with Bureau Chief Jon Nisja serving on the NFPA Northeast Regional Fire Code Committee and Supervisor Bob Imholte continuing as Chair of the National Uniform Fire Code Development Committee.

The Public Firework Display Operators certification program became operational during 1996. We received over 600 reports of fireworks displays and have certified 320 fireworks operators. We feel strongly that this program will ensure safer public fireworks displays that are conducted by competent certified operators.

The Fire Protection Systems Section initiated a new computerized record keeping system for licensing contractors and certifying sprinkler fitters. The program also tracks surcharge fees and permit applications of contractors and corresponding permit reports of jurisdictions issuing sprinkler permits.

Looking back on my past 10 years of service as your State Fire Marshal. I am justifiably proud of the accomplishments of the Division and the Fire Service in general.

BRIEF HISTORY OF THE STATE FIRE MARSHAL DIVISION

1996
The Attorney General formed a task force to study the crime of arson in Minnesota.

1996
The Division received a grant of $400,000 to study arson as it relates to the criminal or abusive use of alcohol and/or drugs.

1997
One inspector for the Fire Protection Team was added during the session to start July 1, 1998.

1997
Two new positions were added to the Fire Investigation Unit. One trainer and one juvenile firesetter interventionist.

1992
New program added to license fire sprinkler contractors, designers, and fitters.

1992
New program to develop operation of Hazardous Material Response Teams.

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

1995
Licensing of operators of public fireworks displays.

1 fire investigator position added.

1978
10 additional positions to implement hotel/ motel/resort inspection program.

1980
MN first state in nation to require smoke detectors in new and rental residential properties.

1989
10/2/89 - the 1988 MUFC was adopted. 3 more positions added to SFM Division: 2 day care inspectors, 1 public educator/data.

1990
Legislation added 5 new positions to SFMD to conduct school inspections in Minnesota.

1969
Legislative action created a Department of Public Safety.

1970
SFM Department moved into DPS to be known as SFM Division.

1975
Legislature authorized adoption of Minnesota UFC.

1978-79
Legislation action enabled local FD's to enforce UFC without local adoption.

1925
Legislative action made Commissioner of Insurance the Ex-Officio SFM.

1937
Tax levy to fund SFM Department was raised to 1/2% of all ins. premiums to include Town Fire Ins. Co. and Farmers Mutuals.

1941
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.

