



Office of the State Fire Marshal

63rd Annual Report

Fiscal Year 2016



Juvenile



Fire Setter

Intervention Program

35 Years of Protecting Delaware's Youth
1981-2016

Grover P. Ingle
State Fire Marshal





STATE OF DELAWARE
OFFICE OF THE STATE FIRE MARSHAL

GROVER P. INGLE
STATE FIRE MARSHAL

DOVER OFFICE
HEADQUARTERS

September 2, 2016

*The Honorable Jack A. Markell, Governor
State of Delaware
Office of the Governor
Tatnall Building
Dover, DE 19901*

Dear Governor Markell,

I am pleased to forward to you the Sixty-Third Annual Report for the Office of the State Fire Marshal.

This Annual Report reflects the dedication, hard work and activities completed by the staff in FY 2016 in providing a fire safe environment for the residents and visitors of Delaware. In order to accomplish these activities the Office of the State Fire Marshal delivered timely and quality service to the public by conducting thorough and efficient fire investigations, performing occupancy inspections, various code enforcement activities, plan reviews, fire protection system inspections, juvenile intervention programs, public displays and enforcement of the Delaware State Fire Prevention Regulations.

I appreciate the support you provided to our agency during your two terms as Governor, along with the support from your Administration, the General Assembly and the Delaware Volunteer Firefighter's Association in providing the resources needed to accomplish these tasks. The Office of the State Fire Marshal continues to work cooperatively with our partners in law enforcement, our first responders, the Delaware Volunteer Firefighter's Association and State Fire Prevention Commission to deliver timely and quality service to the public in protecting them from the dangers of fire.

Respectfully submitted,

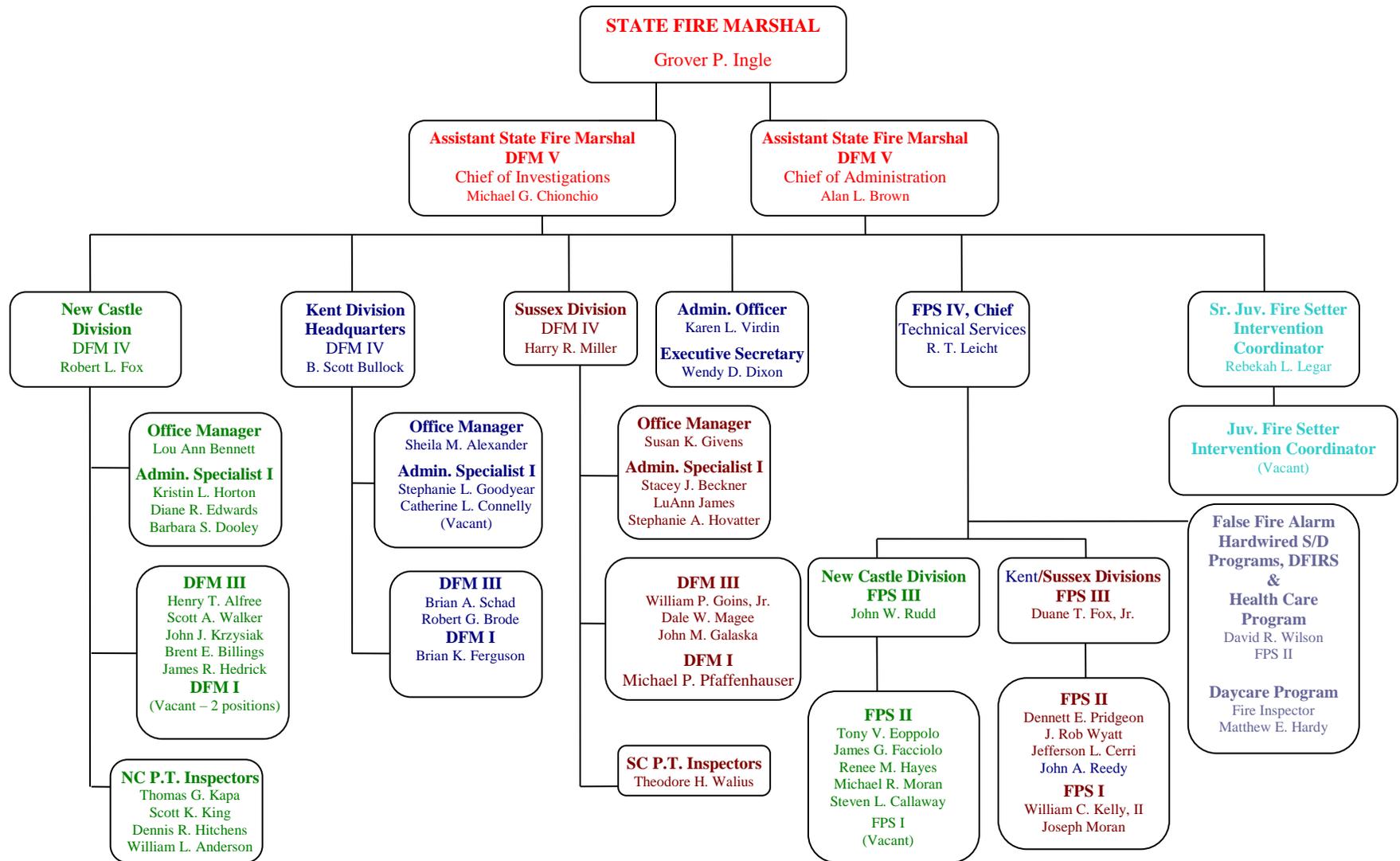
*Grover P. Ingle, CFPS, CFI-II
State Fire Marshal*

Mission Statement:

To provide the citizens of this State and all who visit a fire safe environment be it in the home, the workplace, or wherever they pursue their varied lifestyles or interests.

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Updated 6/30/16

Office of the State Fire Marshal

In 1953, at the urging of the Volunteer Fire Service, the State Legislature created the Office of the State Fire Marshal and directed that regulations, reflecting nationally recognized standards, be promulgated to enhance life safety and property conservation for the citizens of Delaware.

The Office of the State Fire Marshal functions as an independent state agency under the State Fire Prevention Commission, which promulgates the State Fire Prevention Regulations, as enforced by the Office of the State Fire Marshal. As the law enforcement agency charged by State Statute with the suppression and investigation of arson, the Office of the State Fire Marshal provides the lead role in fire and arson investigations, statewide. The agency is charged with assisting the Chief of any fire department on request, inspections and code enforcement in health care facilities, educational occupancies, public assembly, public accommodations, flammable and combustible liquids, flammable gases, explosives and fireworks.

The Office of the State Fire Marshal is funded by revenues from the General Fund Appropriations of the State and by revenues generated by the agency from plan reviews of new construction and licensing fees associated with fire protection systems.

The Office of the State Fire Marshal is responsible for the comprehensive compliance with the State Statute for the installation of smoke detection devices in all residential occupancies, which will greatly reduce the likelihood of injuries and deaths from fire.

The State Fire Marshal is appointed by the State Fire Prevention Commission and serves a four-year term. Under the direction of the State Fire Marshal, the daily operations of the agency are carried out by a team of dedicated staff members operating out of the headquarters division in Dover, with regional offices in New Castle and Georgetown.

The Office of the State Fire Marshal is to provide a fire safe environment for the citizens of Delaware and all who visit and carries out its mandate for Public Service, through the work of three divisions; Administration, Field Operations & Technical Services.

Administration Division

The Administration of the Office of the State Fire Marshal is carried out at the headquarters division located in Dover and has the responsibility to ensure the accountability, accuracy and competency of all facets of the agency through the following:

- Program Planning & Evaluation
- Administrative Policies & Procedures
- Maintain Central Records
- Fiscal Management & Budget Preparation
- Personnel Management
- Physical Plant Requirements
- Delaware Fire Incident Reporting System
- Staff Training & Education
- On-going Review of State Fire Prevention Regulations
- Data Management
- Fire Loss/Fire Death Statistics
- Interaction with a variety of State Agencies, General Assembly, Federal, County & Local Government

Field Operations Division

Fire Investigations by Deputy Fire Marshals:

- Conduct fire investigations to determine causal factors and the origin of such incidents
- Identify incendiary fires & other fires of criminal nature
- Investigate arson & other fires of criminal nature
- Pursue & apprehend those responsible for other fires of criminal nature & arson
- Investigate fatal fire incidents
- Assist the Department of Justice by providing expert testimony on arson fires and other fires of criminal or accidental nature
- Identify accidental fire causes to establish proactive preventative measures

Public Service, Life Safety, and Code Enforcement by Deputy Fire Marshals:

- Ensure compliance with the State Statute mandating the installation of smoke detectors in all residential occupancies
- Investigate complaints relative to violations of the State Fire Prevention Regulations
- Conduct on-site Life Safety, Fire Prevention and Code Enforcement Inspections in the following occupancies:
 - ~ Educational Occupancies ~ Places of Assembly ~ Public Accommodations ~ Mercantile ~ Business ~ Flammable & Combustible Liquids ~ Flammable Gases ~ Fireworks ~ Explosives ~ Government Buildings~

Technical Services Division

Fire Protection Specialists:

- Review all plans & specifications for construction of new buildings, additions, alterations or modifications to existing buildings to ensure compliance with the State Fire Prevention Regulations
- Provide consultation to prospective developers & builders regarding their plans for projects in the concept phase
- Ensure required fire alarm and fire suppression systems are installed properly
- Coordinate all requests for alternative code requirements and all appeals to the State Fire Prevention Regulations
- Oversee the Licensing & Certification of Fire Alarm Signaling & Fire Suppression System contractors
- Investigate complaints relative to deficiencies in the installation of fire protection systems
- Provide technical support to other state & local jurisdictions

Special Programs

Juvenile Intervention ~ K9 Accelerant Detection ~ Health Care Facility & Day Care Facility Certification ~ Major Incident Response Team ~ Assistance to Fire Chiefs ~ Delaware Fire Incident Reporting System ~ Quality Assurance ~ Hard Wired Smoke Detector ~ False Fire Alarm ~ Reduced Ignition Propensity Cigarette~

PROMOTIONS



Sheila A. Alexander

Sheila A. Alexander was promoted from an Administrative Specialist I to an Office Manager in the Dover Office effective February 2016.



Brian K. Ferguson

Brian K. Ferguson was promoted from a Juvenile Fire Setters Intervention Coordinator to a Deputy State Fire Marshal I in the Dover Office effective May 2016.

NEW EMPLOYEES



Michael P. Pfaffenhauser

Michael P. Pfaffenhauser began his employment with our office in August of 2015 as a Deputy State Fire Marshal assigned to the Investigative Division in Sussex County.



William C. Kelly, II

William C. Kelly, II began his employment with our office in August of 2015 as a Fire Protection Specialist I assigned to the Technical Services Division in Sussex County.



Joseph Moran

Joseph Moran began his employment with our office in April of 2016 as a Fire Protection Specialist I assigned to the Technical Services Division in Sussex County.



Diane R. Edwards

Diane R. Edwards began her employment with our office in November of 2015 as an Administrative Specialist I assigned to the Investigative Division in New Castle County.



Barbara S. Dooley

Barbara S. Dooley began her employment with our office in May of 2016 as an Administrative Specialist I assigned to the Technical Services Division in New Castle County.

FY-16 Financial Report (July 1, 2015 thru June 30, 2016)

General Funds:

<u>Appropriations</u>	<u>Available Funds</u>	<u>Encumbrances</u>	<u>(Reverted)</u>	<u>Current Year Expenditures</u>	<u>Remaining Funds</u>
Personnel (Salaries)	\$2,228,600.00		(\$226,003.13)	\$2,002,596.87	
Contractual	\$310,900.00	\$25,121.38	(\$19,278.50)	\$266,500.12	
Energy	\$71,800.00	\$4,540.35	(\$31,053.57)	\$36,206.08	
Supplies	\$23,400.00	\$1,134.30		\$22,265.70	
Capital	-0-			-0-	
Intervention	\$2,000.00			\$2,000.00	
Totals:	\$2,636,700.00	\$30,796.03	(\$276,335.20)	\$2,329,568.77	

Appropriated Special Funds:

<u>Appropriations</u>	<u>Available Funds</u>	<u>Encumbrances</u>	<u>Current Year Expenditures</u>	<u>Remaining Funds</u>
Personnel (Salaries)	\$1,745,200.00		\$1,684,065.91	\$61,134.09
Travel	\$34,000.00		\$3,135.64	30,864.36
Contractual	\$366,800.00		\$43,283.00	\$323,517.00
Supplies	\$81,000.00		\$17,124.47	\$63,875.53
Capital	\$196,200.00	\$7,080.00	\$12,385.54	\$176,734.46
Revenue Refund	\$1,500.00		-0-	\$1,500.00
Totals:	\$2,424,700.00	\$7,080.00	1,759,994.56	\$657,625.44

FY 15 Holding Accounts Carry Over:

\$4,805,860.82 (+)

Restricted Appropriated Special Funds:

Cigarette Certification	\$711,750.00		-0-	\$711,750.00
Detector Fund	\$39,278.77		\$16,876.00	\$20,402.77
Hearing Impaired Detectors	\$2,755.10		-0-	\$2,755.10
Juvenile Intervention Prog.	\$5,831.92		\$2,377.53	\$3,454.39
Totals:	\$759,615.79		\$19,253.53	\$738,362.26(+)

Revenue Holding Accounts:

<u>Appropriations</u>	<u>Revenue Received FY16</u>
Amusement Rides	\$1,700.00
Plan Review	\$2,245,792.24
F.P. Licensing.....	\$12,550.00
Assembly.....	\$27,975.00
Day Care Program.....	\$52,203.72
Fire Codes	\$-0-
Explosives	\$325.00
Fireworks	\$2,475.00
In-House Licensing	\$7,625.00
C of I Inspections	\$256,150.00
Systems	\$19,100.00
OPL	\$1,850.00
Misc. Revenue.....	\$54,991.04
Totals	\$2,682,737.00 (+)

Total Cash on Hand June 30, 2016

\$4,991,954.98



TECHNICAL SERVICES

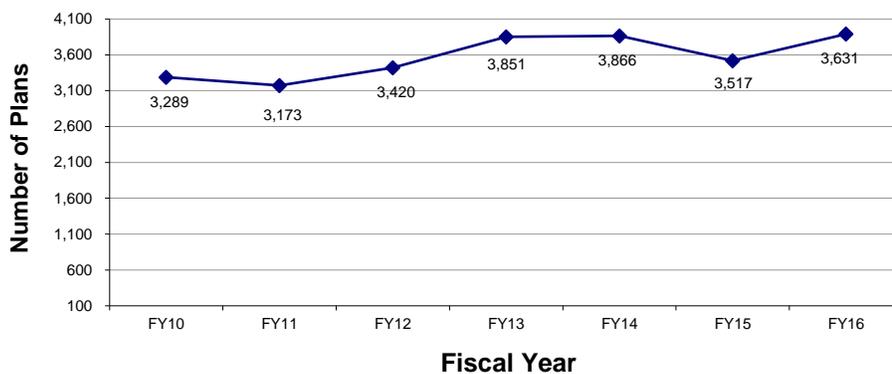
Plan Review

The Technical Services Division of the Office of the State Fire Marshal confirms compliance with the Delaware State Fire Prevention Regulations on new proposed projects through Plan Review. After the plans have been approved, inspections are performed to verify conformance to the approved plans.

