



Water Infrastructure for Firefighting: Providing Resources to Address Gaps in Public Health and Safety

National Special Districts Coalition

July 2022



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Executive Summary

Federal lawmakers have in recent years made significant investments in the nation's infrastructure with the Infrastructure Investment and Jobs Act and to a certain degree with the American Rescue Plan Act. Historic authorizations have been made for drinking water and wastewater treatment programs to enhance the nation's health, safety, and quality of life. However, despite this progress, there remains a gap in federally funded programs to support local infrastructure development to achieve adequate resources for fire suppression.

The National Special Districts Coalition (NSDC) began investigating this donut hole, of sorts, after various communications with its stakeholders on their infrastructure needs. While all types of local government are responsible for fire protection and water services, special districts are vested in this policy issue, as more than 6,000 special districts provide fire protection services and more than 4,500 provide drinking water services to millions of Americans every day.

OF HIGH CONCERN —→ Both fire and water service providers commonly note high barriers to affordability, limited success on efforts to secure financial resources to successfully upgrade systems to provide adequate fire suppression, and the scarce existence of assistance programs.

AS A RESULT —→ NSDC assembled a working group of special district leaders providing fire protection and water services across. The group was comprised of district leaders from nine states providing services in all types of communities – urban, suburban, rural, and within the wildland-urban interface (UWI).

Using a focus group model of discussion over the course of April and May 2022, NSDC qualitatively investigated the issues and supplemented its work with a national survey to shed light on the issue of providing adequate water infrastructure for firefighting. With firm understanding that the infrastructure programming gap is not an issue unique to special districts, NSDC conducted a survey upon the working group's conclusion open to all types of local government agencies including cities and counties.

Results of NSDC's study – outlined in deeper detail in this report – indicate insurmountable fiscal pressure on water infrastructure operators to upgrade systems for adequate fire suppression resources. The average cost of adequately upgrading systems is measured to be 423 percent of the average water agency annual operating revenues. Additional challenges exist for effective interagency communications due to the number of public service providers within a community. As surveyed, water agencies have an average of 2.3 fire agencies within their service boundaries and water agencies have an average of 5.7 fire departments. Many water and fire agencies surveyed reported serious shortfalls in their service area's fire suppression resources. Only 52 percent of water providers and 18 percent of fire departments stating 80 percent or more of their service territory is equipped with infrastructure capable of providing adequate water services for fire suppression. Importantly, the vast majority of these agencies have clearly stated willingness to collaborate with each other to solve these issues should funding sources be made available, with 87 percent of fire agencies and 77 percent of water agencies answering as such. This, however, is met with a separate but related challenge of smaller, more-focused agencies' ability to submit robust funding applications due to limited resources.

With the goal of advancing public health and safety in communities facing inadequate water infrastructure for firefighting, NSDC makes four overarching federal policy recommendations and three major recommendations for organized stakeholders in on this policy topic. NSDC recommends policymakers:

- Pilot a stand-alone cost share grant program to directly aid all types of local government to address infrastructure gaps for fire suppression needs. As a function of mitigation, NSDC recommends the program to be housed within the Federal Emergency Management Agency (FEMA) in coordination with the U.S. Environmental Protection Agency regarding drinking water standards.
- In general, enhanced technical assistance for local agencies seeking funding opportunities for water and fire infrastructure.
- Additional funding and flexibility for FEMA's Assistance to Firefighters Grant (AFG) program.
- Directing a FEMA administrative review of multijurisdictional Hazard Mitigation Plan development to examine the participation of agencies with potentially eligible projects, and whether local agencies understand how to participate in the process.

For organized stakeholders, NSDC recommends:

- Facilitating communication and collaboration among fire protection and water services and providing opportunities for fire and water agencies to secure a deeper understanding of each other's services and needs.
- Establishing scholarship-style funding mechanisms to agencies in need of technical assistance opportunities.
- Forming working relationships with reliable grant writing partners to recommend for members' use.