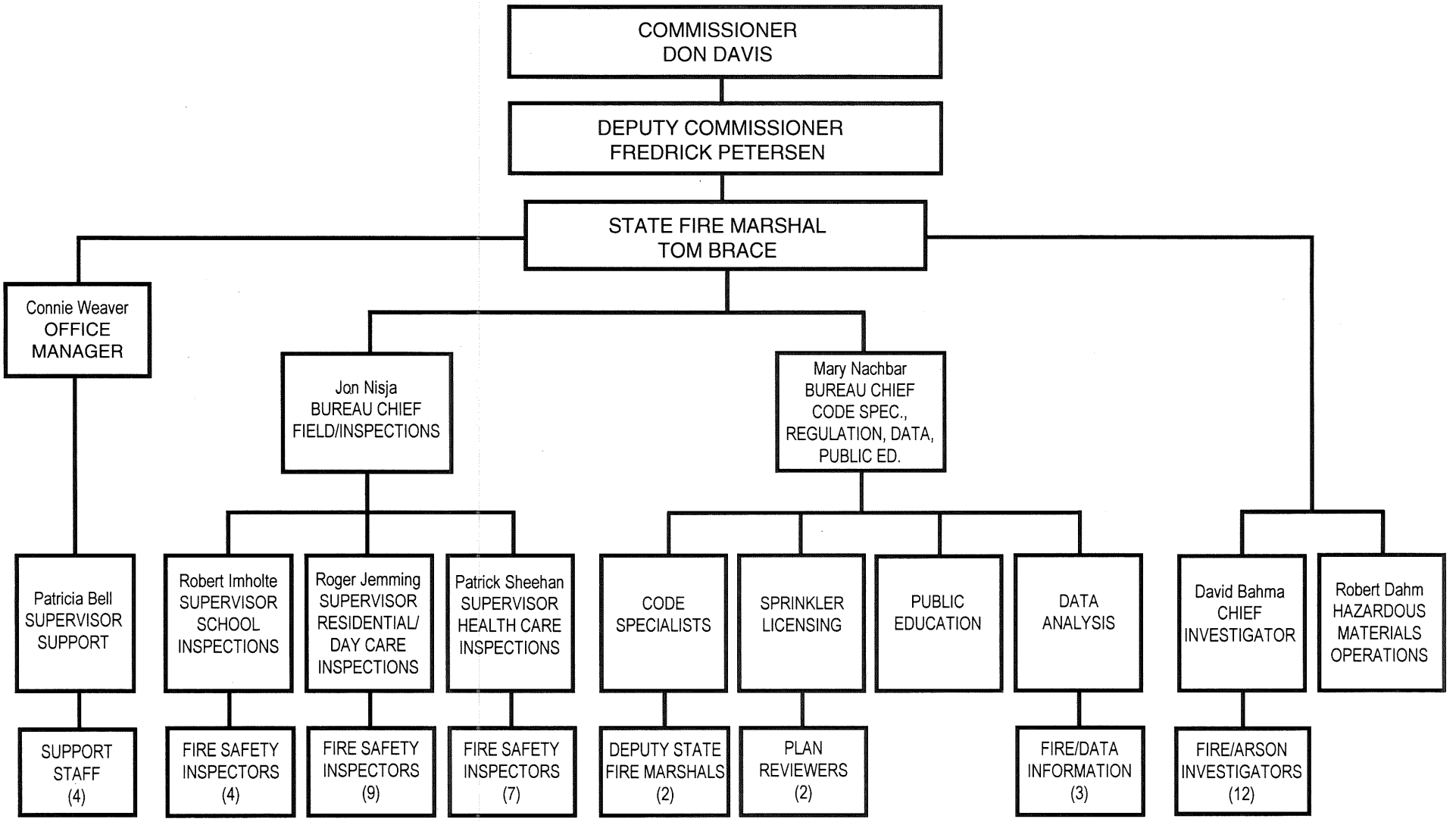
1907
Amendment authorizing two deputy SFM. Authorization to pay FD $1 for reports submitted to SFM.

1913
All former acts repealed and new FM Dept. was created. Governor appointed FM and 2 deputies.

1919
The Appointing Authority was given to Commissioner of Insurance.

1905, April 19
Legislation authorizing Governor to appoint SFM for two-year term. Funding through tax levy on Insurance Companies. (Town Mutuals Exempt)

STATE OF MINNESOTA
DEPARTMENT OF PUBLIC SAFETY
STATE FIRE MARSHAL DIVISION



(Vacancies: 1-Supervisor)

HEADQUARTERS OFFICE

The State Fire Marshal Division currently consists of 4 senior staff, 5 supervisors, 37 deputies, and 7 administrative 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	Principal Planner, Hazardous Materials
12	Fire/Arson Investigators
9	Fire Safety Inspectors
7	Health Care Inspectors
2	Code Specialists
1	Data Technical Specialist
2	Sprinkler Plan Reviewers
2	Fire Data Technical Personnel
4	Clerical Support Staff
53	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

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

The fire/arson investigation team consists of twelve deputy/investigators led by Chief Fire Investigator David Bahma. The investigators maintain a home office in their respective assigned territories. They are trained fire/arson investigation specialists and are subject to be called 24 hours a day, seven days a week.

In 1996, the members of the team assisted local fire and law enforcement agencies in investigating 636 fires, totalling almost $58 million in property loss. Of the 636 investigations, 188 were determined to be of incendiary origin, which represents 30% of all fires investigated by the State Fire Marshal investigators. This is a 5% increase in arson fires over 1995.

The Attorney General commissioned a task force to study all aspects of arson; the task force responded with a continuous flow of recommendations that are being well received, and are also being considered a high priority in the legislative arena. The task force is continuing its comprehensive study of the arson problem and more recommendations are expected.

Arson prosecutor seminars are continuing and a series of case presentation classes for investigators will be available soon.

In the 1997 legislative session, the Division was given some additional resources to fight the crime of arson in Minnesota. Funding was provided to add a full-time trainer to establish an arson training unit in the Division. This person will be responsible for developing curriculum for investigators, awareness programs for the Fire Service, and training for prosecutors.