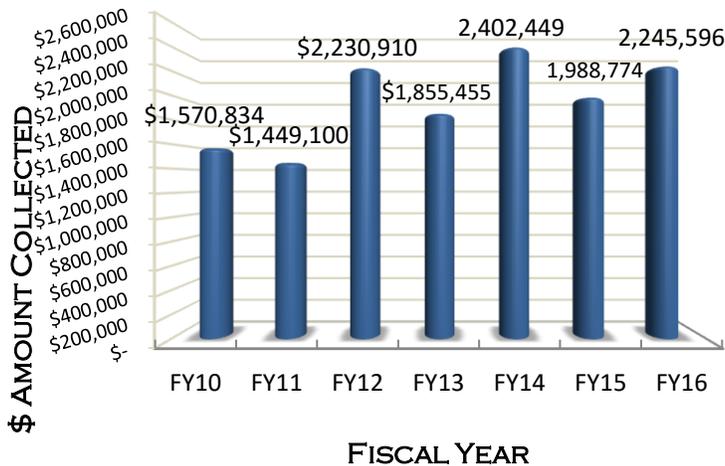
Reviews are performed on:

- *Site plans*
- *Fire protection systems plans*
- *Plans for new construction, additions, renovations, tenant fit-outs and occupancy changes in all buildings except one or two family dwellings*
- *Plans for installations of aboveground bulk storage combustible liquids tanks and dispensing systems*

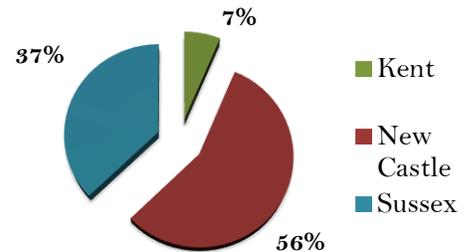
FY 10 - FY 16 Plan Reviews - Statewide Total



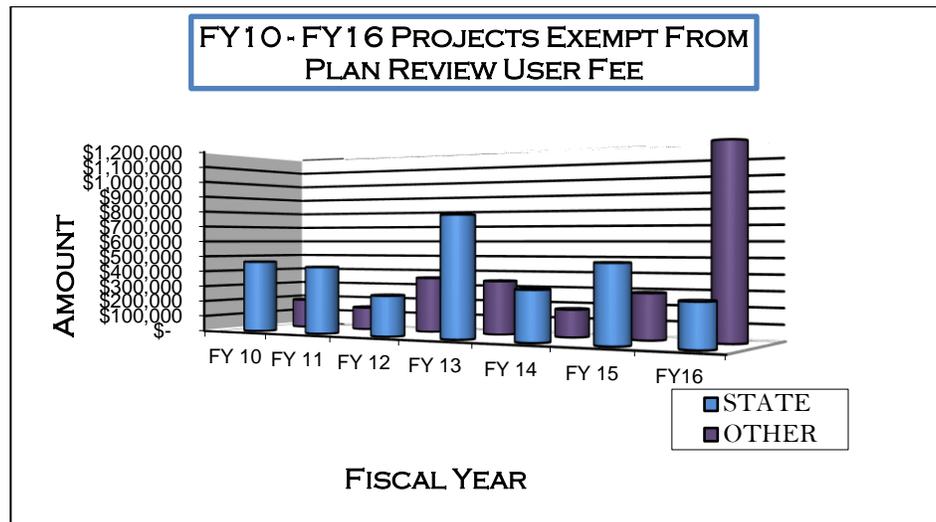
**STATEWIDE PRUF REVENUE COLLECTED
FY10-FY16**



**FY 16 PLAN REVIEW FEES
BY COUNTY**



Technical Services reviews plans for projects that are exempt from fees in accordance with Title 16, Chapter 66, §6612(l)(6) and §6612 (l)(8). 39% of the 618 exempt projects received in FY-16 were state buildings or buildings on state owned property.



Fee Exempted Plan Review Projects Received FY 16		
Type of Exemption	# of projects	\$ amount not collected
County	21	76,799
DE State Housing Authority	63	405,701
Federal	1	150
Municipalities	24	395,825
State	241	463,438
Volunteer Fire Companies/Ambulance	8	1,556
Total	358	\$1,343,469

STATE FIRE PREVENTION REGULATIONS

The State Fire Prevention Commission held a public hearing on September 22, 2015 for proposed changes to the Delaware State Fire Prevention Regulations. After receiving and reviewing the public comment, the Commission voted to adopt an updated version of the 2015 Delaware State Fire Prevention Regulations and established March 11, 2016 as the effective date.

The revisions include the following.

- Adoption of Chapter 43 in the NFPA Life Safety Code on building rehabilitation.
- An update of the NFPA Codes and Standards that are frequently used in order to reflect latest technology. Additionally, previous amendments that were no longer applicable were eliminated from the Regulations.
- Former Annex A and Annex B of Regulation 701 have been consolidated into a new Chapter 7 of Regulation 701.
- Regulation 703 of the State Fire Prevention Regulations was revised in order to become compatible with the new testing protocols that were established by the National Institute of Certified Engineering Technologies (NICET).

The State Fire Prevention Regulations are now available on-line in their entirety @ www.statefiremarshal.delaware.gov.

MAJOR PROJECTS BY OCCUPANCY

<u>New Castle County</u> <u>Project Name</u>	<u>Occupancy</u> <u>Classification</u>	<u>Description</u>
Greenville Country Club	Assembly	2-story, 2,600 square foot addition to existing Club House
Incite Corporation	Business	A new 4-story (155,000 square foot) office building
CSC - HQ	Business	A new 4-story (145,000 square foot) Corporate office building in the Commons of Little Falls
Hertrich Acura	Business and Industrial	A major renovation to an existing building including a 5,000 square foot addition for offices and an auto repair facility
Middletown Health Pavilion	Business	A new 1-story, 20,000 square foot office (Bldg B)
Recovery Innovations	Health Care	A new 2-story office with residential treatment facilities near Newark
Johnson Controls (Mid-Oxide)	Industrial	A 32,000 square foot addition to existing industrial building in Middletown
Aldi Food Market	Mercantile	A new 18,000 square foot, 1-story store in Westtown area of Middletown
Christiana Fashion Center	Mercantile	A new, 110,000 square foot multi-tenant strip shopping center
Lidl Grocery Store	Mercantile	A new 38,000 square foot, 1-story retailer on west side of Middletown
Raymour & Flanigan	Mercantile	A 3-story, 50,000 square foot furniture retailer in Christiana Fashion Center
Harbor House	Residential	A new 3-story, 18,000 square foot apartment building in Claymont
St.Andrews School – Health Annex	Residential	18,000 square foot renovation for 2-story medical office and apartments
Incite Corporation	Storage	A new 120,000 square foot, 5-level corporate parking structure with roof top “green” employee gathering area
Christiana Care	Storage	A new 115,000 square foot, 2-story, hospital employee parking structure
CSC HQ	Storage	A new 4-story corporate parking structure in the Commons of Little Falls
Christiana Care – Women’s Tower	Storage	A new 205,000 square foot, 4-level, open parking structure

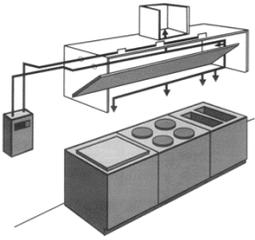
<u>Kent County</u> <u>Project Name</u>	<u>Occupancy</u> <u>Classification</u>	<u>Description</u>
Aldi Food Market	Mercantile	A new 1-story, 18,000 square foot store in Camden

<u>Sussex County</u> <u>Project Name</u>	<u>Occupancy</u> <u>Classification</u>	<u>Description</u>
Lefty’s Alley & Eats	Assembly	New 33,000 square foot family entertainment center in Lewes
Bayside Recreation Center	Assembly	New 19,000 square foot recreation center near Fenwick Island includes fitness room, club house, pool and gathering areas
Cannon Labs	Business	Major renovations at University of Delaware for adult education classrooms
CBOC Veterans Clinic	Business	New 14,000 square foot, 1 story offices
Sandpiper Plaza (Building 1)	Business	New 3-story office building in Rehoboth Beach with ground level being occupied by retail
Bayhealth Medical Campus	Health Care	New 6-story, 165,000 square foot hospital and ambulatory care center in Milford
Chesapeake Agrisoil	Industrial	15,000 square foot industrial building (Building C)
Sea Colony East	Residential	Additional exterior renovation of high rise building; Harbor House in Bethany Beach
Bed, Bath, and Beyond	Mercantile	New 1-story, 24,000 square foot store in Rehoboth Gateway
The Fresh Market	Mercantile	New 22,000 square foot grocery store in Rehoboth Gateway
Tanger Seaside Outlets	Mercantile	Major exterior renovations to existing strip shopping/outlet center
Welcome Center	Mercantile	2 story, 9,500 square foot buildings, offices consisting of mercantile and a small assembly occupancy in Long Neck
Tanger Bayside Outlets	Mercantile	Major exterior renovations to existing outlet center building

ADDITIONAL ACTIVITIES

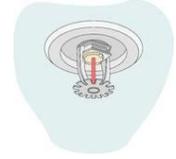
In addition to the plan review, inspections and quality assurance responsibilities, Fire Protection Specialists actively participated in the following organizations and activities providing specialized expertise and valuable input.

- The Technical Advisory Committee process in New Castle, Kent, and Sussex Counties.
- Lower Delaware and Maryland Building Code Officials Association (LDMBCOA) meetings.
- Delaware Building Officials Association (DBOA) meetings.
- Conducted two (2) classes at the Delaware Technical & Community College - Stanton
- Attended Engineering Career Fair at the Delaware Technical & Community College - Stanton
- Water Supply Coordinating Council meetings as a member.
- Participated in an advisory role with the Office of Child Care Licensing with ongoing revisions to their Regulations
- Provide two (2) Principal members and three (3) Alternate members to various NFPA Technical Committees
- Monthly PLUS meeting at the Office of State Planning Coordination.
- Serve on Fire Engineering Advisory Board of Delaware Technical and Community College
- Assisted the University of Delaware Fire Marshal with providing training to University of Delaware Resident Assistants
- Participated with the Congressional Fire Service Caucus in Washington, DC
- Attended a panel discussion with National Association of Water Companies regarding “Backflow Prevention”
- Assisted the City of Dover Fire Marshal with technical support and planning for the Fire Fly music festival
- Assisted City of Newark with plan review and inspections during the vacancy of their Fire Marshal position.
- Participated at a national workshop sponsored by the National Fire Protection Association regarding complications with small hotel/apartments sprinkler systems.
- Provided technical support and training to the newly appointed City of Newark Fire Marshal.
- Attended meeting with the stakeholders of the Code Purple project to address Fire Safety issues.
- Attended meeting with Delaware members of the National Propane Gas Association to discuss changes to the State Fire Prevention Regulations.
- Assisted City of Wilmington Fire Department with review of their excess plans.
- Worked closely on-site with DuPont and Chemours on the decommissioning of the Edgemoor industrial complex.
- Assisted the Delaware State Fire School by providing instructors for the week-long NFPA Certified Fire Inspector course

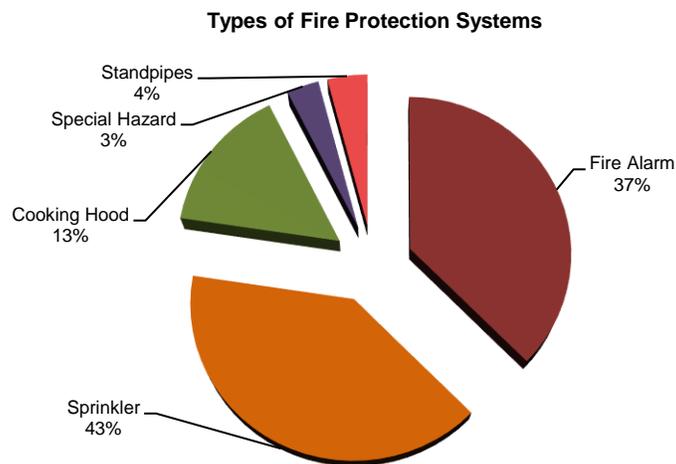


TECHNICAL SERVICES

Quality Assurance Program



The Quality Assurance Program (QAP) provides a statewide program involving two distinct functions; Fire Protection System Certification and Fire Protection Contractor Licensing.