The report provides context for these recommendations and offers details to solutions for this problem in communities across the nation. For questions, please contact Cole Karr, NSDC Federal Advocacy Coordinator, at colek@nationalspecialdistricts.org.

Background: Infrastructure Issues for Fire Suppression

Communities across America are struggling to provide adequate access to water resources for fire suppression as fire and water agencies express major worry to provide robust, maximum community fire protection. These agencies acknowledge the systematic deficits and are widely interested in offering solutions to meet needs of public health and safety, but they experience high barriers to provide critical fire suppression resources. Among the most pressing concerns are high system construction and maintenance costs without a single, reliable source of financial assistance that exist for other types of critical infrastructure.

The severity of these issues varies across regions and the types of communities served. Local agencies routinely experience problems with staff capacity to implement a robust grant program, but it is particularly problematic in rural communities where fire and water agencies are often unable to employ large staffs or are heavily reliant on volunteer positions. Aside from water infrastructure for firefighting, staff capacity impacts the ability for all types of public agencies to succeed in achieving and executing many grant programs. This common issue has been federally acknowledged in the context of the Infrastructure Investment and Jobs Act ([P.L. 117-58](#)) (IIJA), as the Biden Administration [released in April 2022](#) a rural playbook to assist communities with their pursuit of infrastructure funding opportunities. Similarly, NSDC provided [formal feedback](#) to the [White House Infrastructure Implementation Team](#) specifically providing special districts' perspectives on IIJA programing access.

In all, fire and water agencies agree that actionable solutions are necessary to address financial concerns of implementing adequate fire suppression infrastructure. Furthermore, solutions must focus on striking a balance of local fire and water agencies' collaboration without creating a competitive program that fosters disunity and competition between among the two types of public service providers.

This section of the report outlines three overarching areas of concern on this topic from each agency type.

Cost of Water Infrastructure Projects, Funding Sources, and Contributions

Water agencies that participated in NSDC's working group expressed challenges with the high cost of water infrastructure investments geared toward fire suppression, especially when there is little incentive or financial

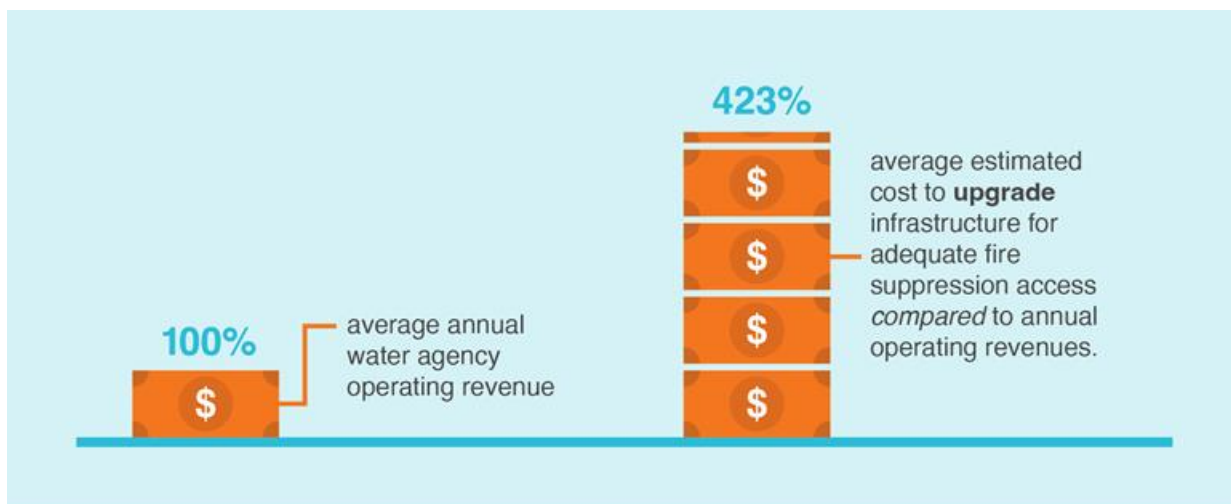


Figure 1

assistance for them to do so. NSDC's survey of water agencies found the average cost to upgrade infrastructure for adequate fire suppression access is 423 percent of the average annual water agency operating revenue (Figure 1). This is a significant finding considering 44 percent of responding water agencies said less than 80 percent of their service territories are adequately equipped with infrastructure adequate to meet fire suppression standards.