Other resources include the establishment of an arson strike task force to be administered by the Bureau of Criminal Apprehension that would be called to action in the event of a large loss fire or multiple fire deaths. Included is funding for experts to test equipment and other arson evidence.

Last, because of the increase in juvenile firesetters, the Division will add a full-time position to assist the state in addressing this critical need.

A timely and efficient response to the Fire Service and law enforcement requests remains high on our priority list.

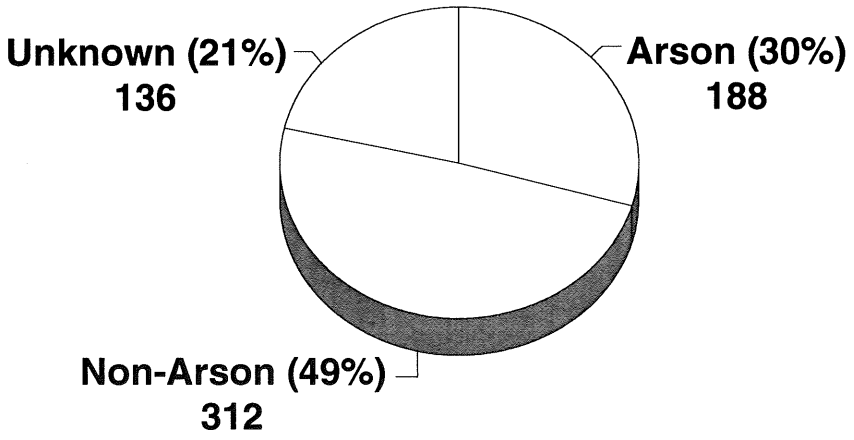
In 1996 and 1997, the Division successfully competed for and received two $200,000 grants to study arson as it relates to the criminal use and/or abuse of drugs and alcohol in the state. The final report on this project will be published in late 1997.

FIRE/ARSON INVESTIGATIONS BY PROPERTY TYPE

	1994 Causes		1995 Causes		1996 Causes			
	Total Fires	Total Arson	Total Fires	Total Arson	Total Fires	Total Dollar Loss	Total Arson	Arson Dollar Loss
One/Two Family Dwellings	369	92	346	76	371	$25,412,150	111	$4,751,150
Apartments	36	16	25	12	35	3,930,000	10	2,033,000
Hotels/Motels/Resorts	3	1	7	2	2	10,000	0	0
Dormitories	1	1	2	2	0	0	0	0
Institutional	5	3	7	4	0	0	0	0
Educational	13	8	10	6	7	2,011,050	3	1,050
Places of Assembly	11	4	7	3	15	3,447,300	6	602,300
Restaurants	9	5	7	0	6	1,280,000	1	180,000
Retail/Office	57	27	30	8	28	4,952,000	7	331,000
Industrial/Manufacturing	13	2	19	1	21	3,203,550	2	100,000
Agricultural	8	1	10	0	9	843,000	0	0
Storage Facilities	97	30	8	19	86	6,965,150	20	386,000
Special Structures	15	10	8	5	12	244,251	8	103,751
Mobile/Vehicle Property	41	19	37	12	41	5,644,750	18	170,950
Other	4	1	6	4	3	3,000	2	3,000
TOTAL	682	220	603	154	636	$57,946,201	188	$8,662,201

Arson dollar loss in residential occupancies increased by two million dollars in 1996, a trend that appears to be steadily increasing. Although the overall arson fires in vehicles have increased, state investigators have not seen an increase in calls to assist in the investigation of these fires.