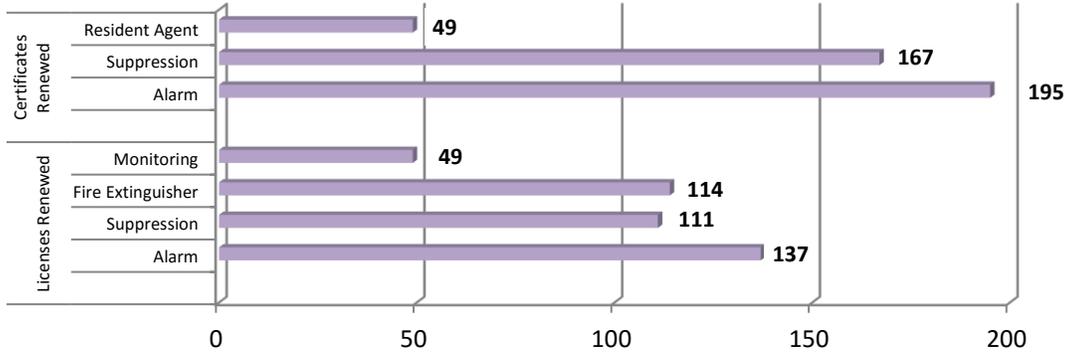


Fire Protection System Certification

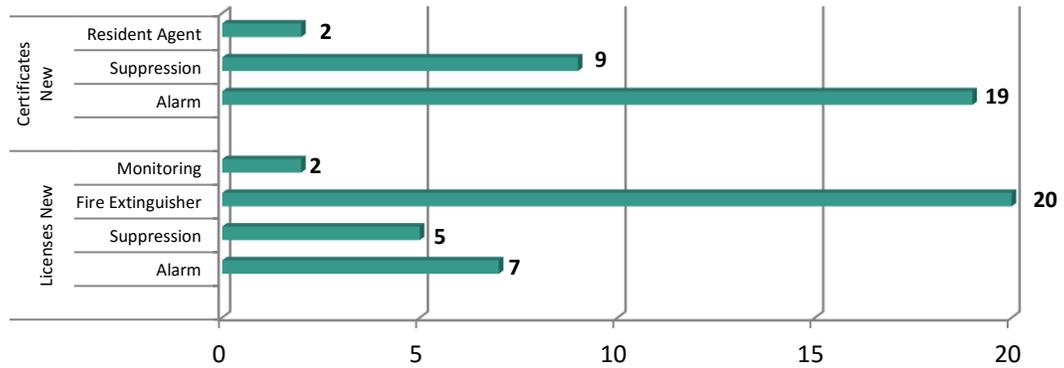
- Identifies all fire protection systems within the state
- Promotes quality service by the contractors
- Verifies annual inspections of fire protection systems are conducted
- Monitors and verifies correction of deficiencies identified from inspections

Licenses as of the end of FY 2016	
Fire Alarm	143
Fire Suppression	119
Fire Extinguisher	236
Central Station and Remote Station Service	51
Total	549

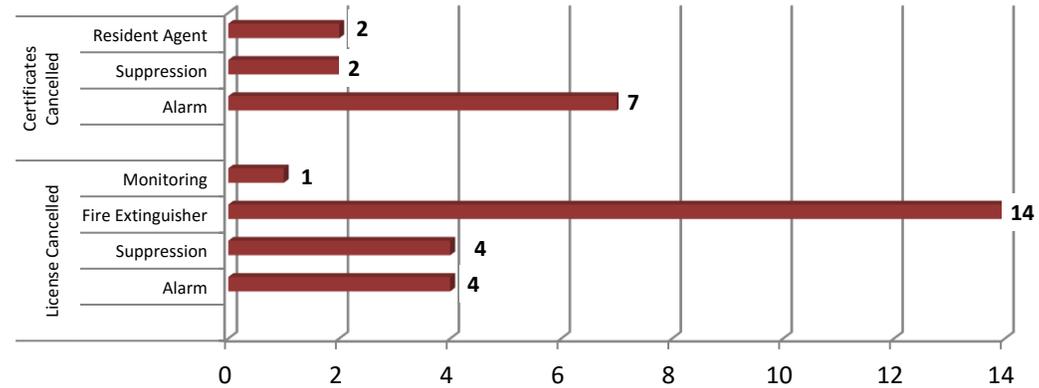
FY 2016 Renewed Licenses and Certificates



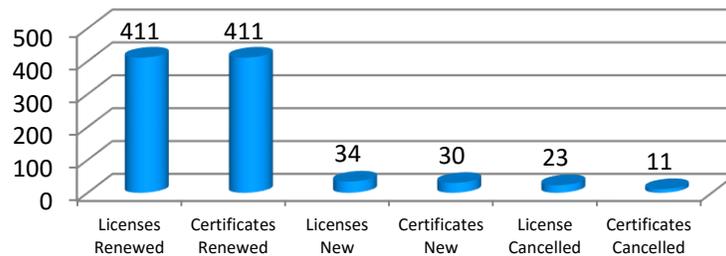
FY 2016 New Licenses and Certificates



FY 2016 Cancelled Licenses and Certificates

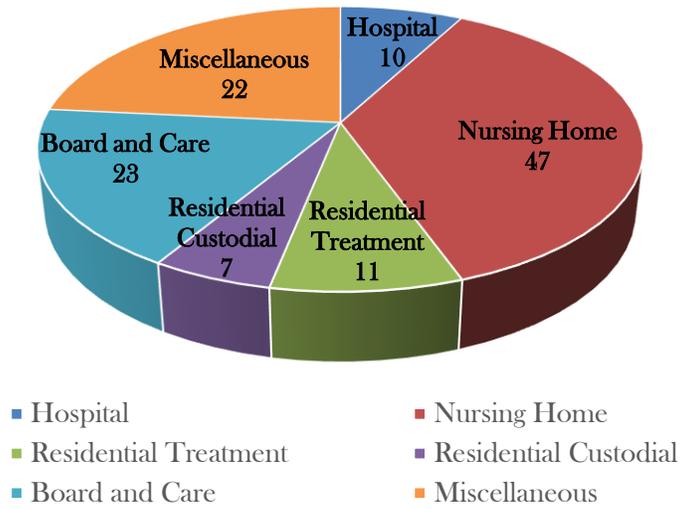


FY 2016 Fire Protection System License Activity

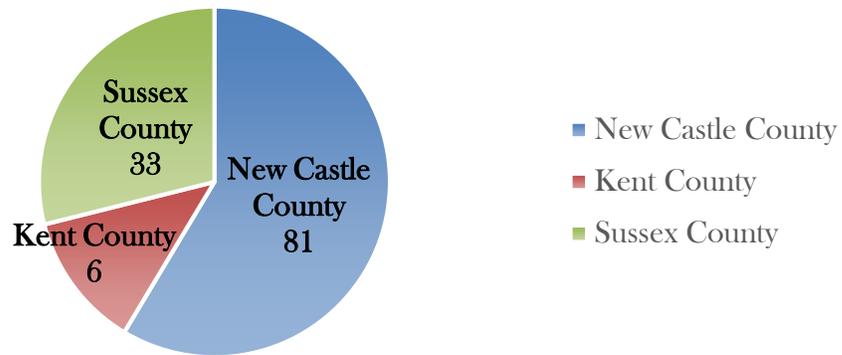


HEALTH CARE

FY-16 Health Care Inspections - 120

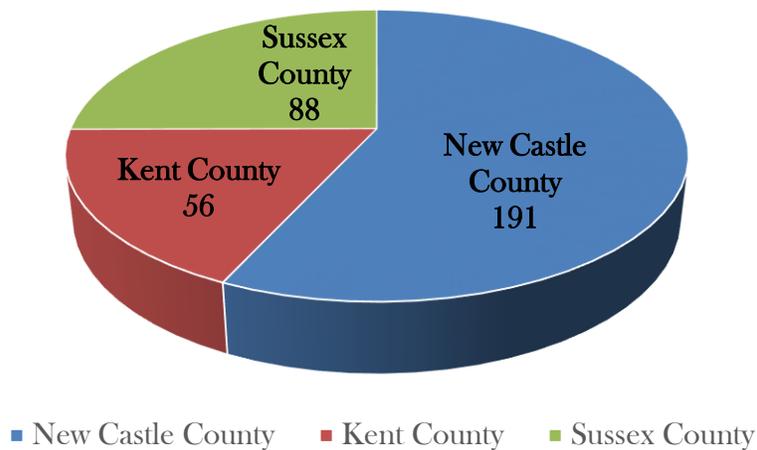


FY-16 Health Care Inspections - By County



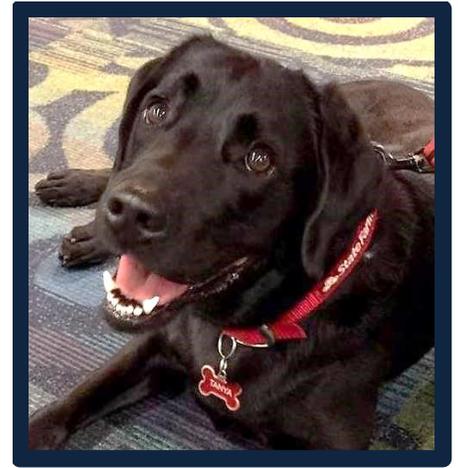
DAY CARE

FY-16 Day Care Inspections - 335





ACCELERANT DETECTION CANINE UNIT

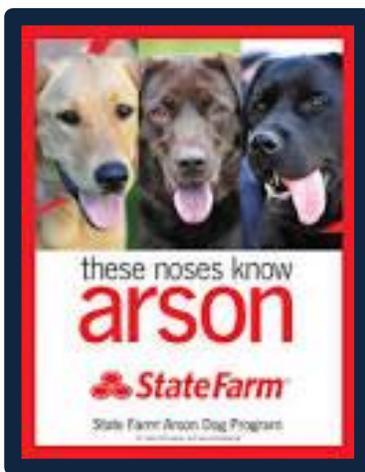
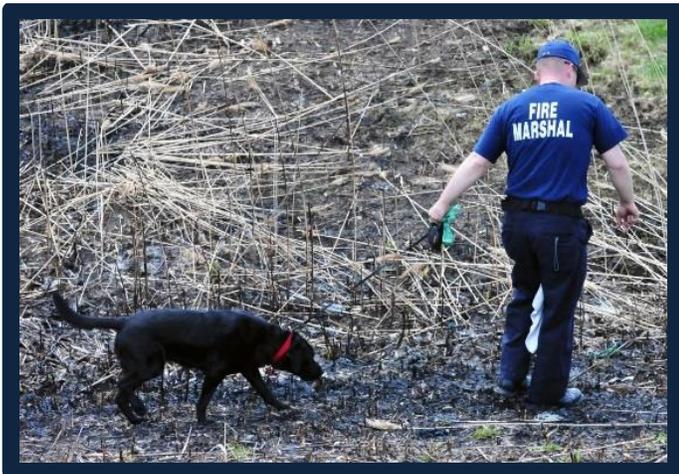


The Office of the State Fire Marshal Accelerant Detection Canine Unit has served the state since 1990. The K9 Unit examines fire scenes throughout the state for the presence of accelerants or ignitable liquids such as gasoline or lighter fluid that may be used to start or spread a fire. In 1997 the agency received a grant from State Farm Insurance Company for an Accelerant Detection K9. This same grant was received and utilized for the current K9. The grant provides the K9, training, lodging and expenses for initial certification.

The Accelerant Detection K9 unit is currently staffed by K9 Tanya, a Black Labrador Retriever and handler Deputy Fire Marshal John Galaska. K9 Tanya has served the agency since May 2014. Deputy Galaska has been a Deputy Fire Marshal assigned to the Sussex Division / Investigations since 2003 and has been a handler in the K9 program since 2009. The K9 Team of Tanya and Handler Deputy Galaska are required to recertify each year. In July 2015 the team successfully recertified at a recertification held in Alfred, Maine.

K9 Tanya is a food reward K9 which refers to the way she is trained. Tanya is required to make a positive alert coming to her final response on an accelerant to be rewarded with a handful of food. To keep up with food intake K9 Tanya and Deputy Galaska follow a very intensive daily training process delivered at different times and for random durations involving actual fire scenes, training scenarios and training aids. This process is repeated until K9 Tanya receives her daily allotment of food which varies from day to day and is regulated by handler Deputy Galaska. Tanya is a “companion dog” and lives and travels with Deputy Galaska. A strong team bond is formed between handler and K9 through the intensive training regimen, however, Tanya is a friend and companion to all at the State Fire Marshal’s Office.

