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Stakeholder Perceptions of Home Fire Sprinklers

FINAL REPORT BY:

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September 2016

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FOREWORD

As residential fire sprinkler adoption is debated in many states, there is a lot of misinformation about the experience and perception of home fire sprinklers. The purpose of this study was to gather information related to residential fire sprinkler adoption in two states, California and Maryland. It includes an analysis of the overall experience and perceived value of home fire sprinklers by homeowners, local government officials, and water purveyors.

This research is focused on the impact of residential fire sprinkler adoption. It used surveys and interviews to gather data on issues frequently debated when residential fire sprinklers are proposed for widespread adoption, including such issues as:

- Consumer value
- Local government feedback
- Water purveyor perceptions and requirements

The Fire Protection Research Foundation expresses gratitude to the report authors Sam Bowles, Christine Barbour, and Mark Mazza, who are with Newport Partners located in Davidsonville, MD. The Research Foundation appreciates the guidance provided by the Project Technical Panelists, and all others that contributed to this research effort. Thanks are also expressed to the National Fire Protection Association (NFPA) for providing the project funding.

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About the National Fire Protection Association (NFPA)

Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission.



[All NFPA codes and standards can be viewed online for free.](#)

NFPA's [membership](#) totals more than 65,000 individuals around the world.

Keywords: residential fire sprinklers, home fire sprinklers, residential sprinkler adoption, homeowner, water purveyor, local government officials, perception of home fire sprinklers, Maryland, California

Report number: FPRF-2016-23

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Introduction

For years now there have been debates across the country on whether or not to adopt code requirements that mandate home fire sprinklers. While the fire protection industry argues home fire sprinklers are essential for improving the safety of the homes' occupants, many in the home building industry have argued against mandatory fire sprinklers because of the additional costs associated with them. As more and more states and jurisdictions consider adoption it seemed valuable to gauge stakeholder perceptions in states with widespread adoption.

While the fire protection and home building industry are at the forefront of the debate on home fire sprinklers, the reality is that implementing requirements for home fire sprinklers impact a variety of stakeholder groups. For that reason, the National Fire Protection Association (NFPA) has contracted with Newport Partners to conduct market research on stakeholder perceptions regarding home fire sprinklers, including their overall experience and perceived value of the systems.

To best understand the impact that home fire sprinkler requirements have on these stakeholder groups, this study focuses on the only two states in the country with mandatory requirements for home fire sprinklers, California and Maryland. The report includes an analysis of the overall experience and perceived value of the systems by homeowners, local government officials and water purveyors. These stakeholder groups were identified because they are all directly impacted by the requirements for home fire sprinklers.

This study does not include a cost analysis. In 2013, Newport Partners and NFPA completed an updated cost analysis titled, *Home Fire Sprinkler Cost Assessment- 2013*¹. Part of the analysis involved comparing the cost of home fire sprinklers in both California and Maryland to states without statewide requirements.

Key Findings

Homeowners- The majority of homeowners have a very positive view of sprinklers and would seek to have them included in their next home. Their positive view is most clearly associated with a sense of improved life safety (94%). Generally, they are less knowledgeable about specific details such as additional features, inspections, or sprinkler requirements. The majority of homeowners did not worry about water damage, however, 16 or 32% indicated concern for water damage either to furniture or the structure, or both.

Local Government Officials – When asked about the effects home fire sprinklers have on the homes in their jurisdiction it is clear that most local government officials view them in a positive light. The majority of participants believe that home fire sprinklers help reduce death and injury to both residents and firefighters, and help in reducing the costs due to fire damage. The conversation about home fire sprinklers seems to be more prevalent in Maryland than in California but in both states the majority felt the conversation was positive. While very few

¹[Home Fire Sprinkler Cost Assessment - 2013](#), Newport Partners, September 2013

people indicated there was any negative tone to the conversation surrounding home fire sprinklers, when they did, cost was the identified as the biggest issue.

Water Purveyors – Most water purveyors in both California and Maryland required a larger service line (1 to 1-1/2 ") and a larger meter (¾" to 1-inch) in advance of the sprinkler requirement taking effect. Purveyors typically deal up to the meter, so once the service line and upgraded meter are in place, water utilities have very little concern for home fire sprinklers. In Maryland, they are aware of the regulation but leave the application, implementation, maintenance and performance to the permit and fire engineering departments. Purveyors in California have similar responses, however, 4 of the 15 interviewed identified additional requirements beyond NFPA 13D or additional fees beyond usage.

Methodology

For homeowners and local government officials, Newport drafted survey instruments that were reviewed and approved by the Project Technical Panel. During testing, the wording of a few questions were modified for clarity and to reduce confusion. For example, the term home fire sprinkler system seemed to confuse people leading to a perception that the "system" was something bigger than the fire sprinklers they acknowledged having.

Several approaches were used to gather responses from homeowners:

- Intercept surveys at a California Home Show
- Facebook survey postings
- In-person visits to recently constructed neighborhoods
- Purchased email lists
- Each completed survey participant received a \$5 Starbucks gift card.

For local government officials, Newport purchased a list of local California officials from the California Municipal League, developed a postcard mailing, and requested they do one of the following:

1. Log on to Survey Monkey,
2. Email us for a paper copy; or,
3. Call us and take the survey by phone.

Most respondents opted for the Survey Monkey option. There was no incentive offered.

In Maryland, the timing was such that we were able to gather survey responses by attending the Maryland Municipal League annual convention in Ocean City, Maryland. Respondents received a small gift bag for stopping and taking the survey.

To gather the perceptions of water purveyors, Newport developed an interview guide that was reviewed and approved by the Project Technical Panel. We developed lists of water purveyors and conducted telephone interviews.

Data Analysis: Homeowners

Table 1 identifies the home characteristics of the 50 homeowner survey respondents (25 in each state) representing a good mix of townhouses and single family detached homes as well as those on public water and well systems.

Survey Housing Characteristics- All Homes	
Type of Home	
Single-Family Homes	36
Townhomes	13
No Response	1
Water Supply	
Public Water	46
Well & Septic	4
Year Built	
Before 2013	37
After 2013	13

Table 1 Homeowner housing characteristics in California and Maryland.

Importance of Home Fire Sprinklers in Home Purchasing Decision

Participants were asked to identify how important the presence of home fire sprinklers was to their purchasing decision. Respondents could choose 1 of 5 answer options; Not Important at All, Not Very Important, Didn't Think Much About It, Somewhat Important, or Very Important. As highlighted in the chart below, the majority of homeowner respondents (54%) identified the presence of the home fire sprinklers as being either somewhat or extremely important to their purchasing decision.

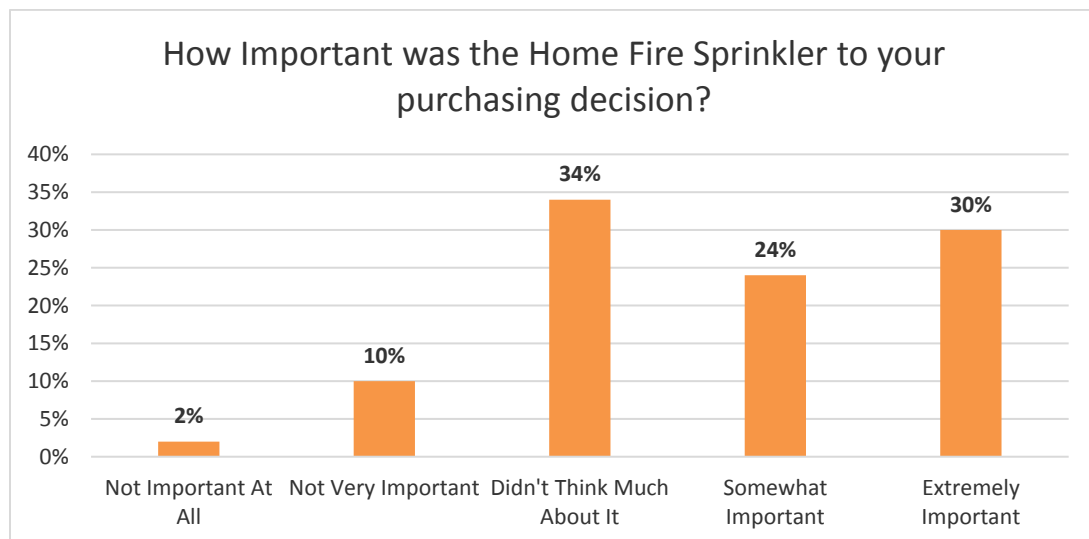


Figure 1 Importance of home fire sprinklers in purchasing decision.