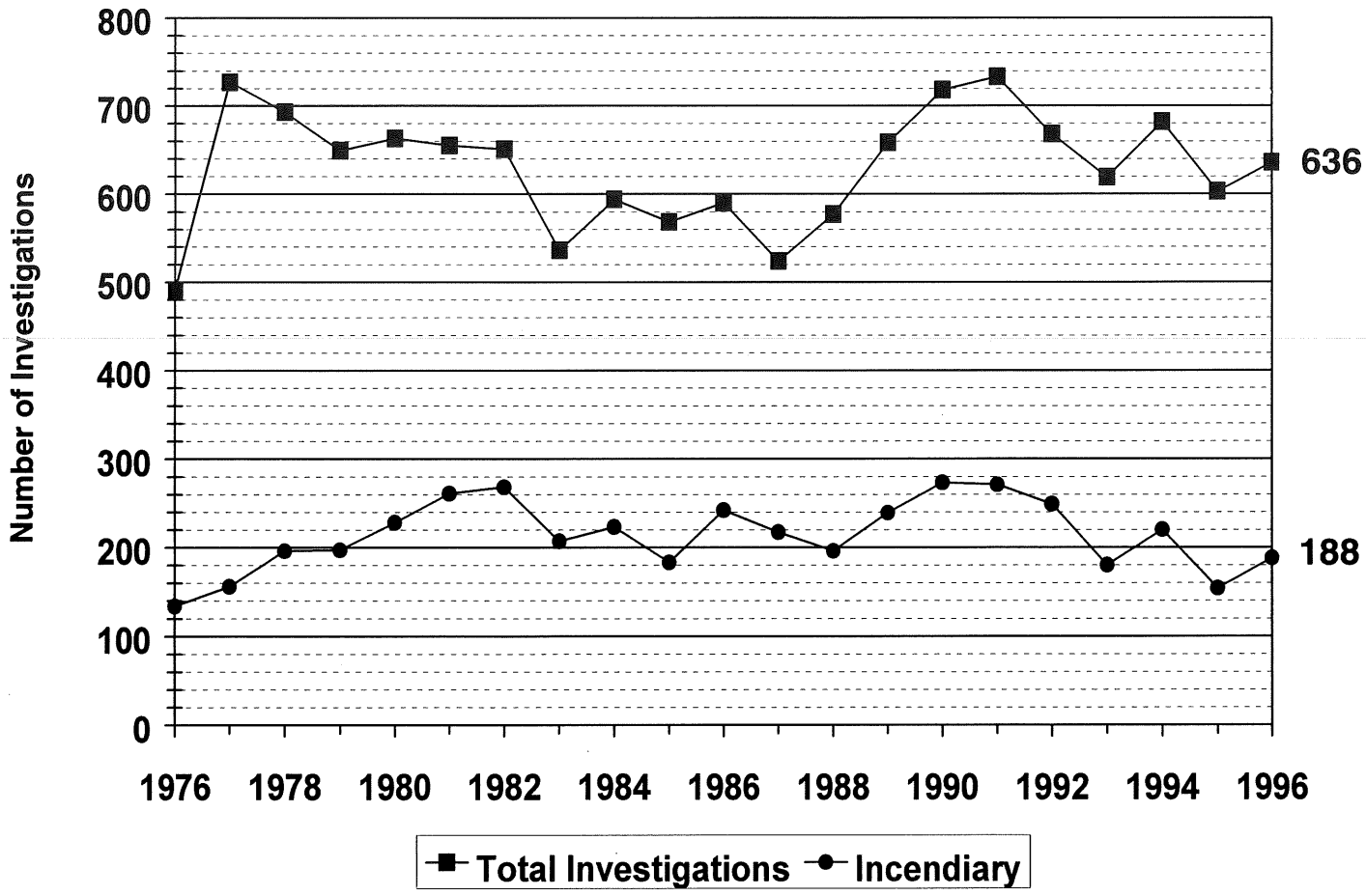
1996 Fire Investigation Accidental vs. Incendiary



Breakdown of Arson Investigations:

	Arson	Non-arson	Unknown	Total
Structure	168	295	129	592
Vehicle	18	17	6	41
Other	2	0	1	3
Total	188	312	136	636

Fire Investigation 1976 - Present



19,912 violations were found in 7,581 inspections in 1996.

FIRE SAFETY INSPECTIONS

Deputy State Fire Inspectors conducted a total of 7,581 inspections and follow-up inspections in 1996.