This past fiscal year K9 Tanya and Deputy Galaska trained 1190 separate times equaling thousands of trips for K9 Tanya to Deputy Galaska's hand for food after a positive alert. K9 Tanya performed 46 operational calls during the 2016 fiscal year. Successful demonstrations were performed at North Dover Elementary, Cesar Rodney High School and Lord Baltimore Elementary. A special highlight for the year was the honor of being invited to perform a K9 demonstration at the Congressional Fire Services Institute 2016 National Fire and Emergency Services Symposium in Washington D. C. on behalf of State Farm Insurance and Maine Specialty Dogs. A demonstration was performed for fire service leaders from throughout the United States to accompany a State Farm Insurance presentation on Arson Dogs. Another highlight was a local television appearance and team interview by WMDT 47 for Arson Awareness week 2016. K9 Tanya and handler Deputy Galaska were featured on a 2014 web series presented by celebrity K9 trainer Victoria Stilwell. This web series is available for viewing at www.arsondog.org.



FIRE SCENES



New Castle County

Building Fire - Claymont, DE

March 19, 2016

Accidental Fire - Portable Space
Heater



Kent County

House Fire - Harrington DE

November 29, 2015

Accidental Fire - Electrical
Malfunction



Sussex County

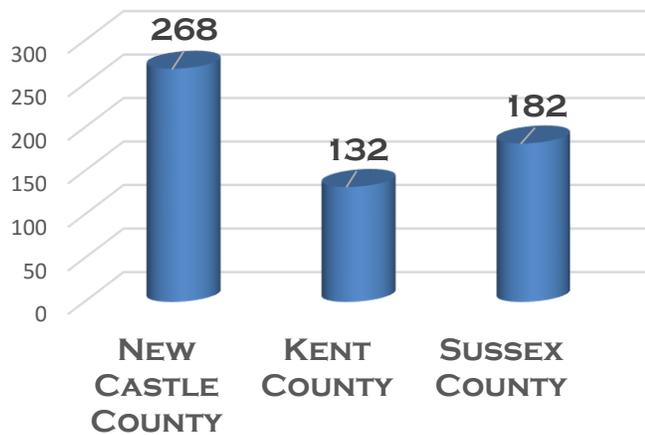
House Trailer Fire & Explosion -
Rehoboth Beach, DE

April 20, 2016

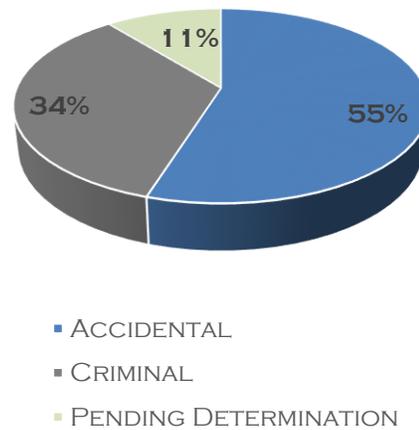
Accidental Fire - Electrical
Malfunction

INVESTIGATIONS

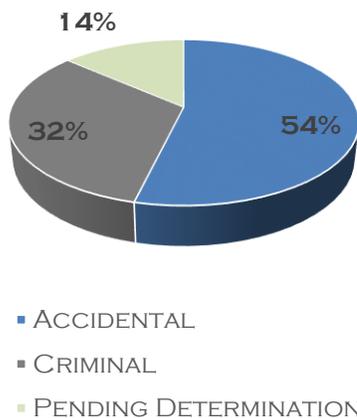
FIRE INVESTIGATIONS STATEWIDE - 582



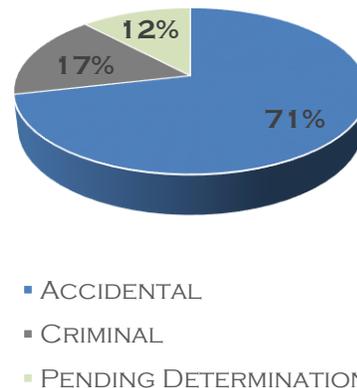
NEW CASTLE COUNTY INVESTIGATIONS - 268



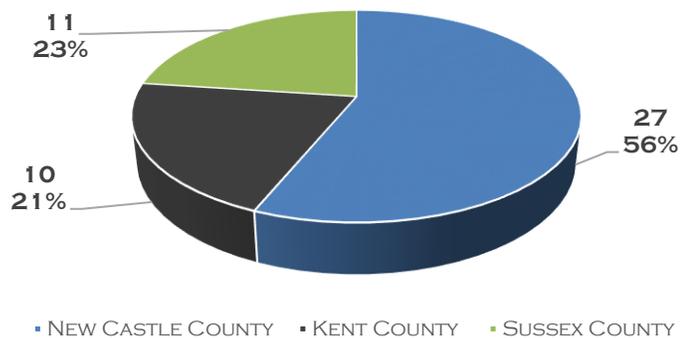
KENT COUNTY INVESTIGATIONS - 132



SUSSEX COUNTY INVESTIGATIONS - 182

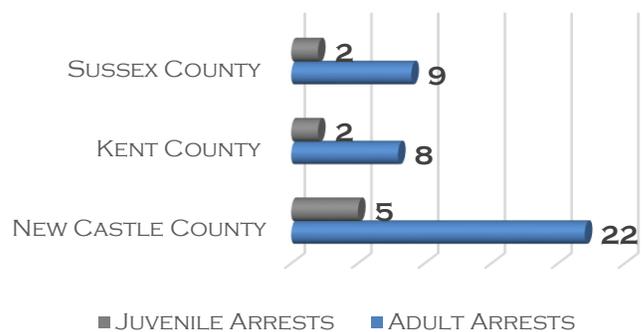


ARRESTS STATEWIDE - 48

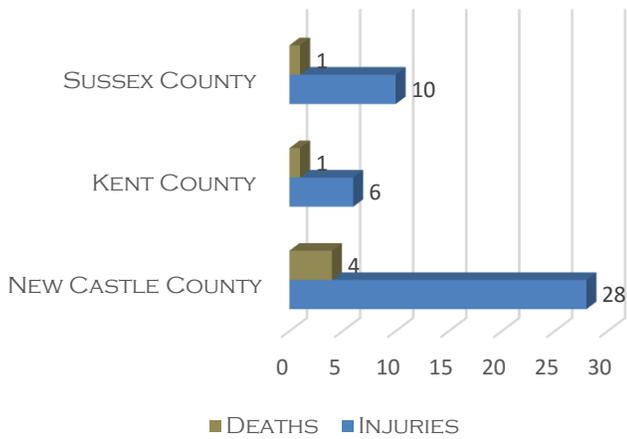


ARRESTS BY COUNTY

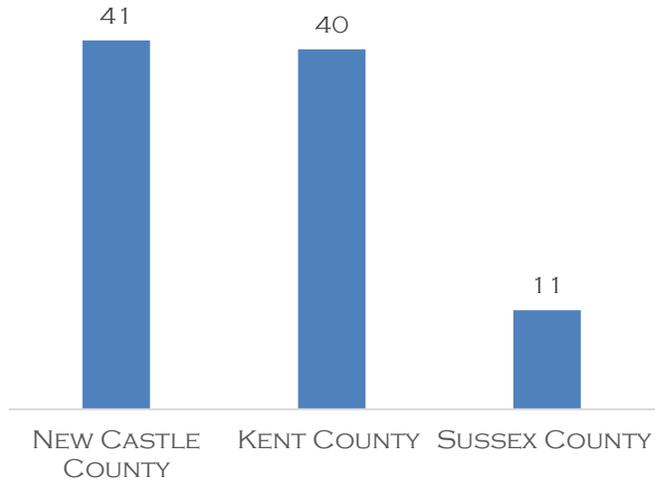
NEW CASTLE 27 / KENT COUNTY 10 / SUSSEX COUNTY 11



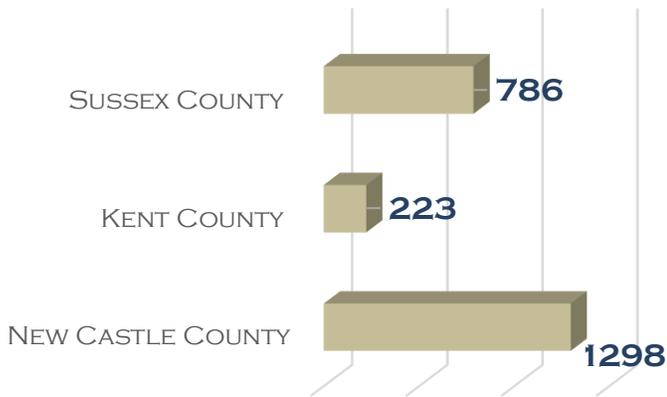
**INJURIES & DEATHS STATEWIDE
44 INJURIES / 6 DEATHS**



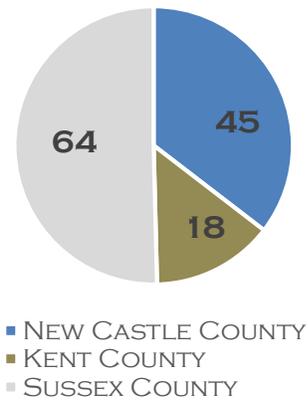
CRIMINAL CHARGES STATEWIDE - 92



INSPECTIONS STATEWIDE - 2307

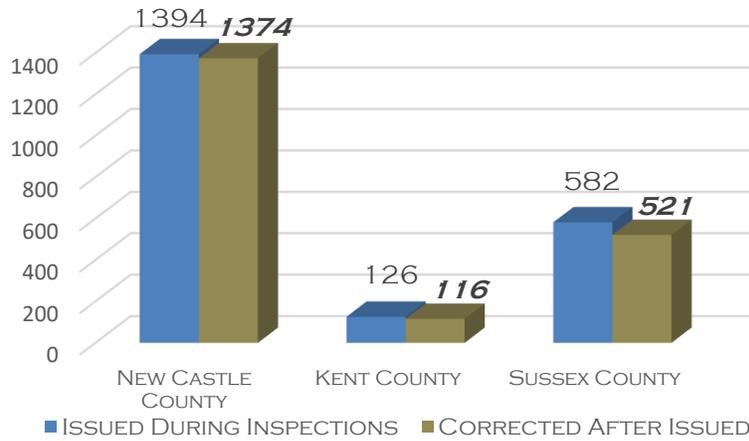


FIRE CODE COMPLAINTS STATEWIDE - 127



VIOLATIONS STATEWIDE

2,102 ISSUED DURING INSPECTIONS / 2,011 CORRECTED AFTER ISSUED



MAJOR INCIDENT RESPONSE TEAM FIRE DEATH INVESTIGATIONS JULY 1, 2015 – JUNE 30, 2016

New Castle County - 4

Date of Fire: Tuesday, December 29, 2015
Time of Alarm: 0545 Hours
Victim: W/M/54
Location: Pine Tree Road, Townsend
Fire Department: Townsend Fire Department
Type of Incident: Building Fire
Origin: Camper-Couch
Cause: Smoking Materials
Cause of Death: Smoke Inhalation & Thermal Burns
Smoke Detectors: Yes

Date of Fire: Tuesday, January 12, 2016
Time of Alarm: 1610 Hours
Victim: B/F/3 Months & B/F/3
Location: North Monroe Street – City of Wilmington
Fire Department: Wilmington Fire Department
Type of Incident: Single Family Dwelling Fire
Origin: First Floor
Cause: Space Heater Ignited Combustibles
Cause of Death: Smoke Inhalation & Thermal Burns
Smoke Detectors: No

Date of Fire: Tuesday, January 19, 2016
Time of Alarm: 2238 Hours
Victim: W/M/50
Location: Abington Road, Wilmington
Fire Department: Talleyville Fire Department
Type of Incident: Single Family Dwelling Fire
Origin: Under Investigation
Cause: Under Investigation
Cause of Death: Smoke Inhalation & Thermal Burns
Smoke Detectors: No

Kent County - 1

Date of Fire: Thursday, June 23, 2016
Time of Alarm: 0713 Hours
Victim: W/M/17
Location: Orange Street, Magnolia
Fire Department: Magnolia Fire Department
Type of Incident: Single Family Dwelling Fire
Origin: Kitchen – On top of Electric Stove
Cause: Accidental - Ignition of Combustibles
Cause of Death: Smoke Inhalation
Smoke Detectors: Yes

Sussex County - 1

Date of Fire: Sunday, August 16, 2015
Time of Alarm: 0203 Hours
Victim: W/M/54
Location: Woodland Avenue, Ocean View
Fire Department: Millville Fire Department
Type of Incident: Building Fire
Origin: Under Investigation
Cause: Under Investigation
Cause of Death: Smoke Inhalation
Smoke Detectors: Yes

Total Deaths: 6

Total Fires with Working Smoke Detectors: 2

Total Fires with Non-Working Smoke Detectors: 4

JUVENILE FIRE SETTER INTERVENTION PROGRAM

35 Years of Protecting Delaware's Youth
1981-2016



Rebekah L. Legar, MS

Senior Juvenile Fire Setter Intervention Coordinator

Brian K. Ferguson

Juvenile Fire Setter Intervention Coordinator

“To provide the youth of this State and their families, a Fire Safe Environment, be it in the home, the school, or wherever they pursue their varied interests, through identification, education, and referrals, in an effort to deter future fire setting among Delaware's youth.”

Why do kids play with fire?