The top answer choice for this question was “Didn’t Think Much About It” (17) followed by “Very Important” (15) and then “Somewhat Important” (12). Only 6 respondents total selected either “Not Very Important” (5) or “Not Important at All” (1).

Features of the Home Fire Sprinkler

Participants were asked to identify various features relating to their home fire sprinklers including: a separate water heater, backflow preventer, pump & tank and water flow alarm. The survey results indicate that homeowner knowledge of these additional features and inspections is extremely limited.

When asked whether their home fire sprinkler was regularly inspected, 28% of respondents indicated that it was. Another 28% of respondents did not know if their home fire sprinklers were regularly inspected and the highest percentage, 44%, said their home fire sprinklers were not inspected regularly.

It is important to note that NFPA 13D, the standard for home fire sprinkler installation for 1 and 2 family dwellings and manufactured homes, does not require regular inspections of the home fire sprinklers. Certain jurisdictions may have implemented specific regulations that require home fire sprinklers to be inspected, however that information was not gathered for this study. Additionally, many general home inspections may include some level of assessment of the installed home fire sprinklers. The depth of these inspections is unknown and could be simply checking to see that sprinkler heads are installed and not necessarily an inspection of the entire system.

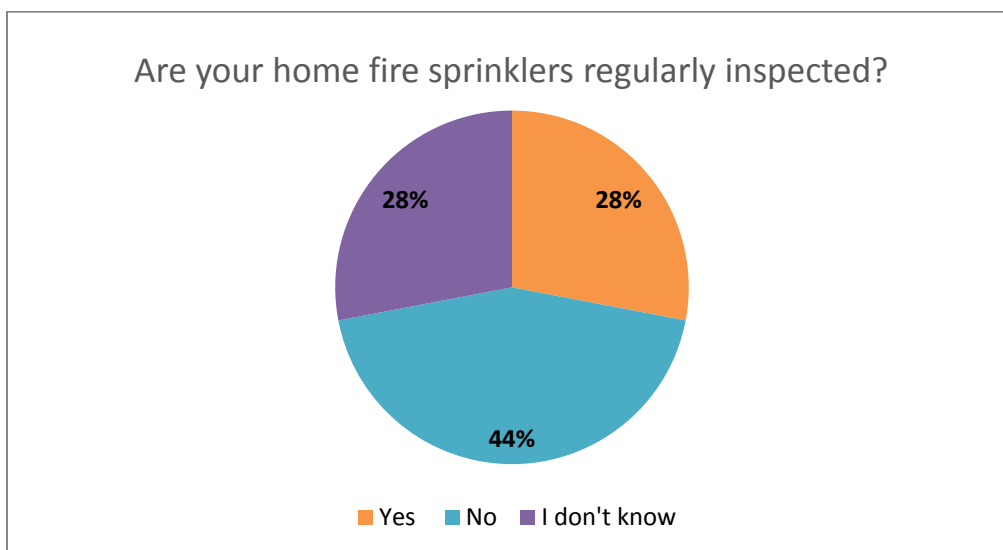


Figure 2 Homeowner knowledge of inspection of home fire sprinklers.

When asked to identify any additional features of their home fire sprinklers, the overwhelming majority (62%) did not know or could not identify any. For this question, respondents were able to choose all answer options that applied to their home. Those selecting “I don’t know” indicates they didn’t know of any additional features of their home fire sprinklers.

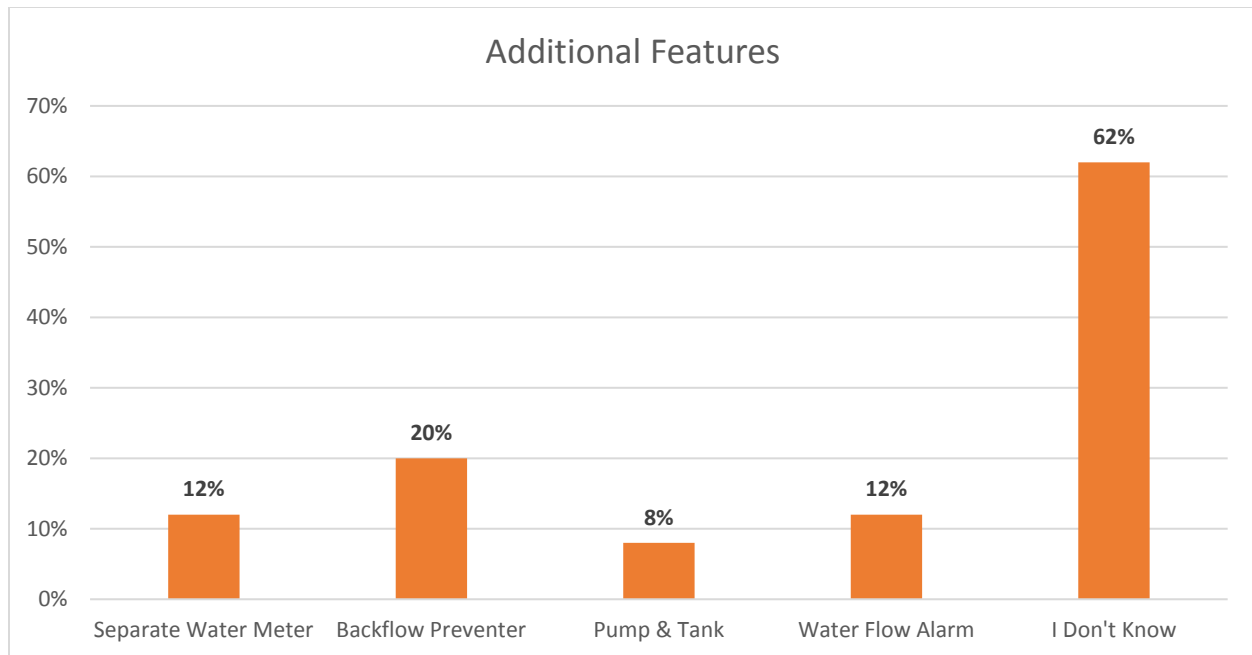


Figure 3 Homeowner knowledge of home fire sprinkler system features.

Benefits of Home Fire Sprinklers

The survey results show clear findings from questions relating to home fire sprinklers on a personal level. Respondents were asked several questions on some of the potential benefits of home fire sprinklers. The results for each of these questions indicates an overwhelmingly positive view of home fire sprinklers from homeowners.

- 94% of participants indicated their home fire sprinklers provide them with a sense of safety. Only 3 out of 50 participants answered “no” to this question.
- 68% of participants indicated that the presence of home fire sprinklers provides them with a reduction on their home insurance. While insurance rates vary from state to state, ISO data estimates the average reduction in home insurance to be 8% with the presence of home fire sprinklers. Only 1 respondent indicated no reduction in home insurance costs.
- 68% of participants indicated that having home fire sprinklers adds value to their home. Only 2 respondents suggested home fire sprinklers do not add value to the home.



Figure 4: Sense of Safety

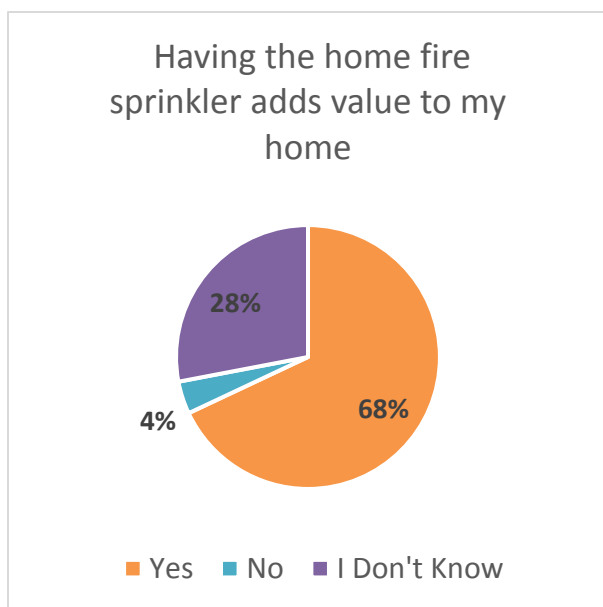


Figure 5 Value added to homes with home fire sprinkler systems.