SFMD FIRE SAFETY INSPECTIONS 1996, BY TYPE OF OCCUPANCY

	No. of Facilities	No. of Follow-ups	No. of Bldg. Inspections	No. of Orders	No. of Violations
CHILD CARE					
Family/Group day care	2,097	174	2,100	328	8,121
Foster child care	332	52	332	82	1,278
Child care centers	72	6	75	8	308
	2,501	**232**	**2,507**	**418**	**9,707**
LICENSED HEALTH CARE FACILITIES					
Nursing homes	535	220	548	27	335
Supervised living facilities >7	192	61	203	29	160
Adult foster care facilities	511	34	511	42	2,042
Class B nursing homes	68	9	75	29	23
Supervised living facilities <6	92	27	92	1	44
Group homes	1	0	1	0	0
Adult day care facilities	9	0	9	1	20
	1,408	**351**	**1,439**	**129**	**2,624**
HOTELS/MOTELS/RESORTS					
Resorts	505	384	696	295	1,149
Motels	280	209	300	153	490
Hotels	100	114	102	71	414
	885	**707**	**1,098**	**519**	**2,053**
RESIDENTIAL					
Boarding/Lodging	85	18	94	21	254
Apartments	62	85	64	38	325
One/two family dwellings	28	8	34	9	87
Dormitories	13	0	16	2	27
	188	**111**	**208**	**70**	**693**
MEDICAL FACILITIES					
Hospitals	104	18	108	14	32
Surgical centers	6	1	6	1	5
	110	**19**	**114**	**15**	**37**
EDUCATIONAL FACILITIES					
Schools	**353**	**335**	**366**	**265**	**3,753**
COMMERCIAL					
Public assembly	35	17	37	15	200
Offices	28	10	30	8	66
Restaurants	10	9	10	3	26
Industrial/Manufacturing	25	8	25	11	130
Service stations	11	1	12	5	18
Retail	26	20	26	15	82
	135	**65**	**140**	**57**	**522**
OTHER PROPERTY					
Flammable/Combustible liquid	44	23	44	18	48
Prisons/Jails	46	19	118	23	449
Special properties	5	0	5	1	5
Special structures	2	1	2	0	0
Storage	5	2	6	3	12
L.P. facilities	3	0	3	1	0
Other properties	26	3	26	2	9
Natural gas	0	0	0	0	0
Fire stations	2	0	2	0	0
	133	**48**	**206**	**48**	**523**
TOTAL INSPECTIONS	**5,713**	**1,868**	**6,079**	**1,521**	**19,912**

FIRE AND LIFE SAFETY INSPECTION

- **Residential Team**

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

A second major responsibility is the inspection of day care and foster care facilities for initial licensure by the Department of Human Services. The day care/foster care field experiences a high turnover rate, which results in many new facilities to be inspected each year. In the recent legislative session, a widespread need for more day care facilities has been identified. To meet this need, the Division's relationship to Human Services will shortly be strengthened by the addition of two new residential inspectors, funded by Human Services, who will enhance the efficiency of the day care licensing process.

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

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

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

By request, this team also inspects a majority of county jails within the state, as well as aboveground tank dispensing for compliance with the Minnesota Uniform Fire Code (MUFC). Also inspected at the request of local or county authorities are various 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

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

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.

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

During 1996, the responsibility for inspecting the state owned prisons was added to the health care section. With 10 state-owned correctional facilities, one privately-owned facility, and one additional state-owned prison in the design stages, these facilities were put on a rotating schedule that include one prison facility inspection each month. This additional work was performed by one inspector specifically assigned to inspect these facilities in addition to his regular inspection duties. Other health care inspectors helped with health care inspections in his territory, to allow sufficient time for the prison inspections.

Overall, the inclusion of prison inspections in the health care section has proven to be a positive change with the key to its success being the team work of the health care inspectors and the health care section secretary.

During 1996, the Health Care Team inspected 1,439 buildings in 1,408 health care facilities, and 118 buildings in the eleven prison facilities.

PUBLIC SCHOOL INSPECTION PROGRAM

The Public School Inspection Program has completed its sixth full year of operations in 1996. This program, established by the state legislature in 1990, requires the State Fire Marshal to accomplish the inspection of the state's roughly 1,500 public schools once every three years. Included in this mandate are all of

School inspections revealed 3,753 fire code violations in 353 schools in 1996.

the state's public elementary, middle/junior high and high schools, charter schools, and area learning centers. The year 1996 was significant in that it saw the completion of the first round of inspections of the state's public schools.

It should be noted that Minnesota is not alone in the area of school inspections - at least three neighboring states also have school inspection programs. Iowa and South Dakota have requirements that all schools be inspected at least once every two years. North Dakota has a three-year inspection cycle. These states differ from Minnesota, however, in that their laws require inspections of not only public schools, but private schools as well.