Some people believe that it is normal for children to play with fire. The truth is that it is not normal for children to play with fire. Curiosity about fire is normal. However, the use of fire without an adult's knowledge, approval, or supervision is an extremely dangerous behavior. Others think that fire setting is a phase children will outgrow. Fire setting is not a phase! If a child is not taught fire safety, the fire setting can get out of control very quickly and lead to severe injuries. The motives for fire setting behaviors that have been reported by our clients include: To Create Excitement, Boredom, Curiosity, Revenge Against Sibling or Peer, Coercion by a Sibling or Peer, Response to a Fantasy, Call Attention to a Problem, Cry for Help, Revenge Against Parent or Guardian, Response to a Family Problem, and Response to Social Media.

What is the Juvenile Firesetter Intervention Program (JFIP)?

When a child is referred to our program for fire setting behaviors, our trained staff interviews and educates the child in the individual's home with his/her primary caretaker present (*educational intervention*) at a time most convenient to the family. After the interview, recommendations will be made to the child's caretaker as to the appropriate service or combination of services indicated. Any assistance with these referrals is provided upon the family's request. The program is strictly confidential and the information obtained from the interview cannot be shared with anyone without the written consent of the caregiver.

What is Educational Intervention?

When interviewing a child who has exhibited fire setting behaviors, it is so important that we address more than just fire safety. Fire safety education is an essential component of any educational intervention program and it is vital that every child know what to do if there is a fire. But, it is also equally important to address other topics to deter these fire setting behaviors from occurring again in the future. In addition to general fire safety, the educational intervention component of our program includes: Consequences of Fire Play, Hurting Themselves and Others, A High Price to Pay (Legal/Financial), Media Influence & Media Portrayal of Fire vs. Reality, Good Choices vs. Bad Choices, and Peer Pressure Influence. Age appropriate media and photos are also utilized to reinforce lessons.

How successful is the Program?

The Juvenile Fire Setter Intervention Program (JFIP) was initiated in 1981. In those **35 Years**, 5,955 juveniles have been interviewed and a 6% recidivism rate has been consistently maintained. Those juveniles have been referred to the program through a variety of agencies including, Child Mental Health, Division of Family Services, Youth Rehabilitative Services, Schools, and Fire Departments. A majority of those referrals originated from either parents/guardians or through State or local Fire Marshal's Offices.

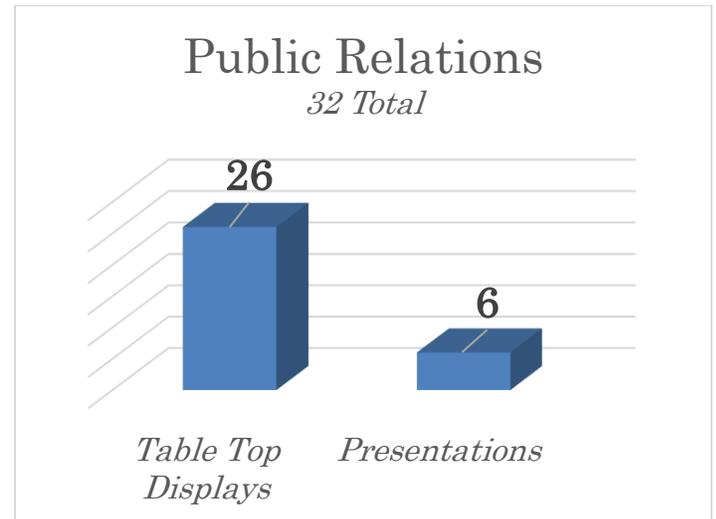
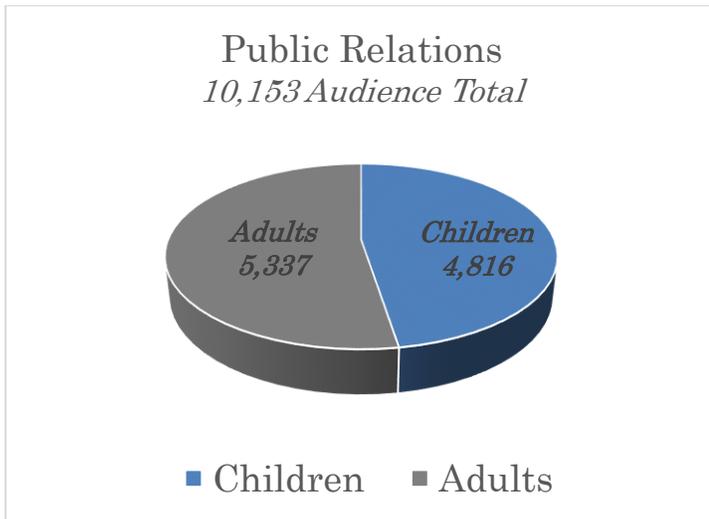
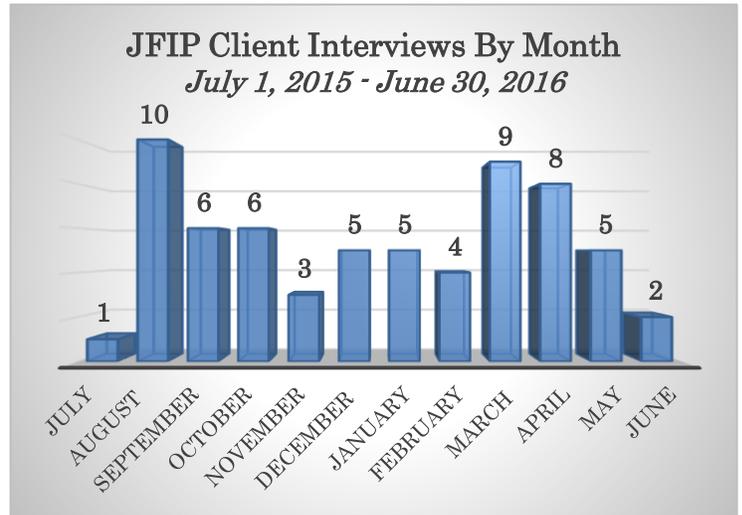
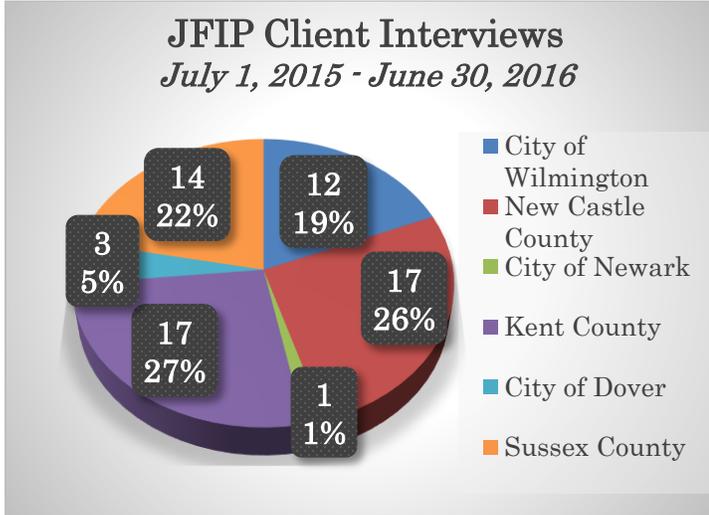
How are clients enrolled in the Program?

Juveniles between the ages of 3-17, may be referred to the JFIP by calling our toll free number at **1-800-432-8500** or by utilizing the referral form which can be accessed on our website

<http://statefiremarshal.delaware.gov/juvenile.shtml>

JFIP Statistics & Public Relations

07/01/2015 - 06/30/2016



Vehicle Mileage— Total 19,574

The JFIP represents the Office of the State Fire Marshal (OSFM) with public relations at community events. This year, the program participated in **32** events throughout the State of Delaware. The OSFM also maintains three display boards for inside events.

<i>Other Public Relations</i>	
Training / Seminars	<i>4</i>
Hearing Impaired Detectors	<i>48</i>
Meetings, Follow-up	<i>14</i>

Would you like us to attend your event?

Use our Display/Presentation Request Form via our website

<http://statefiremarshal.delaware.gov/pdfs/DisplayPresentationRequestForm.pdf>

Due to limited staffing, priority is given to fire companies on a first come, first serve basis. *Please submit all requests no later than two weeks prior to your event so we can coordinate our staffing.*

FALSE FIRE ALARMS

Effective January 1, 2004, an amendment to the Delaware Code (Title 16 §6637) introduced an initiative intended to reduce the frequency of false fire alarms in the State of Delaware. It is intended to deter excessive number of fire alarms that have been determined to be a result of poor detector maintenance or lack of required fire alarm servicing.

	New Castle	Kent	Sussex	Statewide
Total Alarm Activations (# of Warnings Issued)	129	107	89	325
Fines Issued:	1	0	0	1
Amount Collected	\$100	0	0	\$100

In FY16 there were over 300 False Fire Alarms recorded with 1 of them leading to penalties being issued. These fines resulted in \$100 being collected. All monies derived from the civil penalties are placed in the Fire Detection Fund used for the purpose of sponsoring hard wired smoke detectors to needy Delaware residents.

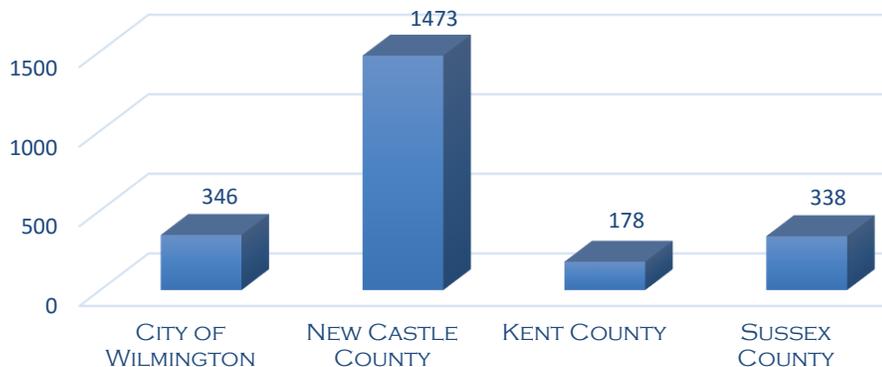
OPERATION "SAFETY" HARD WIRED SMOKE DETECTORS

The State Fire Marshal acknowledges that Smoke Detectors save lives.

The objective of Operation "Safety" is to ensure the installation of hard wired smoke detectors in every private residence in the State of Delaware by assisting citizens in homes where handicapped children, handicapped adults, infirm residents and residents 62 years of age and older reside.

In FY16, 25 homes were provided with 70 detector installations at a cost of \$19,152. To date, the program has been responsible for the installation of 2,335 detectors in 874 homes.

HWSD Program Totals to Date



DELAWARE FIRE INCIDENT REPORTING SYSTEM (DFIRS)

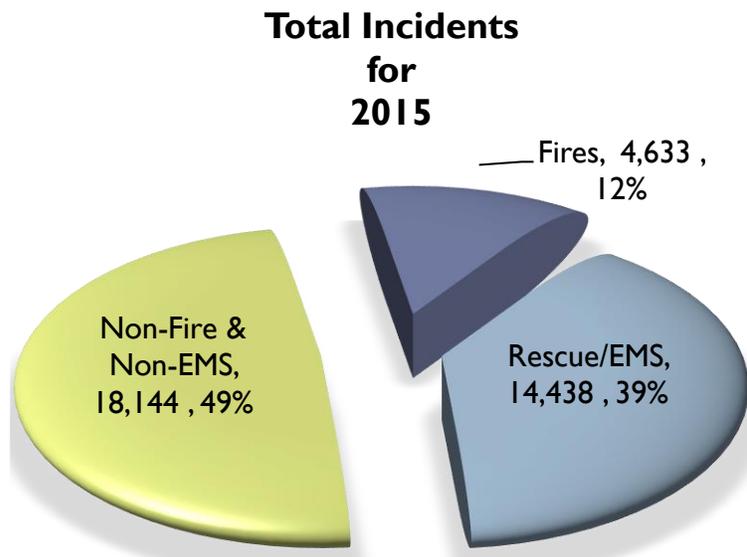
Keeping Delaware Safe – Fighting Fire with Facts

DFIRS is Delaware’s segment of the Federal Emergency Management Agency’s (FEMA) National Fire Incident Reporting System (NFIRS), a reporting system that captures the full range of incident activity. It constitutes the world’s largest national collection of fire incident information. The Office of the State Fire Marshal oversees the consolidation and technical review of the collected data from all 61 Delaware fire departments.

In 2015, 37,215 incidents were reported to the Office of the State Fire Marshal. These incidents included 4,633 fires, 14,438 rescue and emergency medical service incidents, and 18,144 other incidents not classed as EMS or fire. There were 6,589 incidents in which a fire department provided assistance (mutual or automatic aid given) to another jurisdiction.

Fire incidents accounted for 12 percent of the total and rescue and non-fire and non-emergency medical services accounted for 49 percent of the total incidents handled by fire departments

The makeup of the types of incidents that fire departments handled in 2015 showed a decrease by 27 percent from the previous year. The following charts provide an overview of the current characteristics in Delaware:



Incident Time Statistics

Based on NFIRS data only.