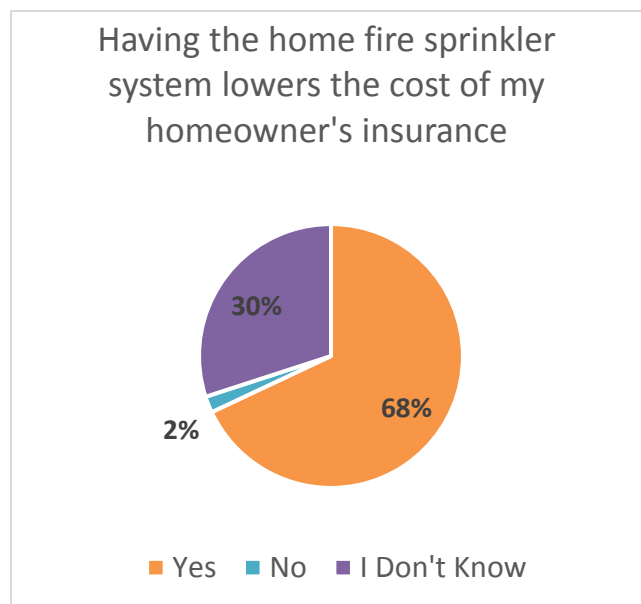


Figure 6 Cost of Homeowners Insurance

Fear of Water Damage

A frequently cited issue and/or concern with home fire sprinklers is the effect of water damage from the sprinklers on the rest of the home. To identify the extent of this concern, the survey first asked all respondents whether they were afraid of water damage from their home fire sprinklers. Results indicate that while there is some concern for water damage, the majority (68%) of homeowners are not afraid of water damage from their sprinklers.

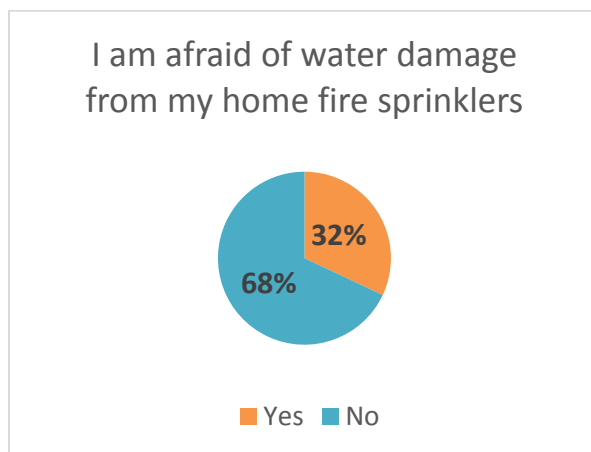


Figure 7 Fear of water damage

To better identify the basis of their water damage fears, the survey asked whether those *who were afraid* of water damage were concerned with either damage to their furniture or structural damage to the home. Only the 16 participants who had concerns were asked this question. The chart below shows the breakdown of the water damage concerns. The data in this chart represents the results as a percentage of all who took the survey (50), not just those who answered this question.

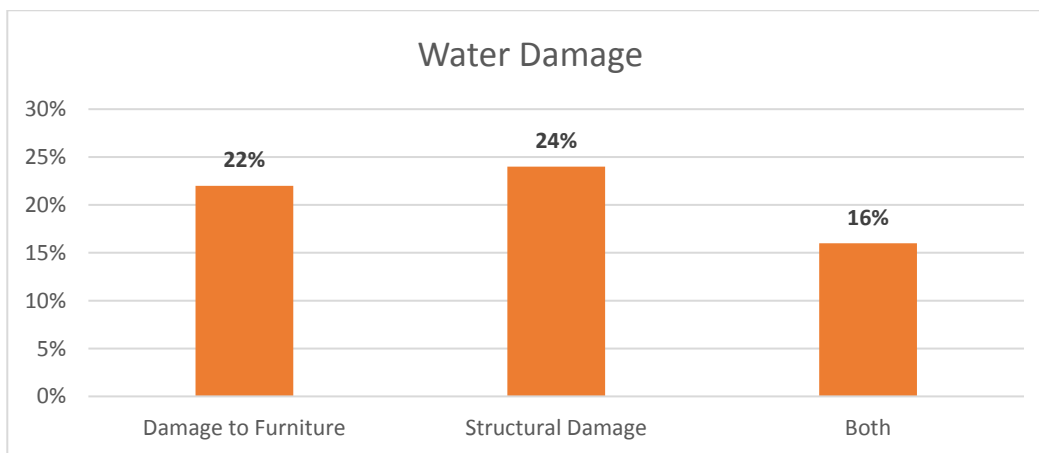


Figure 8 Water damage

Preference for Home Fire Sprinklers

A significant majority of homeowner respondents in both California and Maryland indicated that they prefer to live in a home with fire sprinklers. The survey presented this question in two different ways (see charts below). In both cases 88% of participants indicated their preference is to have home fire sprinklers installed in their home. (Interestingly, the 12% of respondents who answered “would not include” or “no” to the questions below were not uniform across both questions.)

For those who indicated they would prefer a home with home fire sprinklers, the reasons why are highlighted in Figure 11 below. The chart shows a percentage of total respondents for the entire survey, not just those who were presented this question.