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 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. Over a third of the state's public schools have already been confirmed to have automatic sprinkler protection in at least a portion of the building. The percentage should go up significantly as more school districts correct cited violations by installing sprinklers and as new sprinklered buildings are constructed.

The program is staffed by three field deputies, a field supervisor, a plan reviewer and a part-time clerical support person. The plan review and clerical support functions operate out of the Division's St. Paul headquarters office. Robert Imholte serves as the team's supervisor. This staff 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 1996, 19 fire departments contracted to conduct their own school inspections - roughly 170 schools are inspected under these contracts.

For the 1995-96 school year there were 355 school districts in the state and 17 Charter Schools. These school districts serve over 813,000 students in grades K through 12, whose safety is directly impacted by the school inspection program. Also impacted are some 47,500 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 1996, over 200 plans were reviewed. The plan reviewer maintains a close working relationship with the State Building Codes and Standards Division and spends many hours each week serving in a consultant capacity to school district officials, architects and contractors in the areas of building and fire codes.

Roughly 30 percent of the schools inspected throughout the state have already been upgraded to conform to the minimum requirements of the Minnesota Uniform Fire Code. Acceptable plans of correction are in place which will bring many others into full compliance over the next two years. It is anticipated that the next two to two-and-a-half years will be devoted primarily to conducting follow-up inspections on outstanding corrective orders.

CODE DEVELOPMENT/PLAN REVIEW

The Code Development/Plan Review section of the State Fire Marshal Division is staffed by two Deputy State Fire Marshal - Code/Plan Specialists. These two deputies provide consultation and technical assistance to local/state fire and building officials, property owners/managers, architects, engineers, contractors, elected officials, attorneys, and the general public in matters relating to Minnesota Statutes, Minnesota Rules, the Minnesota Uniform Fire Code, the *Life Safety Code*, and other National Standards.

The Code/Plan Specialists also conduct plan reviews for the installation of flammable/combustible liquid tanks and liquified petroleum gas containers that are installed throughout the State of Minnesota.

The Code/Plan Specialists are appointed to the State Fire Marshal Code Advisory Panel by the State Fire Marshal. The panel reviews Minnesota Uniform Fire Code variance requests, provides formal fire code interpretations, and assists in developing policy decisions. When requested, the Code/Plan Specialists serve on the Minnesota State Fire Chiefs Association Code Committee, which recommends code changes to upcoming Minnesota Uniform Fire Codes.

Along with the duties listed above, the Code/Plan Specialists work on special projects that impact the Minnesota Uniform Fire Code through research and technological advancements. In addition, they conduct code training for industry, department agencies, and Division staff in the areas of fire prevention, inspection, and code enforcement.

FIRE PROTECTION LICENSING SECTION

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

The Minnesota Fire Protection Contractor Licensing Law (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 plan review/code specialists who serve as full-time plan reviewers and one clerical support person.

Licensing of fire sprinkler contractors and certifying journeymen began on February 21, 1994. In 1996, 56 contractors and 3 design contractors were licensed. In addition, 476 journeymen, conditional journeymen and 68 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 performs sprinkler system plan review and issue permits for 640 communities in Minnesota. 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 Division. In 1996, the Fire Protection Licensing Section performed the following activity:

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

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 1996, the council met three times. In 1996, there were two meetings for contractors regarding licensing issues. In addition, the staff provided presentations at three association conferences.

PUBLIC DISPLAY FIREWORKS OPERATOR CERTIFICATION

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

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

Fireworks operator certification began in January, 1996 with testing locations throughout the state. The dates and locations were advertised to all fire departments, county sheriffs, and city clerks. After the initial testing period, applicants could come to the State Fire Marshal Division headquarters to take the examination. As a result of the certification process, there are currently 320 certified fireworks display operators. Of those, 214 are certified for outdoor fireworks displays, 6 are certified for indoor (proximate) fireworks displays, and 100 are certified to conduct both outdoor and indoor fireworks displays.

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

After every display, the certified operator must submit a Fireworks Display Report to the State Fire Marshal Division. Since the beginning of the program, over 600 reports have been received with information on type and number of shells that were used, property damage, injuries, and product defects. These reports, when analyzed, will provide for assessing the impact of controlled fireworks displays and help identify any consistently defective products or operational problems.