Despite fire agencies' acknowledgment of inadequacy, many are unable to estimate costs to repair. Only 24 percent of fire agencies providing services in a community they perceive to have less than 100 percent coverage and access to fire suppression resources could estimate costs for needed improvements. This resonates with working group findings relating to the general lack of understanding these agency types have of each other's operations. As a result, it is difficult to confidently evaluate general estimates of fiscal impacts on fire agencies.

The high costs of these fire infrastructure improvement projects, coupled with a lack of grant funding opportunities, means that funding for these important upgrades would require significant rate increases for water customers. Additionally, water agencies often must pay the costs of water used for firefighting that can never be recovered, further compounding the ability to provide adequate resources when necessary. Without funding opportunities in place to assist with the local costs, water agencies report they are unlikely to meet fire suppression demands.

Meanwhile, water supply is not an element central to fire agencies' mission, and most grants available to fire agencies do not fund water infrastructure projects. The most common grants available to fire agencies focus on costs associated with the workforce including insurance needs, upkeep of facilities, and mitigation/prevention programming in the community, personal protective equipment, and, on a limited basis, fire vehicles.

This does not mean programs with the potential to fund these projects are non-existent. Rapidly growing communities in some states can raise infrastructure revenue from local impact and development fees, which can be particularly helpful to fire agencies that can access these fees. Water agencies in communities experiencing growth may be able to better justify capacity increases to adequately service hydrants. The U.S. Department of Agriculture-Rural Development's Community Facilities Grant offers a limited opportunity to service fire station construction and enhancements and provide technical assistance for water operations. But these resources are largely out of reach for many.

Fire agency members of the NSDC working group expressed frustration over having few funding sources to address infrastructure gaps, and they noted difficulty in identifying and contributing to solutions to water infrastructure issues. Further complicating matters, only 13 percent of survey respondents stated they had received grant resources they deemed to be enough to address water infrastructure improvements for fire suppression. Most of the fire agency respondents in this category received water tender or tanker truck under the AFG program.

Grant Barriers —————

Survey responses are consistent with feedback from working groups on the ability and willingness to pay for system upgrades – water agencies are generally more interested in investing in water infrastructure, but the vast majority of all fire and water agencies are willing to fund projects when a grant program with cost share and technical assistance is available.

Over the course of research, water agencies widely reported a limited quantity of grant and finance program options to implement infrastructure projects specifically to improve water infrastructure for fire suppression. Existing federal programs for drinking water and wastewater treatment are available to serve public health and water supply needs; however, these programs largely overlook public safety and fire protection needs within communities. In fact, federal law expressly prohibits the use of the EPA Clean Water and Drinking Water State Revolving Funds, a popular source of project funding for public water systems, for projects that are primarily needed for fire protection ([40 CFR 35.3520\(e\)\(4\)](#)).

Furthermore, the EPA's Drinking Water State Revolving Fund (SRF) eligibility includes limitations on projects aimed to accommodate no more than a "reasonable" amount population growth ([40 CFR 35.3520\(e\)\(5\)](#)). This restriction may hinder the ability of a water agency to acquire funds. For example, a project to construct a new drinking water pipe to serve a small community that is also sized to allow for improved fire flow may appear to be "accommodating for future growth". Agencies have reported experiencing this difficulty.

In all, 31 percent of grant-seeking water agencies intending to construct water infrastructure enhancements for fire suppression have never successfully applied for grant or finance programs to do so. This is likely due to the apparent lack of available funding opportunities for this specific type of water infrastructure improvement.