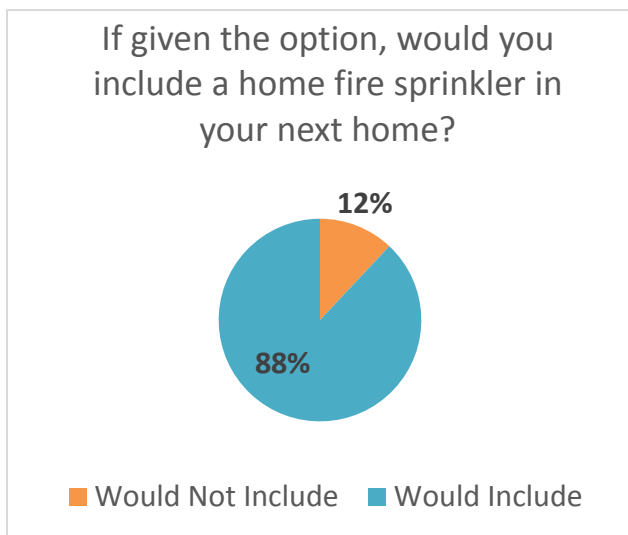


Figure 9 Would or would not include sprinkler in next home

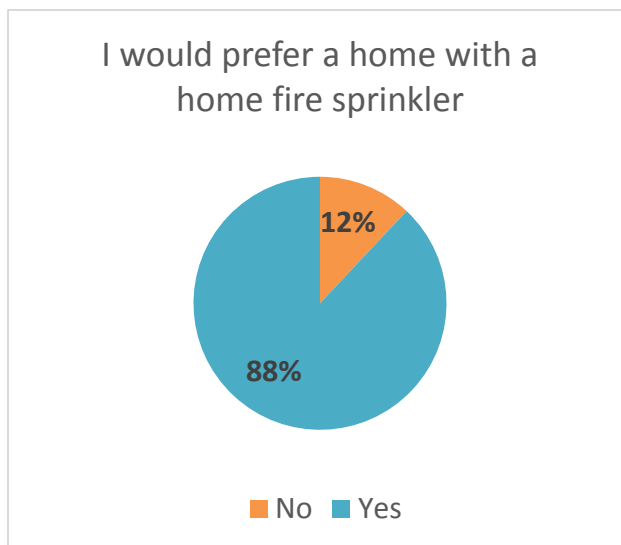


Figure 10 Prefer a home fire sprinkler

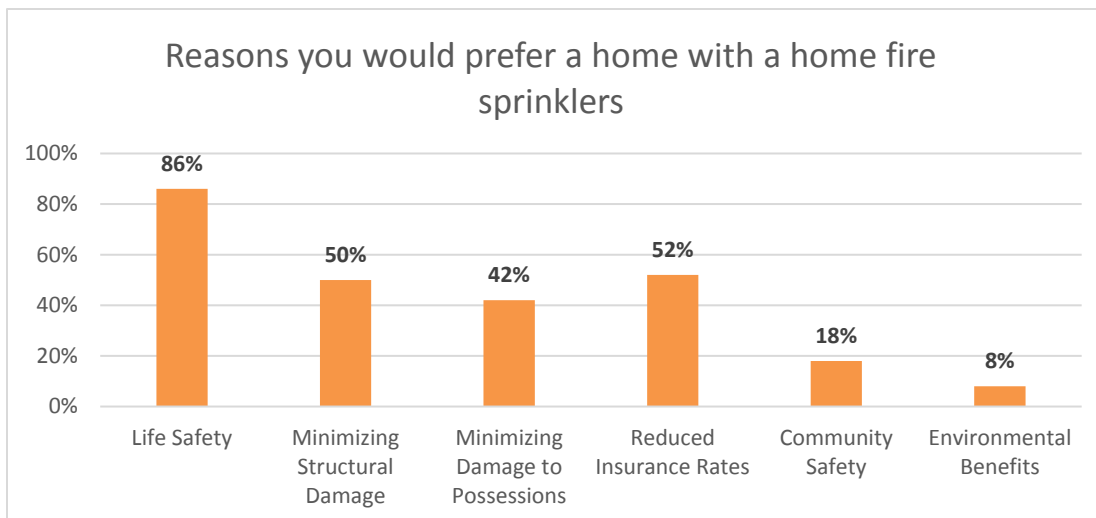


Figure 11 Reasons homebuyers prefer a home with home fire sprinklers

For the 6 respondents that said they would prefer not to include a home fire sprinkler system in their next home, the responses are shown in Figure 13. Again, this data is shown as a percentage of total respondents, not just those who were asked this question.

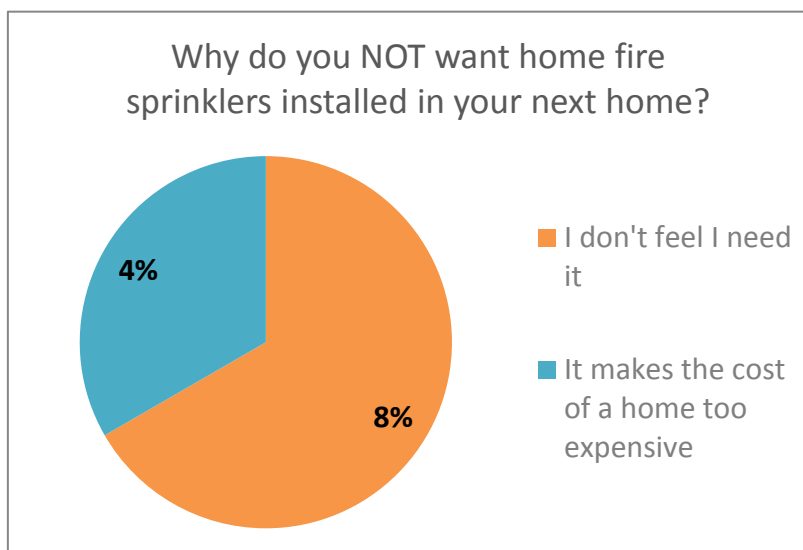


Figure 12 Reasons to not install a home fire sprinkler

Home Fire Sprinkler Requirements

Although sprinkler systems are required in each of the jurisdictions answering the survey and were present in all the homes, many respondents either did not know or were unaware of a requirement for sprinklers. The results from this question further highlight the lack of knowledge homeowners have when it comes to specific details regarding home fire sprinklers.

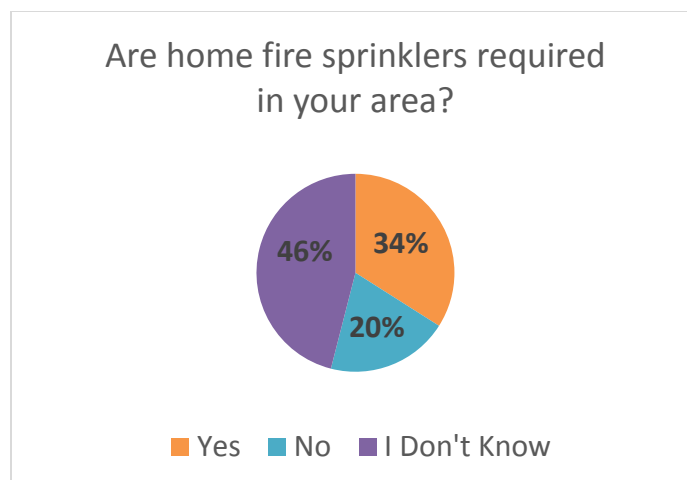


Figure 13 Knowledge of sprinkler requirement

Perceived Cost of Home Fire Sprinklers

Survey participants were asked two related but independent questions about the cost of their home fire sprinklers. The first question asked whether the sprinkler system was included as a part of the cost of their home when they purchased it. The second question asked if they had incurred an additional cost for the home fire sprinklers. It is not clear how homeowners interpreted these related questions due to the high percentage of overlap between answers and respondents choosing “I don’t know.” What does seem to be clear is that the majority did not believe they paid an additional cost for the home fire sprinklers. The majority (62%) of respondents answered that they did not know or left blank the question on what they would pay for home fire sprinklers installed in their home.

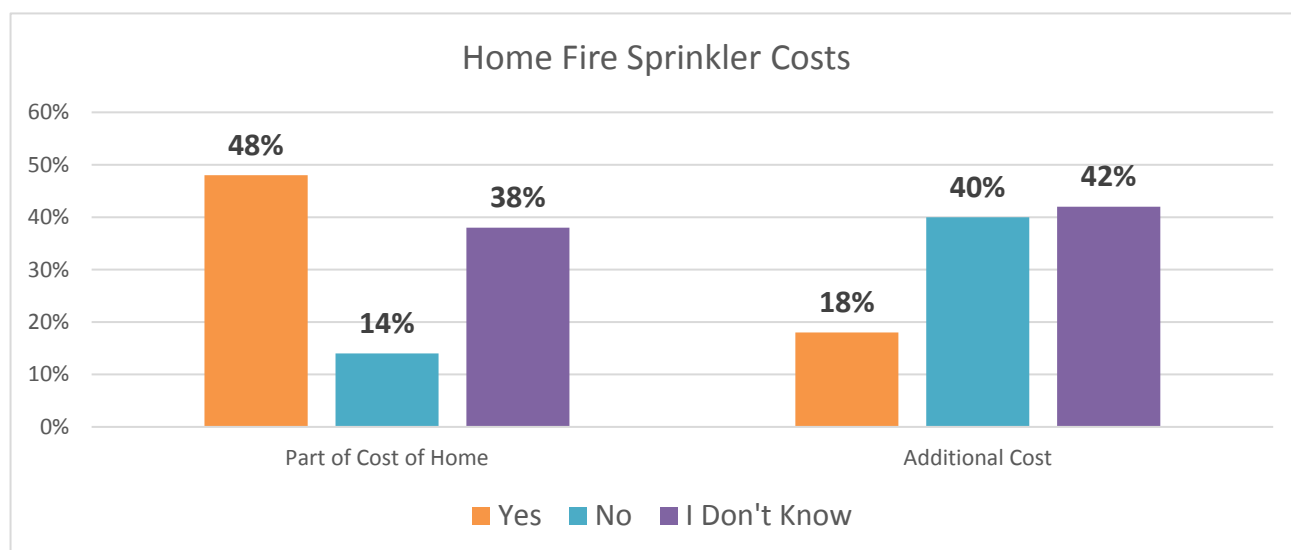


Figure 14 Home fire sprinkler costs

Data Analysis: Local Government Officials

Surveying local government officials was an important aspect of this study because these individuals have a significant impact on the laws and regulations that are supported and ultimately passed in their respective jurisdictions. Understanding their perspective on how home fire sprinklers have either positively or negatively impacted the jurisdiction as a whole has significant value for other states and jurisdictions adopting fire sprinkler requirements in the future. For this study, these local officials included mayors, city managers, and other elected officials and did not include code enforcement officials.