The State Fire Marshal Division will continue to offer examinations to qualified applicants at our headquarters or throughout the state.

HAZARDOUS MATERIALS REGIONAL RESPONSE TEAM PROGRAM

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

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

Contract development and negotiations conducted during the first six months of 1996 resulted in full implementation of the regional response team system by year's end. A project, which began with the passage of the Minnesota Hazardous Materials Incident Response Act in 1992, was brought to successful conclusion with four Emergency Response Teams and six Chemical Assessment Teams being placed in operation.

Emergency Response Teams (which also serve as Chemical Assessment Teams) include the Duluth Fire Department, Moorhead / Fargo Fire Departments, Rochester Fire Department, and the St. Paul Fire Department. Chemical Assessment Teams include the Arrowhead HazMat Team (Grand Rapids Fire Department), North Metro HazMat Team (Fridley, Coon Rapids, and Spring Lake Park / Blaine / Mounds View Fire Departments), Hopkins Fire Department, Mankato Fire Department, St. Cloud Fire Department, and one private entity: West Central Environmental Consultants, Inc.- Morris.

As contracts were being developed and approved at the state and local level, additional response vehicles and equipment were also purchased, delivered and distributed. The most significant purchase was four specially designed vehicles and all necessary supporting supplies and equipment for the Emergency Response Teams. Additional Chemical Assessment Team equipment and supplies were also obtained and distributed, including chemical protective clothing (suits, gloves and boots), containment boom, sorbent and neutralization materials, and other containment and mitigation items.

The Team Advisory Committee, established 1995, continued to meet throughout the year to advise program staff on the development of Suggested Operating Guidelines, administrative procedures, training programs and equipment selection. This committee will continue to function as an integral component of the program.

The newly formed teams were active in providing hazardous materials training to departments within their primary response areas, either on their own or in conjunction with community college fire training programs. In addition, the teams participated in numerous hazardous materials exercises conducted at various locations throughout the state. These activities will continue during 1997 in an effort to fully integrate the regional team program with local response capabilities.

FIRE DATA

The Fire Data Analysis Section is headed by Mary Nachbar, Bureau Chief, and includes Ernie Scheidness, Nora Gierok, and Irene Moore. This team collects and analyzes over 142,000 reports annually. They also provide technical assistance to 802 Minnesota fire departments. This team tracks major incidents as they occur and begins the process of providing data and information to local Fire Service leaders and the media regarding similar incidents and/or trends as they develop.

This team also provides special reports to local fire departments that request comparative data for budget justifications, public education, or 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 (MFIRS) 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.

There were 690 fire departments that reported in 1996, decreasing slightly the participation in MFIRS. Of the reporting departments, 159 do so electronically, and they provided 79% of all reports in 1996. Quality assurance and blank fields continue to be major concerns with reporting. In 1996, 20% of structure fires were reported as cause unknown. Also, still needing improvement is the reporting of smoke detectors and sprinkler performance. 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.

Departments reporting by electronic means increased 30% during 1996.

The New National Reporting System Update

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

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

Current Users of Commercial Software:

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

Those Considering New or Upgraded Software:

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

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

For Users of the NFIC-NFIRS SOFTWARE:

If you use the generic NFIRS program from us, you may wish to begin considering your options:

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

Although you may continue to report using the current system for a period of time, it is anticipated by the year 2000 we may no longer accept the old MFIRS 4.0/4.1 program.

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

For those submitting incidents on the State MFIRS paper forms:

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

As the new MFIRS becomes a reality some time in 1998, there are several things a department will need to plan for in anticipation of its implementation statewide. We are here to assist you in any way we can. If you have questions or wish further clarification, please feel free to contact Ernie Scheidness at 612-215-0500, our electronic mail address of: ernie.scheidness@state.mn.us or at: Suite 145, 444 Cedar St., St. Paul, MN 55101-5145.

PUBLIC EDUCATION

Public education in Minnesota appears to be working. In 1996, there was a significant reduction in fire deaths from 1995. In the first eight months of 1997, the fire death count was at 19, a lower death rate in residential occupancies at this time of year than ever before. One would conclude that the collective efforts of the Fire Service and the State Fire Marshal Division are truly making a difference in the loss of life from fires in Minnesota. Nationally, the fire death rates have increased over the past two consecutive years.