Unfortunately, working group members able to apply for eligible programs noted that grant programs' writing processes are often difficult, costly and lack feedback. Many agencies expressed the desire to review comments on rejected grant and finance applications to learn from mistakes and improve the application for a subsequent opportunity. This is especially the case for fire agencies, which are less than half as likely to have had the opportunity to review comments on unsuccessful grant applications. According to the NSDC survey, 20 percent of fire agencies and 46 percent of water agencies reported having the opportunity to review rejected applications. Of the fire agencies reporting they have not had the opportunity to review, 83 percent are rural and 43 percent are volunteer-staffed.

Communication Issues, but with Willingness to Connect

A trend of inconsistent interagency communications among fire and water agencies was pronounced throughout NSDC's research, providing another hurdle to success. There are two major factors contributing to the inefficient

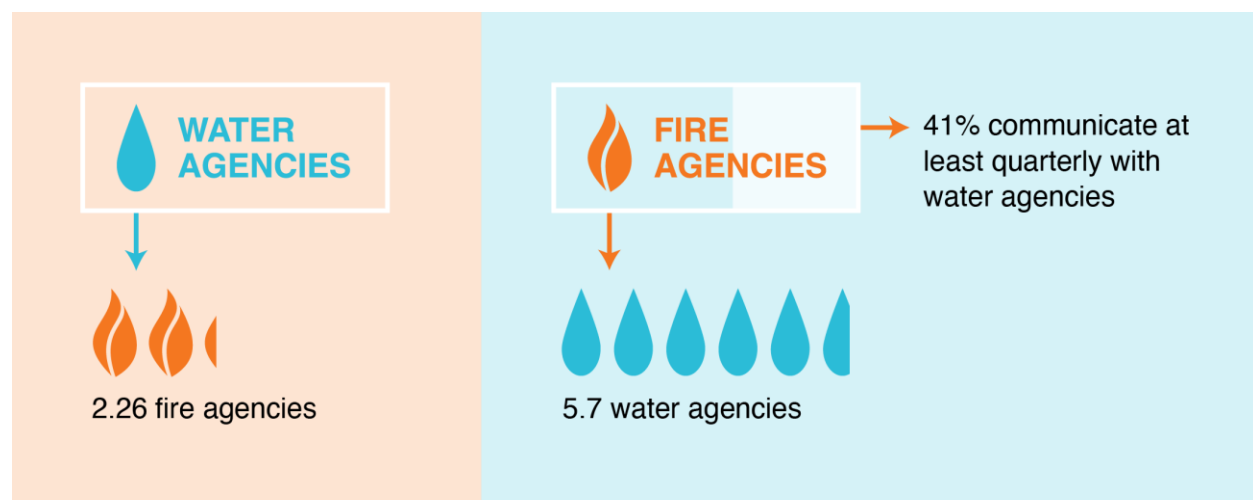


Figure 1

and infrequent interagency communication: (1) the quantity of agencies to coordinate with at a local level, and (2) hugely different service demands.

On average, water agencies reported having 2.26 fire agencies with which to collaborate (Figure 2). Half say they communicate at least quarterly with their fire agencies. On the flip side, fire agencies reported having an average of 5.7 water agencies within their service territories with 41 percent communicating at least quarterly with water agencies.