Newport surveyed 69 local government officials from Maryland and California. These officials represented various government positions representing 68 different cities, towns, and counties providing adequate regional coverage of both states. The enforcement, opinions, and effects of building codes and standards varies greatly from jurisdiction to jurisdiction. The state of the housing market, economy, and other outside factors specific to each jurisdiction all have an impact on how these codes, like a requirement for home fire sprinklers, are accepted and perceived. In addition to obtaining adequate regional coverage in both states, this survey included a good mix of representatives who described their jurisdiction as either urban, rural, or suburban.

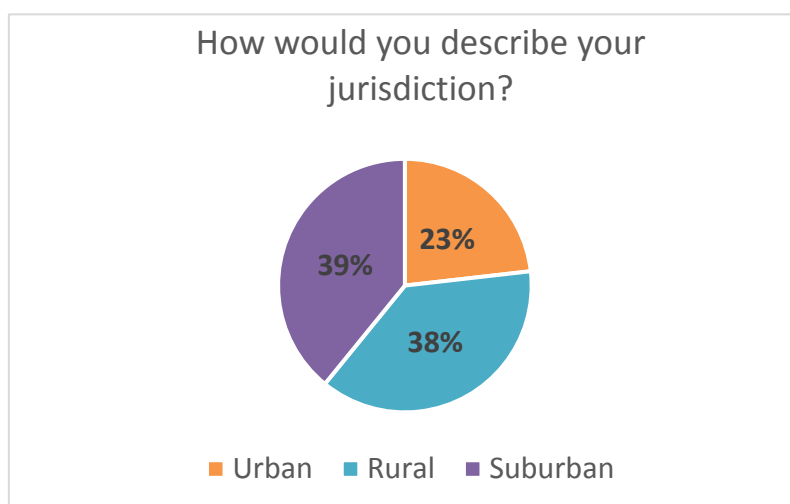


Figure 15 Jurisdiction description

Fire Related Incidents

Residential properties, specifically one- and two- family homes² are the leading property type for fires and fire deaths. The National Fire Protection Association (NFPA) estimates that in 2014 there were 273,500 residential fires in one- and two- family homes in the United States, resulting in 2,345 civilian deaths, 8,025 civilian injuries, and property loss of \$5,844,000,000. Seventy-one percent of civilian fire deaths were a result of fire incidents in one- and two- family homes.³

² Includes manufactured homes

³ Fire loss in the US during 2014, NFPA

One hundred percent of the local government officials surveyed by Newport indicated they had experienced houses damaged or destroyed in their jurisdiction. The results also show that 46% of respondents indicate they have had residents injured or killed due to residential fires in their jurisdiction. In California in particular, over half of the local government officials that were surveyed indicated their jurisdiction had experienced either injury or death to residents. Another 31% of respondents indicated they had experienced deaths or injury to firefighters.

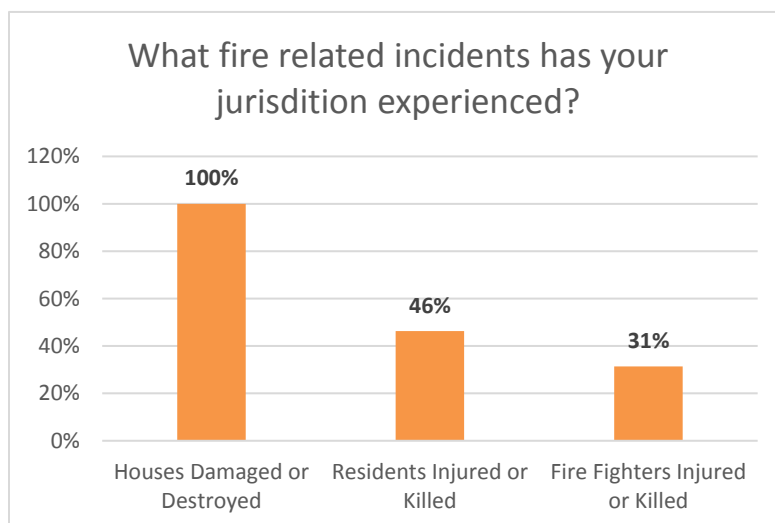


Figure 16 Fire related incidents

Effects of Home Fire Sprinklers

The survey results clearly indicate that home fire sprinklers are perceived to have a positive impact on safety, protection, and value. In fact, when asked about the impact these sprinkler systems have had on various aspects of the community, over 50% answered favorably towards home fire sprinkler for every question. However, another interesting aspect of the survey results is the significant amount of unknown that surrounds home fire sprinklers.

To best determine the effect home fire sprinklers have on a jurisdiction, we asked the participants to identify their stance (agree, mostly agree, I don't know, mostly disagree, and disagree) on 7 different statements. The two most popular answer choices were "Agree" and "I Don't Know." The survey results indicate that the majority of local government officials perceive home fire sprinklers to have a significant positive impact on reducing death and injury to residents and firefighters, as well as reducing costs due to fire damage and adding value to the home. As seen in the chart to the right, the majority of participants either "**Agreed**" or "**Mostly Agreed**" with the following statements:

- Reduced death and injury to residents
- Reduced death and injury to fire fighters
- Reduced costs due to fire damage
- Improved the value of the home

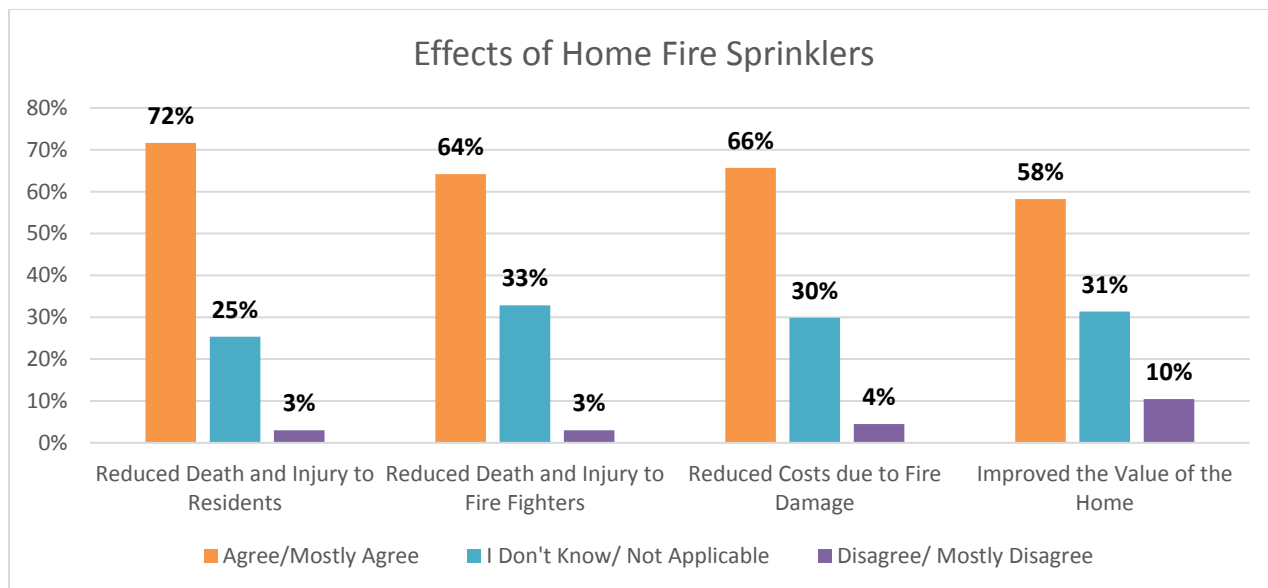


Figure 17 Effects of home fire sprinklers- Positive

However, while these results certainly reveal that many think positively about home fire sprinklers, they also show there remain unknowns. **“I Don’t Know/Not Applicable”** was the top answer choice for each of the following statements:

- Reduced cost due to water damage
- Created more false alarms⁴
- Reduced insurance costs for constituents