One fire department response every **14 minutes**



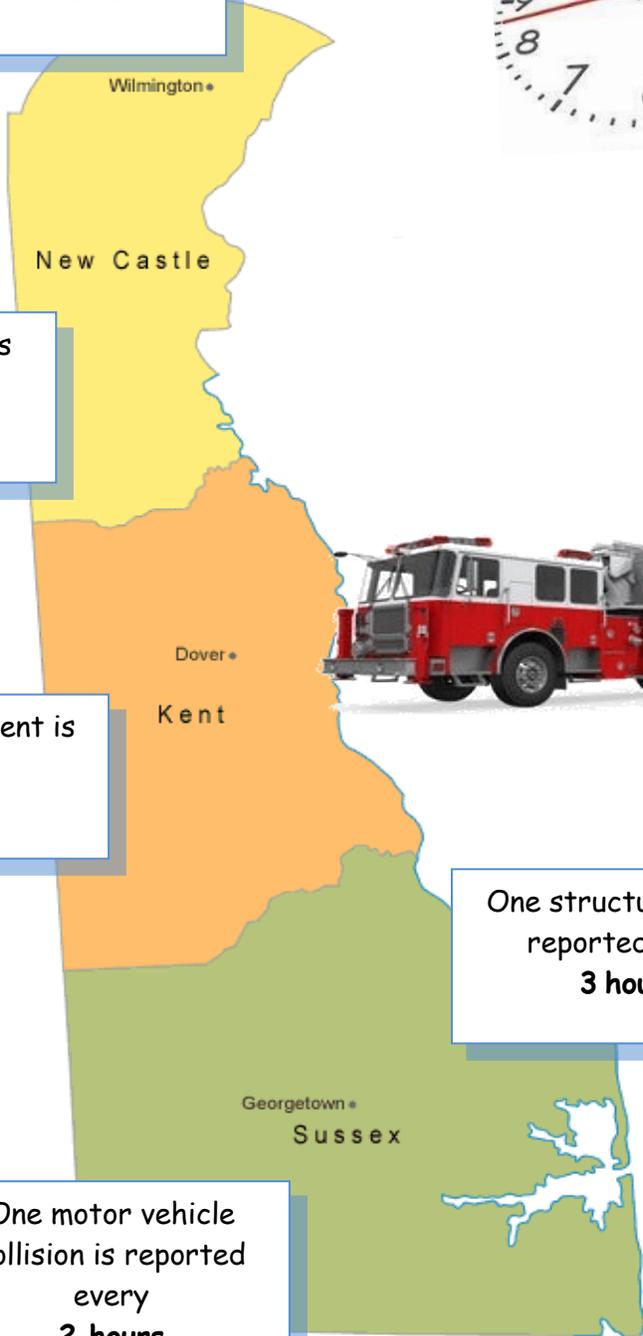
One Fire incident is reported every **2 hours**



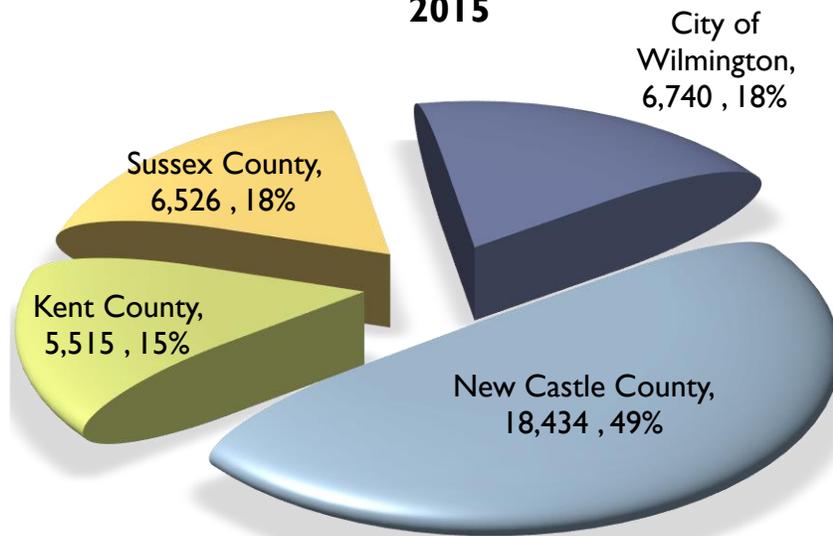
One EMS/Rescue incident is reported every **36 minutes**

One structure fire is reported every **3 hours**

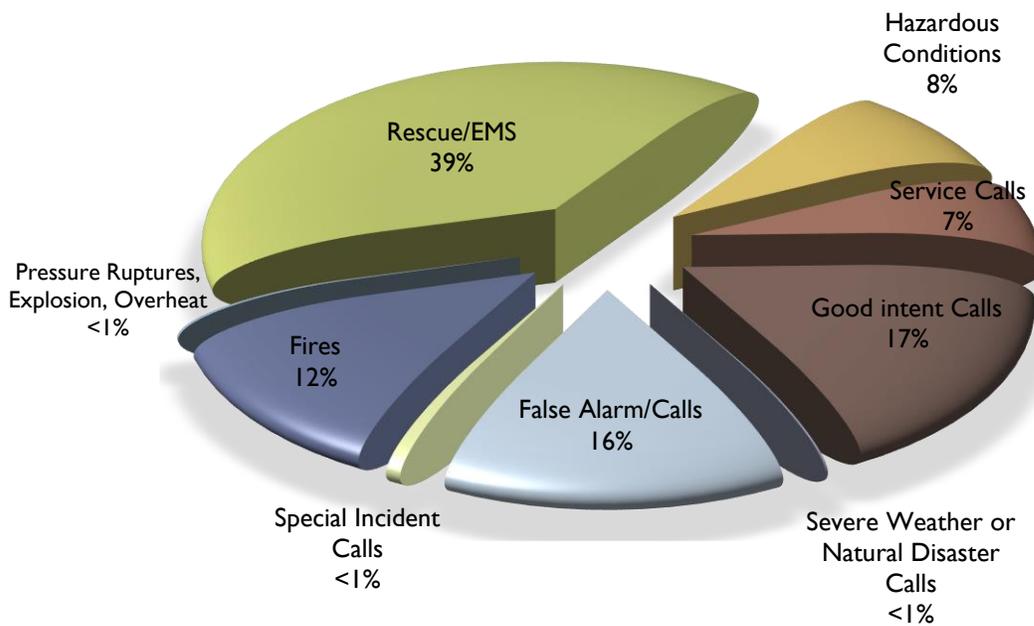
One motor vehicle collision is reported every **2 hours**



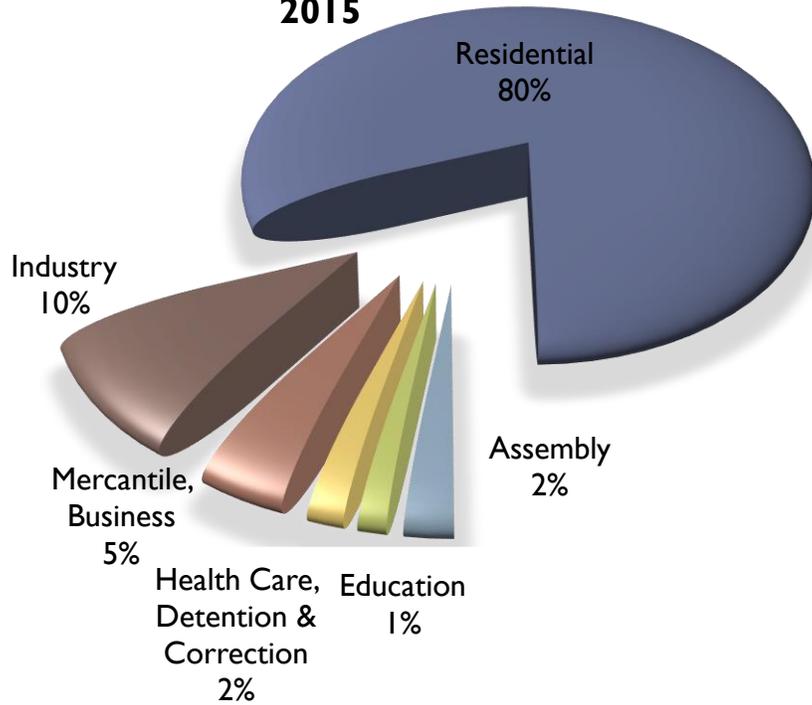
Incidents by County and City of Wilmington for 2015



Summary of Incidents for 2015



Structure Fires by Property Use for 2015

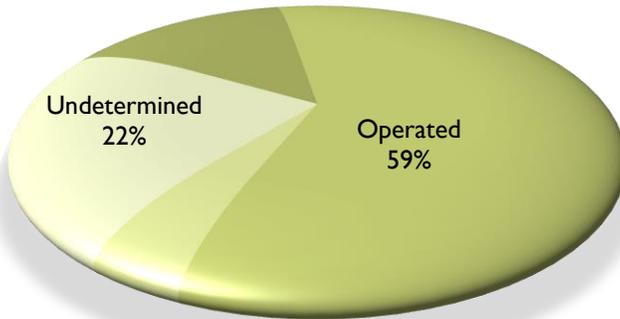


Property Use	Frequency	%
Residential	979	80%
Assembly	29	2%
Education	17	1%
Health Care, Detention & Correction	22	2%
Mercantile, Business	54	5%
Industry	117	10%
Total	1,218	

The data in these tables identify the operating principle of detectors present in the area of origin or in near proximity to the area of origin.