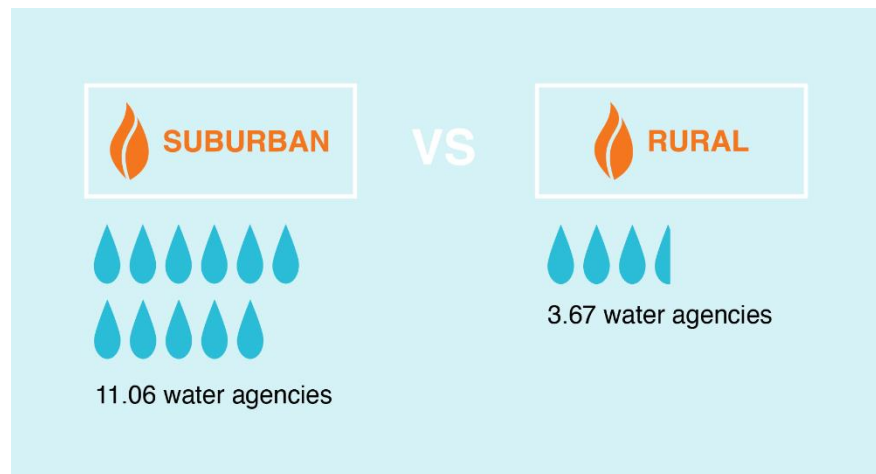


Figure 2

Suburban fire agencies participating in this research reported an average of 11.06 water agencies within their service territories. Rural fire agencies had fewer agencies to contend with – an average of 3.67 water agencies each (Figure 3).

Agencies reporting they perceive less than 100 percent of their service territory having adequate access to fire suppression were further asked whether they intend to upgrade, or collaborate with other fire or water agencies to upgrade, local infrastructure to provide full coverage for fire suppression resources. Two-thirds of water agencies responded in the affirmative while the same proportion of fire agencies answered in the negative.

Based on working group feedback, the delta between responses may be rooted in contrasting missions and budget priorities: water agencies are responsible for delivering potable water supply and maintaining systems, whereas fire agencies are responsible for providing fire protection with a heavy focus on salary, benefits, and other payroll and employee matters.

These agencies acknowledge interagency collaboration specifically for education, training, and relationship building is a vital element that must exist to effectively address water infrastructure needs together. Accordingly, this study discovered a greater desire among water and fire agencies to work in a collaborative fashion more than they prefer to act on water infrastructure for firefighting alone.

This finding was more pronounced in survey results when presented with a grant option with technical assistance to enhance infrastructure collaboratively with other fire or water agencies to execute a needed project.

Respondents were asked:

If a federal program were established that is intended to provide funding opportunities to enhance water infrastructure and resources for firefighting and fire suppression, would your agency apply for such an opportunity?

Water agencies responded with a greater willingness (71 percent) to utilize this type of programs if it were to exist. Fire agencies' shift in response was more pronounced, with 87 percent reporting a willingness to apply for such a program. Nine out of every 10 fire agencies that originally signaled no intent to collaborate on infrastructure enhancements changed their mind when presented with this concept (Figure 4).

9 in 10 fire agencies that were unwilling to invest in infrastructure changed their mind when presented with the potential for funding opportunities.



Figure 3

Both agency types were asked if they would consider pursuing funding opportunities that would involve working with one-another, where applicable. The question:

If a federal program were established that is intended to provide funding opportunities to enhance water infrastructure and resources for firefighting and fire suppression, would your agency be willing to partner with [fire/water] agencies in your service area to apply for the opportunity and execute the project?

In total, 77 percent of water agencies and 87 percent of fire agencies replied with favor toward this concept with 21 percent of water agencies responding with uncertainty.

Despite their differences, fire and water agencies appear to understand common needs and have a willingness to locally solve these problems, especially when presented with options for financial and technical assistance and collaboration.

Regional Concerns are Amplified in Rural Communities —————

With the exception of interagency communication, most of the aforementioned concerns are augmented for smaller, more rural agencies. These communities often face higher barriers due to high-cost system upgrades with smaller population bases compared to larger communities. This is a common issue among water agencies due to population and infrastructure costs, however there are additional factors for fire agencies in these communities.

Small and more rural fire agencies are typically volunteer staffed and often lack bandwidth to access funding opportunities. Their service territories are often larger in size with decentralized population, and not all have a water agency with which to coordinate.

Rural fire agencies are set aside from their urban counterparts as they often lack central water distribution systems, fire hydrants, and have a less reliable water supply. Without access to municipal potable water systems

with large mains, sufficient hydrants and considerable storage capacity, rural fire districts must identify and develop independent water storage solutions. They must also create capacity necessary to distribute stored water throughout their service territory and to transport water to a fire scene. Non-potable water is a typical solution in this case, especially if open water resources are available to draft; however grainy, sandy water can speed decline in a fire engine's integrity. This is common, but strategically placed water resources prove more effective for community health and safety.