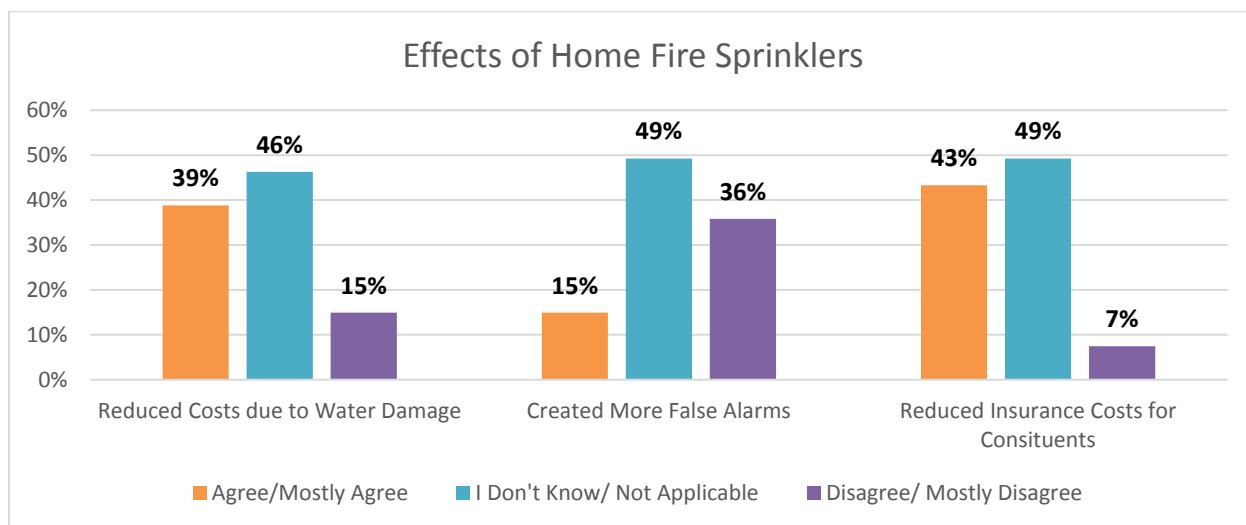


Figure 18 Effects of home fire sprinklers- Unknown

⁴ Note that for “Created More False Alarms” Disagree/Mostly Disagree is a positive response.

The Conversation on Home Fire Sprinklers

California added a requirement for residential fire sprinklers as a result of the adoption of regulations with California specific amendments to the ICC's body of codes as part of the adoption of the 2010 California Building Standards effective January 1, 2011.

In Maryland, the law requiring home fire sprinklers in all new construction was signed in 2012 by Governor Martin O'Malley. While the state issued a phase-in period, where counties could opt out for a 3- year period, the deadline to implement this law passed in July of 2015. Since the law went into effect, there has been significant chatter from the building industry indicating the new requirement for home fire sprinklers can result in a decrease in building permits and create a cost barrier, making homes too expensive to build and thus too expensive to buy.⁵

The majority of respondents, indicated that they did not know whether the requirement for sprinklers increased or decreased demand for new homes versus existing (58% and 67% respectively). Although the responses were very similar from both states, it is interesting to note that out of the 5 respondents that indicated home fire sprinklers decreased demand, 4 of them were from California.

Interestingly, on the question of community discussion on sprinklers, a majority indicated that it was not a "hot" topic but 28% (18 respondents) indicated that it was a "hot" topic. Of those 18, 10 indicated the discussion was positive (mostly positive or very positive), while 3 participants indicated it was negative (all 3 selected mostly negative with nobody choosing very negative). The remainder said the conversation was neutral or did not answer the follow up question. All 3 that responded mostly negative were in Maryland where the deadline for implementation has more recently passed.

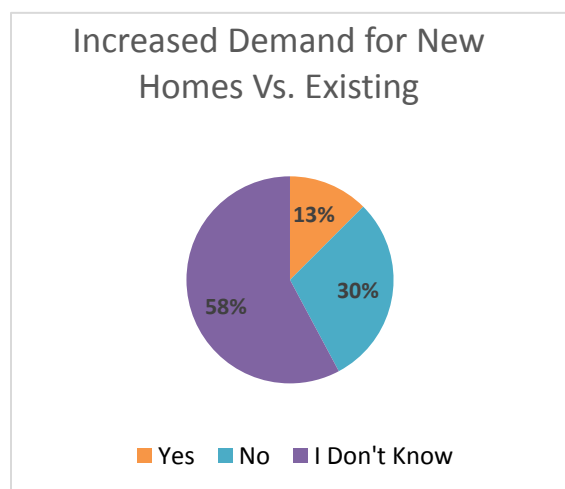


Figure 20 Increased demand for new vs existing homes

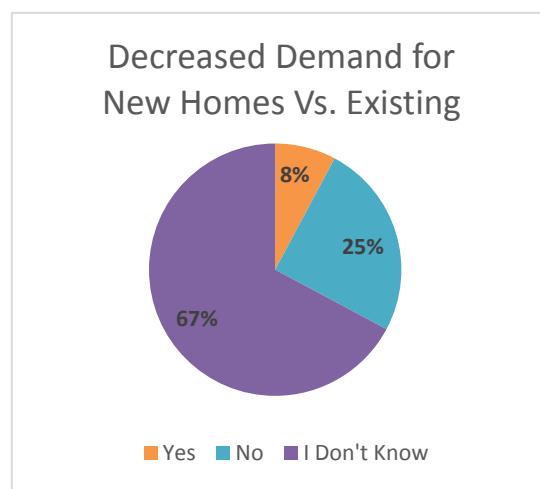


Figure 19 Decreased demand for new vs existing homes

⁵ "Fire Sprinkler Requirement Dampens Wicomico Building", October 23rd 2015, <http://www.delmarvanow.com/story/news/2015/10/23/fire-sprinkler-requirement-dampens-wicomico-building/74456500/>

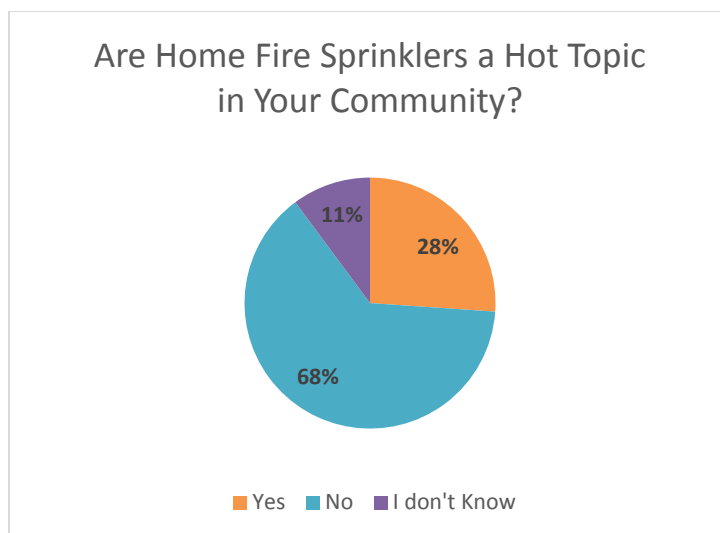


Figure 21 Fire Sprinkler Conversation

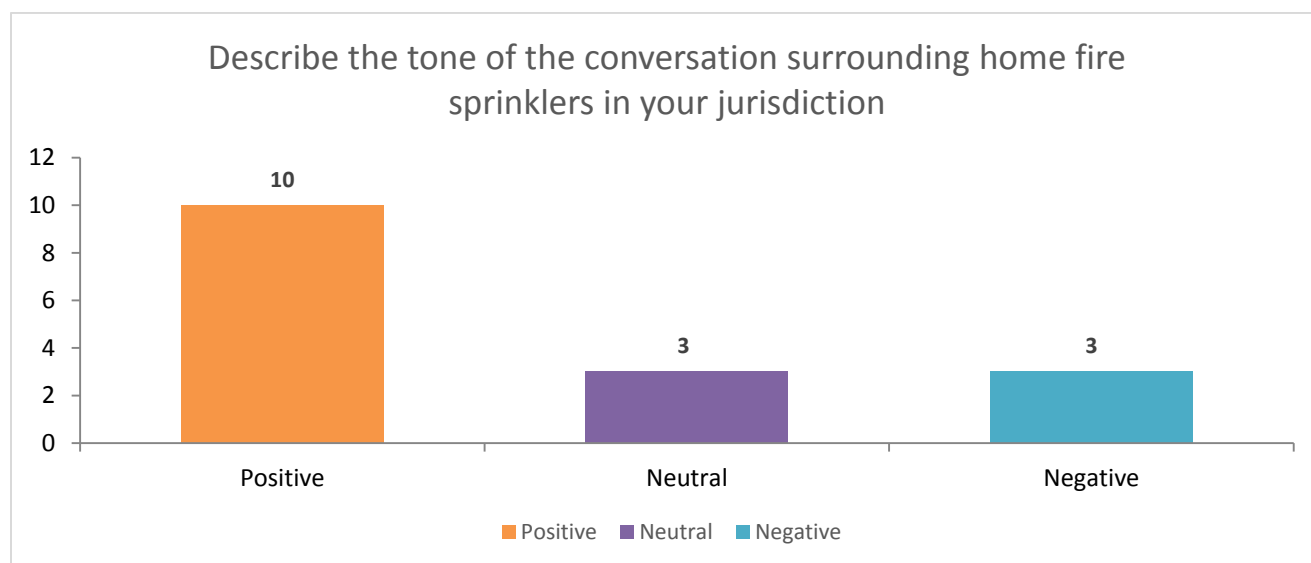


Figure 22 Tone of conversation surrounding home fire sprinklers.