Detector Operation for 2015

Fire too small to
operate
14%



Failed to Operate
5%

Detector Effectiveness for 2015

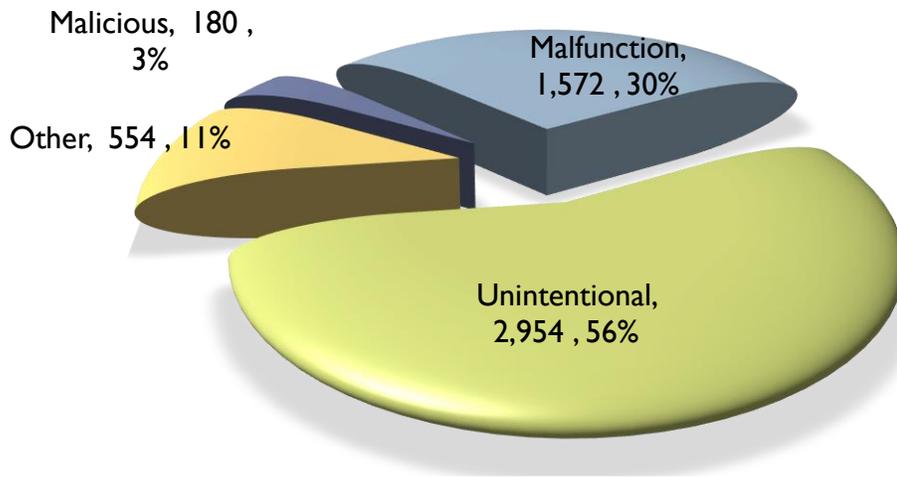
Undetermined
6%



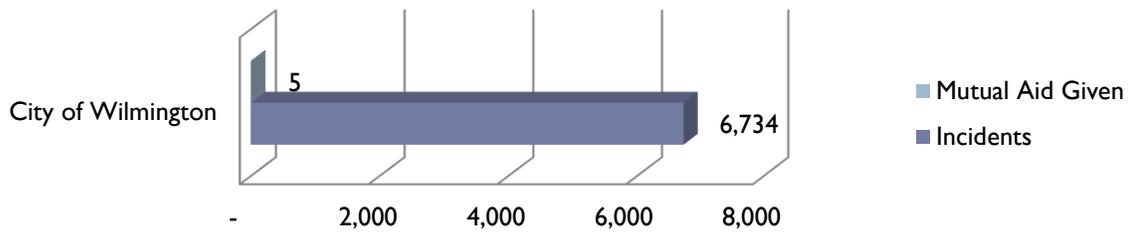
Failed to alert
occupants
2%

Occupants failed
to respond
7%

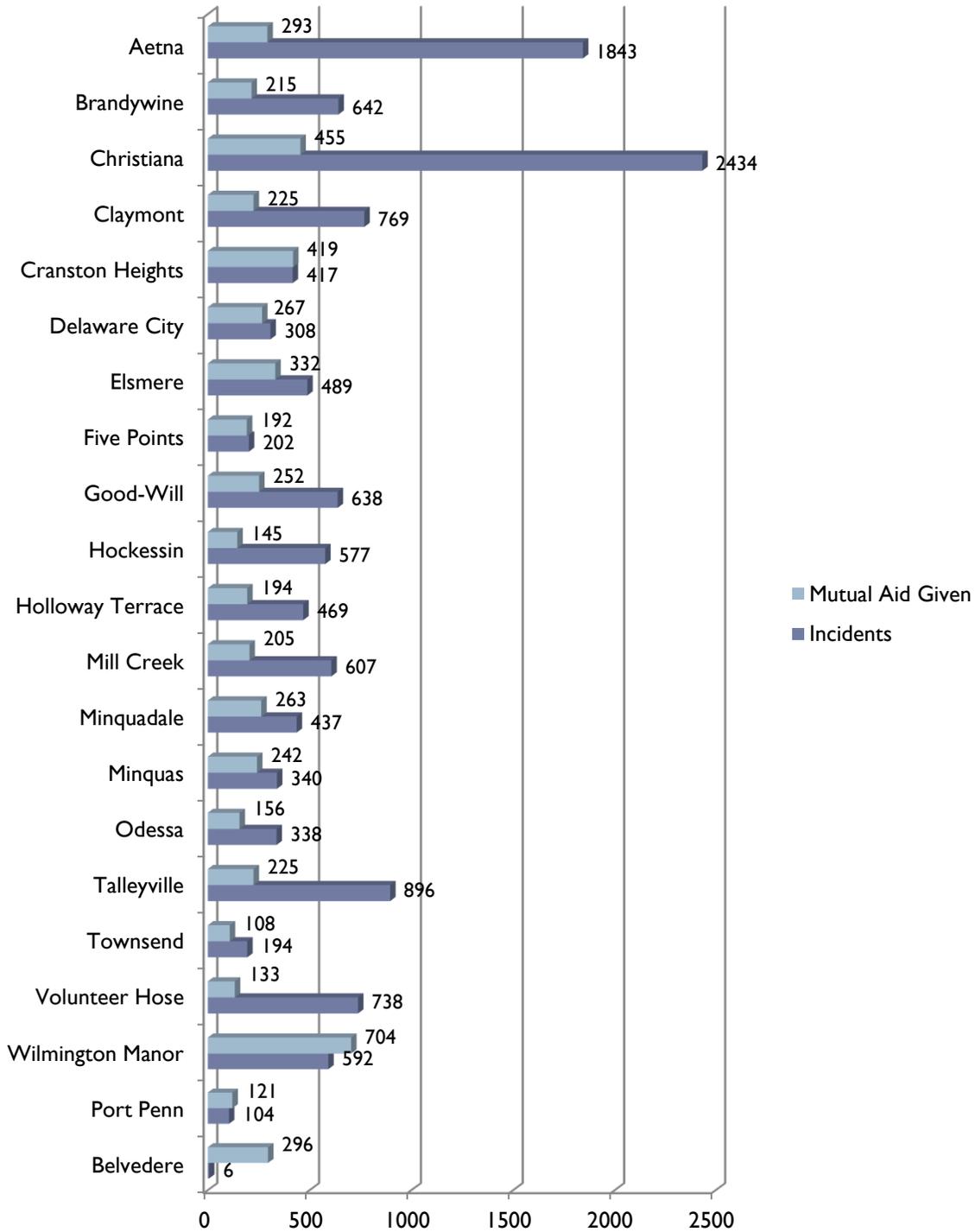
False Alarm (False Calls) for 2015



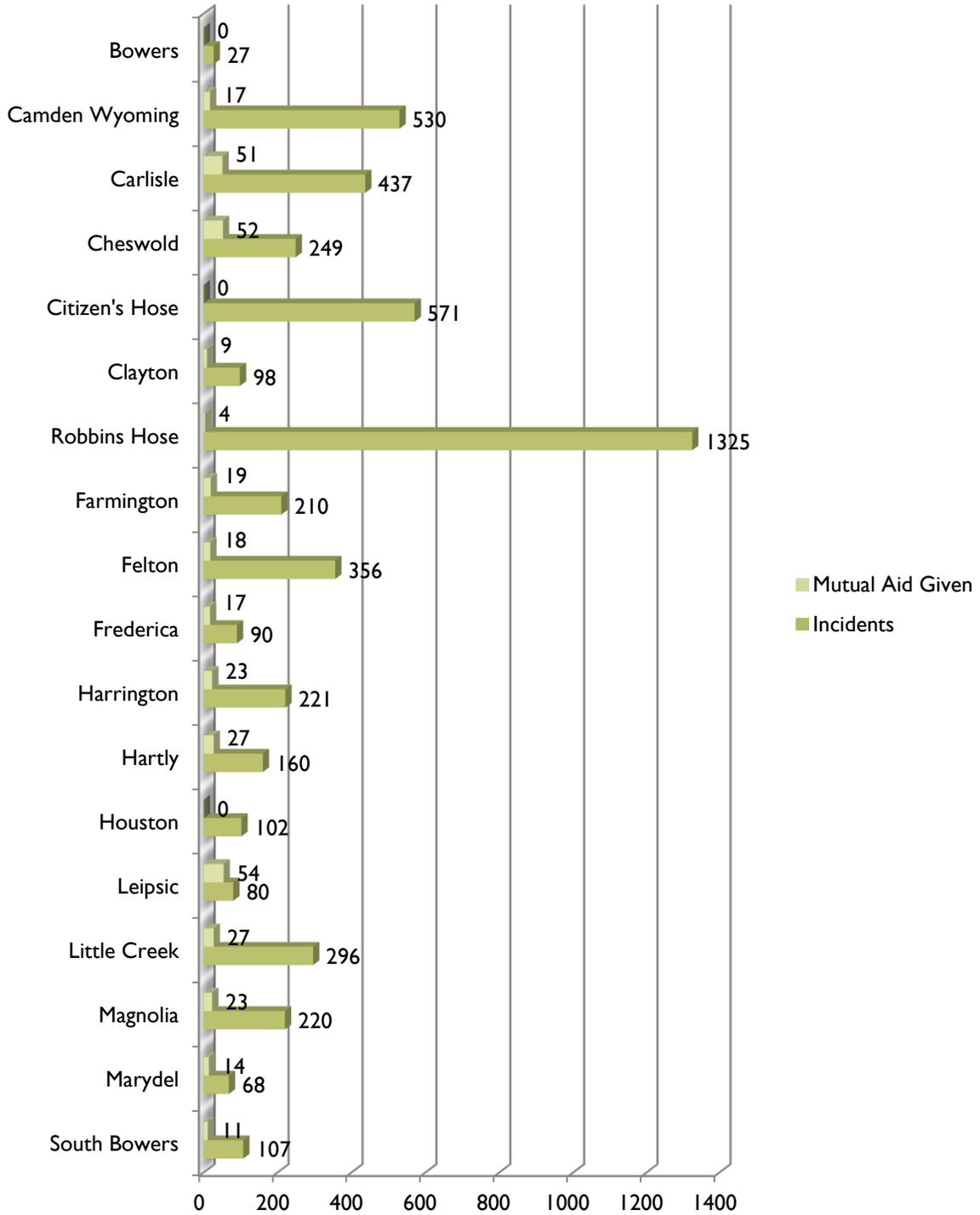
City of Wilmington Incidents for 2015



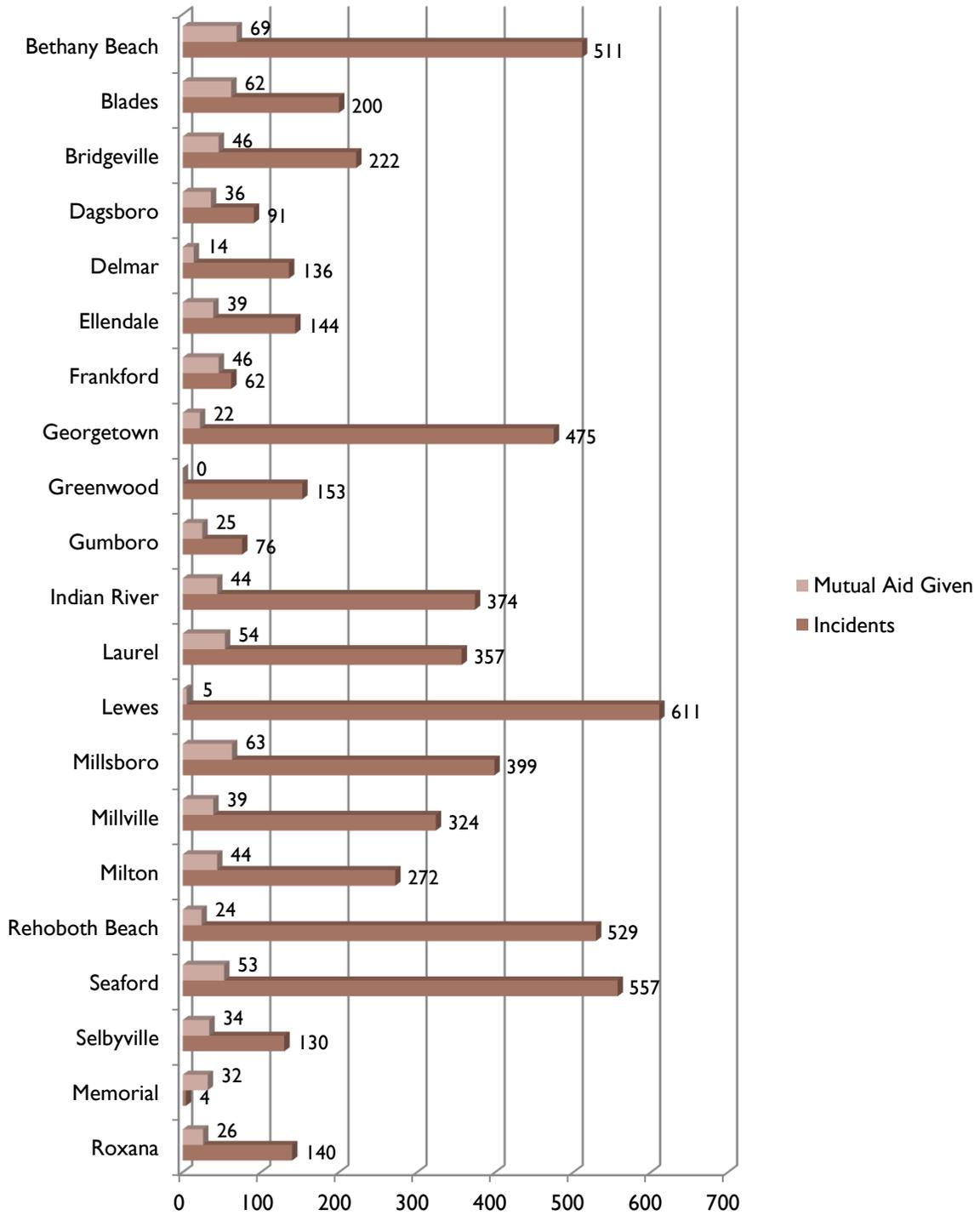
New Castle County Incidents (excluding City of Wilmington) for 2015



Kent County Incidents for 2015



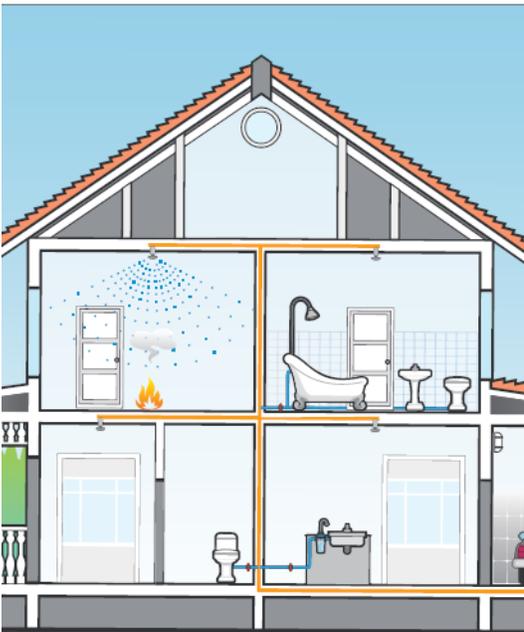
Sussex County Incidents for 2015



INTRODUCING OUR NEW “*BENEFITS OF HOME FIRE SPRINKLERS*” BROCHURE

The Benefits of Home Fire Sprinklers

IN ONE- AND TWO-FAMILY DWELLINGS



The Home Fire Sprinkler Coalition was formed in response to the tremendous need to inform the public about the life-saving value of home fire sprinkler protection. It is a charitable organization and the leading resource for independent, noncommercial information about residential fire sprinklers. The Home Fire Sprinkler Coalition offers educational material with details about installed home fire sprinkler systems, how they work, why they provide affordable protection and answers to common myths and misconceptions about their operation.

The Office of the State Fire Marshal encourages residents to contact the Home Fire Sprinkler Coalition through their homepage at www.homefiresprinkler.org or call them direct at 1-877-550-4372. For further information or questions, feel free to contact one of our offices.

Understanding Fire Sprinkler Protection for Homes

Fire kills more people in the United States annually than all natural disasters combined. Ironically, most fire deaths occur in the very place where we feel safest — our own homes. Those at highest risk are very young children and older adults, who may have difficulty making a quick escape.