Developing “Adequate” Infrastructure for Fire Suppression

What do Fire and Water Agencies Consider to be “Adequate” Coverage?

Water agencies are more likely to consider their communities to have adequate infrastructure for firefighting when they perceive at least 80 percent of their service territory to be equipped with fire suppression resources; whereas fire agencies are more likely to consider its community to have adequate infrastructure to suppress fire when at least 60 percent of the service territory is equipped.

Diving deeper, when asked whether they believe the community they serve has adequate water resources for fire suppression, 50 percent of water agencies said yes. Overall, 51 percent indicated at least 80 percent of their service area is equipped with infrastructure capable of providing adequate water services for fire suppression.

In contrast, fire agencies appear to have a different threshold of considering whether their service territories are adequately equipped with firefighting resources. When asked whether they believe the community they serve has adequate water resources for fire suppression, 68 percent of fire agencies responded in the negative.

Correlatively, the breaking point of whether a fire agency considers their community to have adequate water infrastructure is roughly 60 percent of its service territory. Comparing the response to the question of whether fire agencies’ *service territory is equipped with infrastructure capable of providing adequate water services for fire suppression*, 72 percent said less than 60 percent of their service territory is equipped with fire suppression services.

Preferred Enhancements to Suppression Coverage

Water storage is a popular response among fire and water agencies on potential approaches to remedying adequacy gaps, but each for differing reasons.

A simple majority of water agencies believe adding water storage for stronger pipe pressure could be a productive remedy compared to 35 percent of fire agencies. This contrasts with fire agencies, which seek water storage for the purpose of having a central access point for fire suppression resources. Only 22 percent of water agencies saw this as a good idea whereas 65 percent of fire agencies see this as a viable option to enhance access.

Fire agencies providing services in rural communities would benefit most. Of the fire agencies saying they could use water storage for a central access point as a solution to coverage gaps, 85 percent were rural and 93 percent provide fire protection to urban/wildland interface communities. Nearly all water agencies responding favorably to this concept provide water services to rural communities.

Opinions on fire hydrant installation are also high, with 58 percent of fire agencies responding that additional hydrants would improve their access to adequate fire suppression resources, whereas 62 percent of water agencies believe additional hydrants would provide better access.

Recommended Policy Changes

The working group identified a range of policy gaps and breakdowns in interagency communication. Working group members first identified issues specific to their service areas prior to convening and narrowing the scope of primary, mutual beneficial needs the agencies have. The section of the report addresses policy recommendations that are based on the NSDC working group and survey.

Top of mind for water district stakeholders are the significant costs of installing or upgrading water infrastructure for firefighting. For rural fire protection agencies, any access to equipment capable of shuttling water or the pre-positioning of water resources is critical. Further, all surveyed agencies providing fire and water services regardless of their size and location report having limited resources to apply for available assistance programs efficiently and successfully, spotlighting a major need among local government service providers.

Finally, with many existing water and fire grant programs proving to be limited in their ability to fund adequate fire suppression infrastructure, both fire protection and water providers strongly recommended that new assistance programs be established that neither further stretches thin existing resources nor drives a competitive wedge between the two types of service providers. Through any policy development, both parties desire programming that drive cooperation.

Four overarching topics emerged for policy considerations, including the establishment of a new water infrastructure for firefighting program, enhanced technical assistance, a guaranteed rural allocation of a key annual firefighter assistance program, and a federal review of the local FEMA Hazard Mitigation Plan processes. Details of these recommendations are expanded below.

Piloting a New Water Infrastructure Program to meet Fire Suppression Needs

Stakeholders are unified: there is a strong necessity to establish a new federal assistance program exclusively for water and fire protection entities to plan and construct water infrastructure sufficient for fire suppression.