Data Analysis: Water Purveyors

Newport interviewed water purveyor staff familiar with the NFPA13D ordinance to explore any barriers to its implementation. We conducted interviews with 15 purveyors in California, a large state with decentralized water utilities and found some variation in response; and 5 purveyors in Maryland, a smaller state with centralized county-based water systems where the answers were largely the same.

In California the climate ranges from deserts to snow covered mountain tops. After a long history of droughts, water is considered a valued resource. For a sense of scale of the decentralization of purveyors, there are 430 public agencies participating in the Association of California Water Agencies; there are 10 urban water agencies in the California Urban Water Agencies association representing highly populated areas (e.g., Los Angeles, San Diego, San Francisco); in fact there are 25 water districts in Sacramento County alone. The interviews were conducted with purveyors from across the state with a mix of service size areas.

Maryland is comprised of 23 counties and the independent city of Baltimore. Many of the counties operate their own water and waste systems. An exception is Montgomery and Prince George's Counties which are part of the huge Washington Suburban Sanitary Commission (WSSC). Newport interviewed five of the county water purveyors – Anne Arundel, Baltimore (covers city and county), Frederick, Howard and WSSC and received consistent information. Maps of both states marked with the location of the water purveyors are included in the Appendix.

The results in both states were remarkably consistent. California purveyors had no issues beyond standard implementation. The water utilities in Maryland are very proud of their infrastructure and its ability to meet the needs of their residents. They made changes to accommodate home fire sprinklers with increases in service lines and water meters from ¾" to 1-inch. Much of this was done in preparation for the adoption of NFPA 13D and is part of the county government's master plan. WSSC adopted the 2015 WSSC Plumbing and Fuel Gas Code that covers home fire sprinklers.

“So many years ago...Only concern was to find the best way to implement it.” - Diablo Water District, CA

“Not really. Now all homes need a fire fighting plan review which was done anyway in most cases.” - Carmichael County Water District, CA

"No impact on the water supply. Our system can handle 2,000 gallons/min. Residential fire sprinklers are a drop in the bucket. I wasn't involved in the decision making." - Baltimore County, MD

"No, our services and meters were up to code. We had already upped to a larger service size - 1"-1/1/2" - and meter from 3/4" - 1"." - Howard County, MD

"No issues. We deliver 13 billion gallons to meters and storage tanks for drinking, fire suppression and general safety." - Anne Arundel County, MD

Purveyors noted that they do not have the data to analyze water run-off reductions as a result of home fire sprinklers, nor are they aware of any noticeable impact on water usage compared to manual fire suppression. One California purveyor said, "*We turn the meter off when the fire department arrives.*" Water quality was "*not at all*" an issue since they have backflow and cross contamination safeguards. They check the quality of the service water regularly and are generally not involved in the maintenance of the system in the house. One Maryland purveyor did wonder out loud about flushing stagnant systems.

Maryland purveyors were not aware of the term cistern and once it was described, said that water tanks are not connected to the public water system. Two California purveyors noted that cisterns require backflow preventers.

Maryland purveyors and 11 of 15 California purveyors said they do not require a separate meter, but in most of these cases, the meter was upgraded from $\frac{3}{4}$ " to 1" to accommodate home fire sprinklers. Coastside County in California said they have separate water meters and lines with a base charge for the meter. In an initial discussion with Contra Costa, we heard that they require a separate meter and line and do not require upsizing since it is a separate system, but they do have a tap fee. A different source said that this is not the case and that since 2011, they have used a single, larger meter for both domestic water and fire sprinklers.⁶ One Maryland and one California purveyor noted that it really depends on the size of the house: "separate water meters and upgraded sizes are on a case by case basis. It depends on the residence size and other factors." WSSC allows sub-meters.

In Maryland and most of the California interviews, there is no separate service or upsized lines to the meter. When there is a separate meter or service line, then there is typically a tap fee. In Big Bear and Corona, they have separate lines for the sprinklers from the meter for specific reasons. In Big Bear, the cold climate and seasonal living require antifreeze and in Corona they have a separate branch so the sprinklers still work if water service is turned off. WSSC has a minimum of 1.5 inches for new water service connections, but it can be 1" if you can prove that it can meet a buildings domestic and fire protection needs in the future.

"In general, not a big deal. Antifreeze had to be put in the sprinkler systems so pipes would not burst in winter." - Big Bear Lake Water District

"Same line. Branches at the house due to the fact that if water service is turned off, sprinklers still work." - Corona Dept of Water and Power

⁶ Newport has attempted to confirm this but has not heard back as of this writing. It does not change the overall finding that water purveyors interviewed indicated few concerns with the home fire sprinkler requirement and that the majority do not require additional meters or tap fees.

The interviews included questions on fee structures to better understand if water purveyors were adding additional fees for home fire sprinklers either in terms of standby fees, or other fee structures. In Maryland, homeowners were charged based on consumption or usage. WSSC charges \$10 for inspection whenever the sprinklers are activated. In California, 5 of the 15 purveyors had no standby fees, while 6 did assess a fee. Additionally, two California purveyors assessed a maintenance fee, and two charged for upsizing the meter. In Diablo, the maintenance fee was \$4 per month for the backflow preventer.

In response to the question on any additional connection requirements beyond NFPA 13D the most common answer in California was backflow preventers (10 out of 15) and three districts require a single check valve. WSSC requires a second shutoff valve on the "tee" feeding the fire sprinkler and a double check backflow valve for home fire sprinklers. Plus, WSSC does not allow chemical additives to the system. Big Bear noted an antifreeze requirement in their mountainous area with a seasonal population. When asked about additional connection requirements in Maryland, purveyors did not know and pointed to the permit department and the fire protection engineer:

"That is handled through plumbing inspection. Now that meters are in vaults we don't check. We used to do a double check when they [the meters] were inside." - Howard County, MD

"I would have to check – it might be in the design manuals for construction." - Anne Arundel County, MD

When asked about the availability of flow test and pressure information for contractors most purveyors said the information is on their websites. In Maryland they noted that the flow test and pressure information for contractors is available through licensing and permits, although Baltimore County said, "Baltimore City has a crew to contact." In California, one purveyor elaborated with the following: "*Yes. They test static pressure at the hydrant. It's hard to flow test due to water conservation. Pressure information hasn't changed.*"

Generally, purveyors deal with water service up to the meter, so once the service line and upgraded meter are in place, water utilities have very little concern for home fire sprinklers. In Maryland, purveyors are aware of the regulation but leave the application, implementation, maintenance and performance to the building permit and fire engineering departments. Purveyors in California have similar responses however they seem to have some limited additional requirements beyond NFPA 13D and additional fees beyond usage.

Conclusion

Overall, consumers and local government officials appreciate the life safety benefits of home fire sprinklers, and do not appear to feel the need to be well-informed on specific details. Water purveyors did their jobs preparing the supply infrastructure for home fire sprinklers. There were few concerns with costs of systems expressed, however, a significant minority voiced a concern for potential water damage. This might be an area where education is needed.