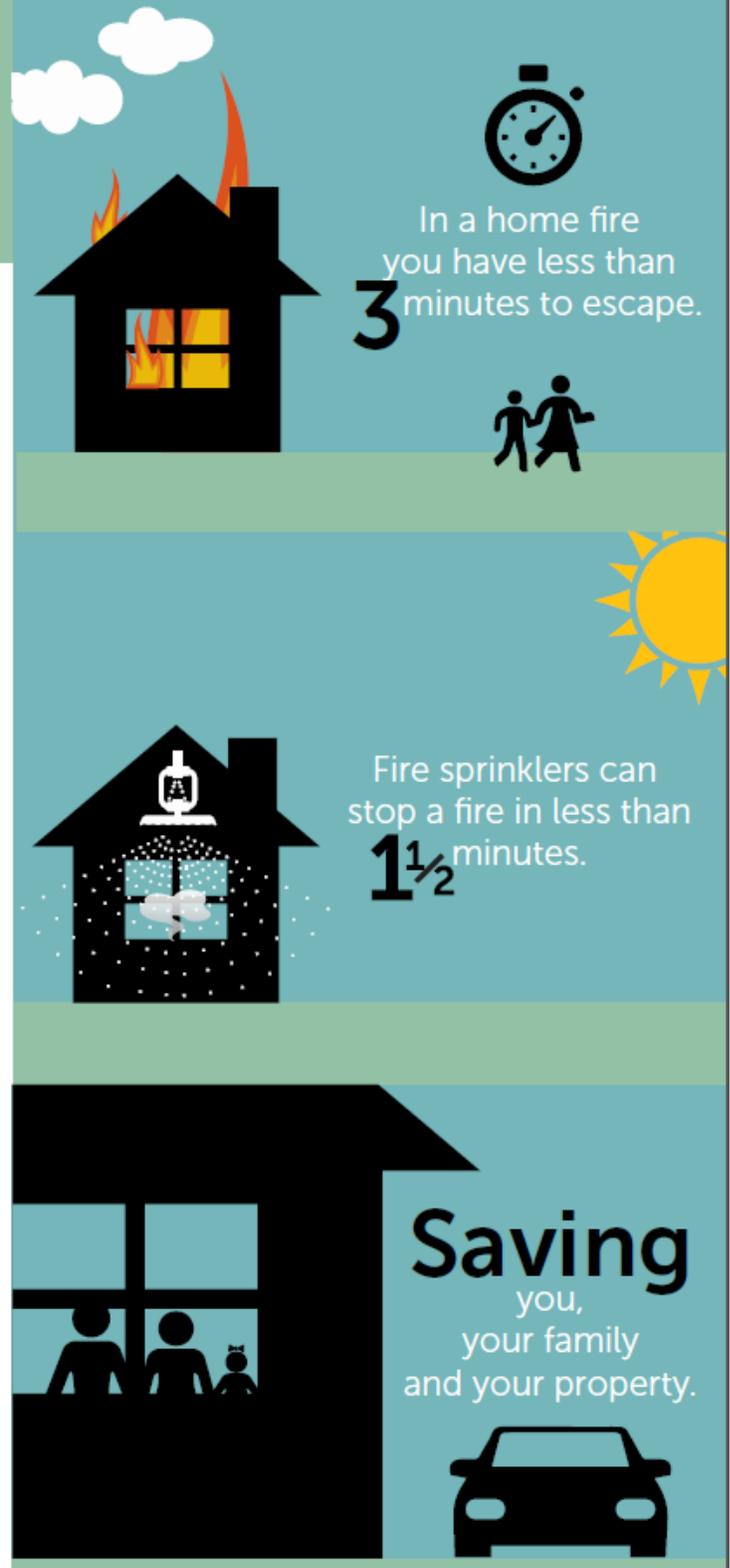
Home fire sprinkler systems provide powerful protection from fire. They work automatically and immediately, before a fire spreads.

DO SPRINKLERS REALLY SAVE LIVES?

Sprinklers are the most effective fire safety devices ever invented. The National Fire Protection Association reports that people with smoke alarms in their homes have a 50% better chance of surviving a fire. Adding sprinklers to your smoke alarms increases your chances of surviving a fire by over 97%.

DO SPRINKLERS SAVE PROPERTY?

Home fire sprinklers are of the quick-response type which means they are designed to save lives. Since they control fires so quickly, they also reduce damage to the property and other valuables. Fire reports nationwide show that property damage is nine times lower in sprinklered homes.



Deceptive Myths

“SPRINKLERS LEAK.”

FALSE! Sprinklers and their piping are pressure-tested to at least the same level as your plumbing system. Therefore, the chance of a leaking sprinkler is practically nil. Like your plumbing pipes, sprinkler pipes are not exposed to cold areas so they are protected from freezing. Additionally, unlike faucets and other fixtures that are operated often throughout their lives, fire sprinklers remain closed until needed and do not receive the wear and tear of daily use.

“ALL THE SPRINKLERS IN THE ROOM GO OFF.”

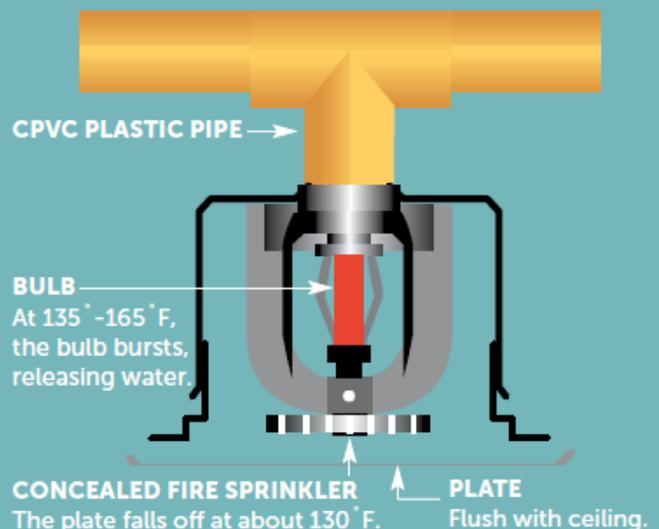
FALSE! Heat from a fire will open the nearest sprinkler. Its water then cools the hot fire gases, making it unlikely for other sprinklers to open. In nearly all cases there is not enough heat to open the next nearest sprinkler. In the rare case that the heat is too much for the nearest sprinkler, the next nearest sprinkler will open to overcome the fire. The operation of more than one sprinkler occurs in a small percentage of commercial buildings, but is very unlikely in homes. Only the sprinklers necessary to stop the fire will operate, and fire records show that it usually takes just one.

So why, then, do people think that all of the sprinklers in the room go off at the same time?

There are two reasons. First, Hollywood gag writers show all of them going off for comic effect. They have shown this happening from someone merely lighting a cigar or pulling a fire alarm switch. Those actions cannot even make one sprinkler open, let alone all of them.

The second reason is that a lot of people mistakenly think that smoke will open a sprinkler. They have seen smoke spread throughout a room, so they conclude that smoke will affect all of the sprinklers in the room. But once people understand that only heat can open a sprinkler and only a threatening fire can generate enough heat to open a sprinkler, they understand that all of the sprinklers won't open at the same time, even in a smoke filled room.

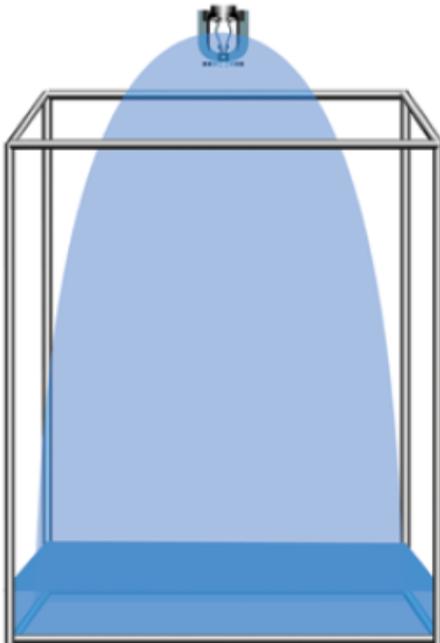
A sprinkler covers a minimum 12 x 12 foot area. Extended coverage sprinklers can cover a maximum area of 20 x 20 feet.



Deceptive Myths

“WATER WILL CREATE MORE DAMAGE THAN THE FIRE.”

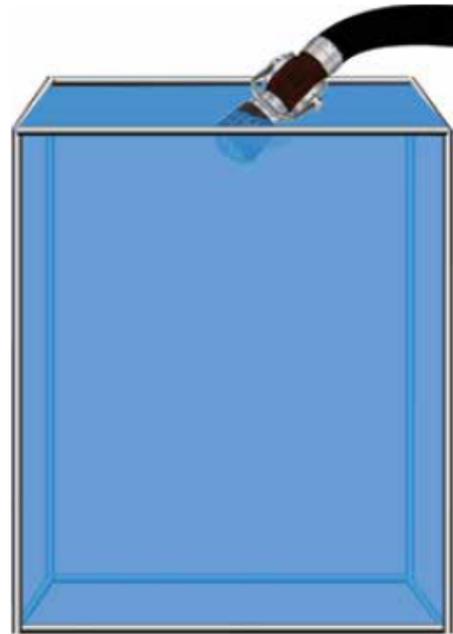
FALSE! One of the myths about sprinklers is that they will cause water damage. While this may seem logical, fire records show that the reverse is actually true. A residential sprinkler sprays about only 13 to 18 gallons of water per minute and is designed to operate early in a fire to control the fire. The hoses used by firefighters flow ten times that amount, 250 gallons per minute. If sprinklers are not present, fires typically burn until firefighters arrive. Two things happen to cause more damage than a sprinkler. First, more of your possessions have already been destroyed before the firefighters intervened,



Sprinkler
18 Gallons of Water/Minute

and then you have much more water being discharged at a very high pressure on your remaining property.

It is the combination of the sprinkler's quick response, the smaller water flow, and the lower pressure that significantly reduces property damage. Also, there is less recovery potential. Think about it. A wet sofa can be dried and cleaned as opposed to one that is consumed in a fire. This is even more critical when the possessions that are burned in a fire have sentimental value such as portraits, photographs, heirlooms or antiques. Without sprinklers, the heat and smoke damages furniture, furnishing, and possessions as it spreads unimpeded throughout the house. When sprinkler protection is provided, the nearest sprinkler stops the fire before it can develop into a catastrophic incident.



Fire Hose
250 Gallons of Water/Minute

Benefits

INSURANCE PREMIUMS

Although a review of the insurance policies associated with several major insurance carriers identified a wide variance in the industry, discounts can range from 5% to 45% depending on the design of the system and the areas to be protected. The higher discounts are more likely available when sprinkler protection is combined with other features like smoke detection, monitoring of the systems, installation of fire extinguishers, and deadbolt locks. Surveys of the local insurance industry indicate the majority of insurance carriers will offer some type of discount, with the average being approximately 10% for approved residential sprinkler system protection.

LESSER LOSS FROM A FIRE

The United States Fire Administration, National Fire Protection Association, Sentry Insurance, Factory Mutual and others conducted actual, real-life fire testing, known as the Scottsdale tests, in order to ascertain the difference between fire damage losses in homes that were sprinkler protected and fire damage losses in homes that were not protected by sprinklers. In conclusion, the tests were a major success for the insurance, sprinkler, and fire protection industries. It was estimated that there was a property savings of 85.2% due to the ability of the fire sprinklers to control the incidents. The property loss in the sprinklered fires was estimated at \$17,200. The estimated loss without the sprinklers averaged \$116,000, a difference of \$98,800.

Deaths and Fire-Related Injuries



Prince George's County 15-Year History with its Single-Family Residential Dwelling Fire Sprinkler Ordinance. 2009.

PEACE OF MIND

There is tremendous confidence in these systems that boosts an almost perfect success record. One such study conducted regionally that corroborates this reputation is Prince George's County in Maryland. Fifteen years after it had enacted legislation requiring sprinklers in new homes, they produced a report. The report states that there were 13,494 fires in single family dwellings where 101 persons died and 328 were injured in the dwellings that were not sprinklered but no one died and only 6 were injured in those that were sprinklered.

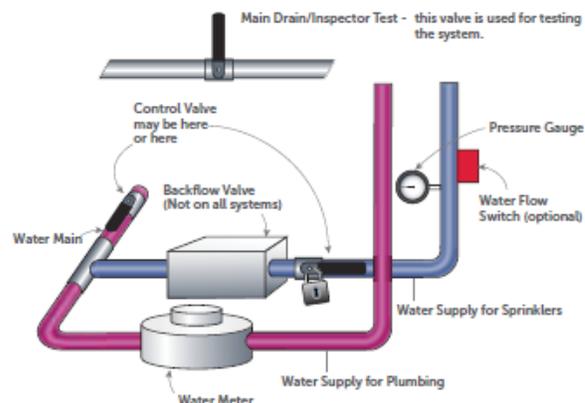
Are Sprinklers Affordable?

Care and Upkeep

Fire sprinklers add about 1% to the cost of a new home. This is about the same cost as an upgrade to the carpeting. But carpets often are replaced every ten years, while fire sprinklers last for the life of the home. Compared with the cost of carpeting, fire sprinklers give you peace of mind for a bargain price.

For instance, in Delaware, a new 2,000 square-foot, 2-story, 4-bedroom single-family home that would cost \$300,000 to build would cost \$303,500 if equipped with automatic sprinklers. A smaller 1-story, 3-bedroom home (1,400 square feet) would cost \$190,000 to build and would cost \$192,500 if sprinklered. These figures equate to a range of \$1.75 to \$1.80 per square foot.

Costs can vary with a number of construction factors. The National Fire Protection Association studies have reported that nationally the average cost to homebuilders, in dollars per sprinklered square foot, has decreased to \$1.35 in 2013. They attribute this downward drive of the cost of home fire sprinklers to increased demand and cheaper materials. Regionally, Maryland conducted a cost analysis in 2015 that indicated the average cost per square foot was \$1.44 with figures ranging from \$0.95 to \$2.25 per square foot.



A home sprinkler system is relatively maintenance free. There are a few simple items that are recommended and they can be accomplished by the homeowner.

The most important items include the following:

- Keeping the main water valve open is essential.
 - It is important to know the location of the main valve so it can very simply be inspected visually.
- Not hanging items from the sprinklers, and
- Making sure that the sprinklers do not get painted or obstructed.

A homeowner may also opt to employ the services of a sprinkler contractor who performs maintenance services professionally. Presently, the Office of the State Fire Marshal certifies numerous individuals that work for licensed companies that conduct this type of maintenance and can be found on our webpage at <http://statefiremarshal.delaware.gov/pdfs/pubfss.pdf>



Sidewall Sprinkler



Concealed Sprinkler



Pendent Sprinkler

Office of the Delaware State Fire Marshal