Fire protection agencies reiterated throughout the working group process that they are “not in the business of providing water” and have limited resources to commit for water conveyance and delivery needs. Further, few programs offer assistance for non-potable water supply; however, the acceptance of non-potable water as a function of fire suppression varies between urban, which prefer access to potable resources, and rural departments, which accept most easily accessible water supplies.

On the other hand, water agencies have access to many major infrastructure programs such as the EPA’s Clean Water SRF and Drinking Water SRF programs. Unfortunately, the Drinking Water SRF program does not allow for projects that increase water capacity nor does it allow for the implementation of non-potable water resources. Water agencies report regulatory hurdles on projects to increase pipeline capacity to accommodate for adequate fire flow in water systems, as this can lead EPA to mistake the intent of projects to be proactive for future population growth, which is restricted under the Drinking Water SRF. Inability to access fire hydrants with adequate water pressure is a major concern for successful fire suppression.

NSDC recommends the establishment of a stand-alone program within FEMA to address this critical issue in America’s communities. This program should be (1) flexible with consideration of regional geographic factors

driving a heightened need for fire suppression infrastructure investments, (2) locally driven based on collaborative solutions, (3) provide opportunities for technical assistance and cost share, and (4) begin as a pilot program.

Rural, WUI, and Urban Considerations —————

Needs vary based on the type of communities fire and water agencies serve. For urban and suburban communities, investment in existing infrastructure to accommodate for adequate water pressure is key, including projects geared toward interconnectivity of water delivery systems, storage to increase water pressure, adjustments to accommodate for greater flow, water recycling, and more. Rural agencies are presented with enhanced challenges that come with less population density. Likelihood of fire agencies tapping adequately pressured systems is less likely in rural areas. Some communities lack any connection to centralized water sources. Here, investments in non-potable water storage tanks would be key, subject to environmental quality considerations. Water stakeholders engaged with this research agree these investments should be prioritized for communities in drought-prone wildland-urban interfaces and those that have few, if any, nearby reliable water sources.

Interagency Collaboration as Part of the Solution —————

Both fire protection and water providers widely consider interagency communication to be “lacking.” NSDC recognizes that policy changes will not resolve this particular issue; however, it can serve as a catalyst for collaboration among primary stakeholders. NSDC recommends there be formal interagency cooperation and planning among impacted fire and water agencies applying for the recommended infrastructure program as a prerequisite for eligibility. As demonstrated above, there is a strong willingness among fire and water providers to collaborate and pursue grant opportunities on this subject, with 77 percent of water agencies and 87 percent of fire agencies stating they would take positive action on such a program.

Finally, interagency collaboration is especially important to communities located adjacent to or surrounded by boundaries of federal lands. NSDC recommends policies that compel federal land management near these communities to engage in the stakeholder process and ensure natural infrastructure programming for land management is complementary to physical infrastructure upgrades to protect the community from within.

Technical Assistance and Cost Share for Maximum Community Benefit —————

Whether they are counties, cities, towns, or special districts, special districts, small, under-resourced fire and water agencies need opportunities for assistance in accessing federally sourced funding opportunities. Technical assistance for this recommended program may be in the form of a case manager, community facilitator, or funding for the smallest of agencies to train or hire grant writers. Cost share structured in a similar fashion as FEMA’s hazard mitigation and public assistance programs is also recommended.

In general, water and fire agencies in most need of critical infrastructure upgrades will require a substantial financial investment for capital outlays and maintenance/upkeep. To prevent deterrence of smaller special districts and other agencies from the recommended grant opportunities, it is important to provide cost share opportunities that are flexible based on the communities that eligible agencies serve. Currently, fire and water agencies would face potential rate increases or special assessments to create revenue sources to fund these improvements. In many cases, ballot measures to increase a special tax, special assessment, or to raise rates can be a lengthy, arduous process for many that could end in defeat – especially in socioeconomically distressed communities.