Once they become a requirement and the details of implementation are worked out, home fire sprinklers are well accepted and highly valued.

Appendix

Homeowner Survey

1. Do you have fire sprinklers in your home?

- Yes
- No
- I don't know

2. What type of home do you live in?

- Single-Family Detached
- Townhome
- Multi-Family Apartment Building

3. Was your home built before or after 2013?

- Before
- After

4. Your water is supplied by..

- Well and Septic
- Public Water
-

5. Approximately what year was your home built?

6. How important was the home fire sprinkler system to your purchasing decision?

- Extremely Important
- Somewhat Important
- Didn't Think Much About It
- Not Very Important
- Not Important At All

7. Which of the following does your home fire sprinkler system feature?

- Separate Water Meter
- Backflow Preventer
- I don't know of any additional features
- Pump Back System
- Water Flow Alarm

8. Do you have your system regularly inspected?

- Yes
 - No
 - I don't know
-

9. True or False: My home fire sprinkler system provides me with a sense of safety.

True

False

10. True or False: Having the home fire sprinkler system lowers the cost of my homeowner's insurance.

True

False

I don't know

11. True or False: Having the home fire sprinkler system adds value to my home.

True

False

I don't know

12. True or False: I am afraid of water damage from my home fire sprinkler system.

True

False

13. You answered TRUE to being afraid of water damage in your home. Which of the following issues are you concerned with?

- Damage to furniture
- Structural damage to home
- Other (please specify)

14. True or False: If given the option, I would NOT include a home fire sprinkler system in my next home.

- True
- False

15. You answered TRUE, that you would NOT have a home fire sprinkler system installed in your next home. Which of the following best describes your reason. Choose all that apply.

- Does not add value
- The fear of water damage
- I don't feel I need it
- It makes the cost of a home too expensive

16. True or False: I would PREFER to buy a home WITH a home fire sprinkler system.

True

False

17. You answered TRUE that you would PREFER to buy a home WITH a home fire sprinkler system. Which of the following best describes the reason for your answer. Choose all that apply.

Life Safety

Minimizing Structural Damage

Minimizing Damage to Possessions

Reduced Insurance Rates

Community Safety (Prevention of fires spreading)

Environmental Benefits (Less water used, etc.)

Other (please specify)

18. True or False: Home fire sprinkler systems are required in my area.

- True
 False
 I don't know

19. True or False: The home fire sprinkler system was a part of the cost of my home.

- True
 False
 I don't know

20. True or False: I incurred an additional cost for the home fire sprinkler system.

- True
 False
 I don't know

21. I would pay \$ for a home fire sprinkler system in my next home.

Thank You!

22. Where is your home located?

- California
 Maryland
 Other

Local Officials Survey

Welcome to My
Survey

Thank you for participating in our quick survey. Your feedback is very important to us!

1. Do you work for a city, state, or other local government organization?

Yes

No

2. Please indicate the following:

Jurisdiction/City, State

Position/Title

3. Which best describes your jurisdiction?

Rural

Suburban

Urban

Other (please specify)

4. Has your jurisdiction ever experienced any of the following due to a residential fire? *(Check all that apply)*

- Houses damaged or destroyed
- Residents injured or killed
- Fire Fighters injured or killed
- None of the above

5. To what extent do you agree or disagree with the following statements.

Home fire sprinklers have...

	Agree	Mostly Agree	I don't know / Not Applicable	Mostly Disagree	Disagree
reduced death and injury of residents .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
reduced death and injury of fire fighters .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
reduced costs due to fire damage to buildings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
reduced costs due to water damage to buildings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
created more false alarms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
reduced insurance costs for my constituency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
improved the value of homes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. To what extent do you think the following statements are true or false?

Home fire sprinklers have:

	True	I Don't Know/ Not Applicable	False
Increased demand for new homes versus existing homes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
decreased demand for new homes versus existing homes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Community

7. True or False: Home fire sprinklers are not a topic of conversation in our community.

- True
 False

8. True or False: Fire sprinklers are a hot topic in our community.

- True
 False
-

9. You indicated that home fire sprinklers are **a hot topic in your community** . How would you describe the tone of the conversation surrounding home fire sprinklers?

- Very Negative
- Mostly Negative
- Neutral
- Mostly Positive
- Very Positive

10. Briefly explain some of the major topics/issues regarding home fire sprinklers.

Local Officials- Participant Titles

In order to show the range of survey participants, the self-identified positions and/or titles are shown here. All other identifying information is confidential.

State	Position/ Title
California	Director of Community Development
California	Vice Mayor
California	Councilman
California	Community Relations Manager/PIO
California	Community Development Director
California	Councilmember
California	City Clerk
California	Council Member
California	City Councilmember
California	Mayor ProTerm
California	Planning Commissioner
California	Town Manager
California	Planning Director
California	Community Development Director
California	Chairman, Planning Commission
California	City Council
California	City Council Member
California	Assistant City Manager
California	Mayor
California	City Clerk
California	City Councilman
California	Deputy City Manager
California	Planning Director
California	Left blank-
California	Management Analyst
California	City Manager
California	Community Development Director
California	Assistant City Manager
California	Council Member
California	Planning Director
California	City Manager
California	Building Official
California	Council Member
California	City Manager
California	City Clerk
California	City Planner
California	Deputy City Clerk
California	Dir. of Economic Development/PIO
California	Fire Chief
California	Left blank-
California	Administrative Assistant
Maryland	Mayor
Maryland	Retired

Maryland	Council Member
Maryland	Town Councilor
Maryland	Town Administration
Maryland	Code Enforcement Management
Maryland	Assistant Director
Maryland	Assistant Mayor
Maryland	Council Member
Maryland	Town Clerk
Maryland	Marketing/Public Relations
Maryland	Council Member
Maryland	Council Member
Maryland	Town Clerk
Maryland	Council
Maryland	Mayor
Maryland	Mayor
Maryland	Vice President
Maryland	Mayor
Maryland	Mayor
Maryland	Commissioner
Maryland	Deputy City Administrator
Maryland	City Manager
Maryland	Left blank-
Maryland	Chief of Staff to Mayor
Maryland	Councilperson
Maryland	Asst. City Administrator and Dir. Economic Development
Maryland	Legislative Aide

Water Purveyor's Interview Guide

CA / MD

Company / Contact name / Contact title:

Phone number:

Email:

Hello, my name is _____ with Newport Partners. I am conducting research on home fire sprinkler implementation on behalf of the National Fire Protection Association (nfpa.org). It's important that we hear opinions and experiences from water purveyors like you, so I'm hoping you can give me 5-10 minutes to answer a couple of questions. (If no, ask for someone else in organization.) Great! Let's get started.

I understand that home fire sprinklers have been required statewide in (CA since 2011 / MD since 2015).

1. Think back to before the requirement. What concerns do you remember having about the implementation and operation of the systems?
2. Now that the requirement has been in place, how's it working?
 - a. Has there been any noticeable impact on water usage compared to manual fire suppression? (An increase or reduction in water needed for firefighting efforts)
 - b. Have you noted a reduction in water run-off? An impact on potable water supply? If yes, ask to elaborate.
3. Does your jurisdiction require a separate water meter into the residence to accommodate the home fire sprinklers? Have you required an upgraded water meter size?
4. Does your jurisdiction require a separate service line for the home fire sprinklers? Has there been any need for upsizing service lines? If yes, is there a tap fee for this separate line?
5. How are home fire sprinkler systems handled in terms of fees?
 - a. Are there monthly standby fees? Y/N (IF Y: approximately what are they?)
6. Has your jurisdiction experienced any water quality issues from home fire sprinkler systems?

- a. Do you have any additional connection requirements beyond NFPA 13D such as back flow preventers or single check valves? Y / N (PROBE: IF Y, what and for what reasons? How have they worked?)

7. Are there any requirements related to cisterns? (PROBE: tradeoffs for installing home fire sprinkler systems)

8. Fire sprinkler contractors need flow test and pressure information for system design, do you provide that information? If no, do you know who does? Is that other information you provide Fire sprinkler contractors?

9. Are there any other people you recommend we contact? Y/N (If Y, what is their contact information? Why?)

10. Do you have any questions for me?

Thank you for your time.

Water Purveyor Locations- California



Water Purveyor's Location- Maryland