In 1996 and '97, 104 fire departments have distributed 123,000 smoke detector brochures from the State Fire Marshal Division. Additionally, the Division was able to purchase, at a reduced rate, over 6,000 smoke detectors. Twenty-eight fire departments alone ordered 4,467 smoke detectors for give-a-way programs from mid 1995 through December of 1996. The fire departments were: Austin, St. Paul, Farmington, International Falls, Red Lake, Goodhue, Hutchinson, S. St. Paul, Alexandria, Northfield, Stewartville, Glenwood, Chisholm, North St. Paul, Dassel, Forest Lake, Thief River Falls, Lismore, Victoria, Dovray, Rush City, Round Lake, Spring Lake Park-Blaine-Moundsview, Apple Valley and Mankato. Three social service agencies also received smoke detectors: Grand Portage Reservation, American Red Cross Youth Services and the MN Department of Health.

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

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

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

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

Another successful program in which the Division engaged was with the Eastern Star Chapter in Minnesota. This effort took place over a two-year period of time. Planning, training and a resource plan were established and in 1996 the program had a kick-off event at their annual meeting in Rochester. The Eastern Star volunteers attended two days of training on the Learn Not To Burn, NFPA Preschool Program in order to work with Headstart programs in Minnesota. The Eastern Star volunteers placed and trained over 800 Headstart program members.

This wonderful effort had an impact on the fire safety education of over 10,000 preschool children in Minnesota. The Division feels strongly that collaborative efforts with community members and agencies who have an interest in safety is critical to reaching greater numbers of citizens. We are proud of this effort and the fine work done by these dedicated individuals.

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

Mary Nachbar worked with the Children's Television Workshop in New York to revise the Sesame Street Fire Safety Education materials for preschoolers. The books will be published, and 2,000 will be sent to Minnesota for distribution in mid-October, 1997.

Another program that Mary has worked on is a new "All Injury" safety curriculum designed for teachers to teach in the classroom. The program has addressed eight key injury areas. They are: Fire and Burns, Water Safety, Falls, Poisoning, Choking, Bike and Pedestrian Safety, Firearms, and Car and Bus Safety. This concept has been discussed at the Division and in the Fire Service community for a number of years. In 1995, National Injury Prevention people came together from all over the country to begin the work of establishing such a curriculum. The soon-to-be released (February, 1998) curriculum is designed to be taught in preschool through the eighth grade. The name of the curriculum is "Risk Watch"; you will be hearing more about this in the future.

The Division assisted 5 fire departments with implementation of the Learn Not To Burn program for their school systems by providing inservice training. These cities are Learn Not To Burn Champion communities who successfully applied for grants from the NFPA and were given materials for 100 classrooms. The fire departments were West St. Paul--Daniel Bernardy, Waite Park--Rick Allen, St. Cloud--Jeff Howe, Alexandria--Dennis Stark, and the Minneapolis school system. In addition, the Hastings Fire Department sponsored a training and luncheon for their school teachers, not related to the Champion Program. These fire departments deserve special recognition for their efforts; lots of work went into preparing to meet the challenge of providing fire safety education in a new way, by utilizing the school system.

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

The Division hosts media events and press conferences throughout the year. Two of the most memorable were the November Winter Survival press conference held at the Governor's mansion to talk about winter heating and holiday safety and the Fireworks press conference held at the St. Paul training facility. We continually utilize the window of opportunity in fire incidents to provide the public information necessary to avoid such events. We receive a lot of feedback from the public, who in turn call their local fire departments for additional information or assistance.

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

ADMINISTRATIVE SUPPORT SERVICES

The Division continues to 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 636 investigations in 1996.

After nearly two full years of operation, the computerized system that the Division initiated to record and analyze data collected by the Fire Safety Inspection Team is working and provides a tremendous amount of information. The administrative support staff and Fire Safety Inspection Team members have been most patient and helpful with making the new system viable and useful. The helpfulness and cooperation of the members of these teams continues to be a very valuable resource for continuing the success of the new system.

SUMMARY

In closing, we hope this report has helped acquaint you with the services the State Fire Marshal Division provides. We look forward with enthusiasm to working closely with the Fire Service and other agencies and organizations addressing the fire/life safety issues facing Minnesota citizens in the coming years.

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