Ultimately, cost share opportunities for the enhancement of water infrastructure for firefighting will mitigate additional costs being passed along to consumers and residents. Implementing this policy would keep water and fire protection services affordable. Furthermore, it would potentially improve a community's Insurance Services Office (ISO) rating, of which 40 percent relies on community water supply, and could reduce property insurance rates.

Technical Assistance from Start to Finish

Many special districts, towns, small cities, and other similar agencies operate on relatively small annual budgets with few staff. Staff at these lean agencies experience hardships submitting robust, competitive grant applications to aid in achieving their infrastructure needs. Furthermore, staff may lack qualifications or expertise for effective grant writing and contracting grant services can be costly.

For this reason, technical assistance is a crucial component to small, rural agencies leveraging federal programs to provide adequate essential services in their communities. Within the universe of NSDC's survey – most of which were special districts –, 23 percent of agencies said they have never received technical assistance for any grant. Of those agencies, roughly 65 percent are rural, and 53 percent are volunteer-staffed. Finally, of all agencies reporting never to have received technical assistance for grant applications, 59 percent have annual budget of less than \$1 million.

NSDC strongly recommends any existing and future assistance programs, in general, include user-friendly approaches, allow for a lengthy submission timeline, and provide streamlined, direct opportunities to review comments on unsuccessful grant applications. Allowing review of failed grant applications may improve agencies' future attempts to secure project funding.

Finally, small agencies with budget and staff constraints often struggle with regulatory reporting, which can be burdensome financial risk for small special districts most in need of assistance. NSDC also recommends any existing or new programming keep complexities of reporting requirements relatively simple and extend technical assistance to districts with low capacity to accomplish heavy reporting requirements.

Additional Funding and Flexibility for AFG

Rural fire protection districts are concerned that low population figures diminish their benefit/cost analysis metrics, thereby increasing their likelihood of denial of departments' AFG applications. AFG can be utilized for activities pertaining to operations and safety, as well as vehicle acquisition. Rural departments rely on water tenders and tanker trucks to shuttle water from the nearest source as their service territories are often void of suppression systems and water infrastructure.

Many rural fire agencies shared in the survey and in the working group that the lack of existing water infrastructure, fiscal infeasibility of enhancements, and/or the non-existence of organization providing water in the community leads to a heavier reliance on vehicles capable of shuttling water and natural water supplies, which may be unreliable due to climate conditions.

AFG is a major federal program these agencies may utilize to enhance their fire suppression infrastructure; however, these rural fire agencies experience less activity. Just shy of half – 48 percent – of agencies with rejected AFG applications believe the primary cause for the rejection was low call volume. Some agencies responding to the

survey have never been awarded AFG for which they applied. Of those that have never received an AFG grant for which they applied, 89 percent are rural and 56 percent of all that had never received an AFG grant for which they applied believe they were unsuccessful due to low activity/call volumes.

These agencies are also likely to have fewer resources to search and successfully apply for grant opportunities. One-third of agencies believe the primary reason they have been rejected for AFG in the past is due to few resources as their disposal to provide a robust application. As stated above, these agencies would greatly benefit from access to technical assistance programs to ensure a return on investment on resources for the public health and safety of the community.

NSDC determines this issue is not necessarily due to an oversight of rural departments, but rather limited congressional appropriations paired with federal limits on the capped proportion of funds available for vehicle acquisition.

Many rural departments access AFG due to federal requirements on proportional allocations – 25 percent each – for volunteer, combined, and career-staffed departments. There are also statutory limits on the amount of funding larger departments may receive annually. According to U.S. Fire Administration [data](#), 85.9 percent of the nation’s nearly 30,000 fire departments are volunteer-staffed or mostly volunteer staff, which are more likely to be located in rural and suburban communities. Competition is the key factor, especially with less annual federal appropriations, relative to historical fiscal year allocations.

Congress authorized the Staffing for Adequate Fire and Emergency Response (SAFER) program in 2003, which assists emergency response agencies to staff stations and operations. Since Fiscal Year (FY) 2011, AFG and SAFER have had equal allocations under programs for firefighter assistance, but AFG has experienced a decline as a result.

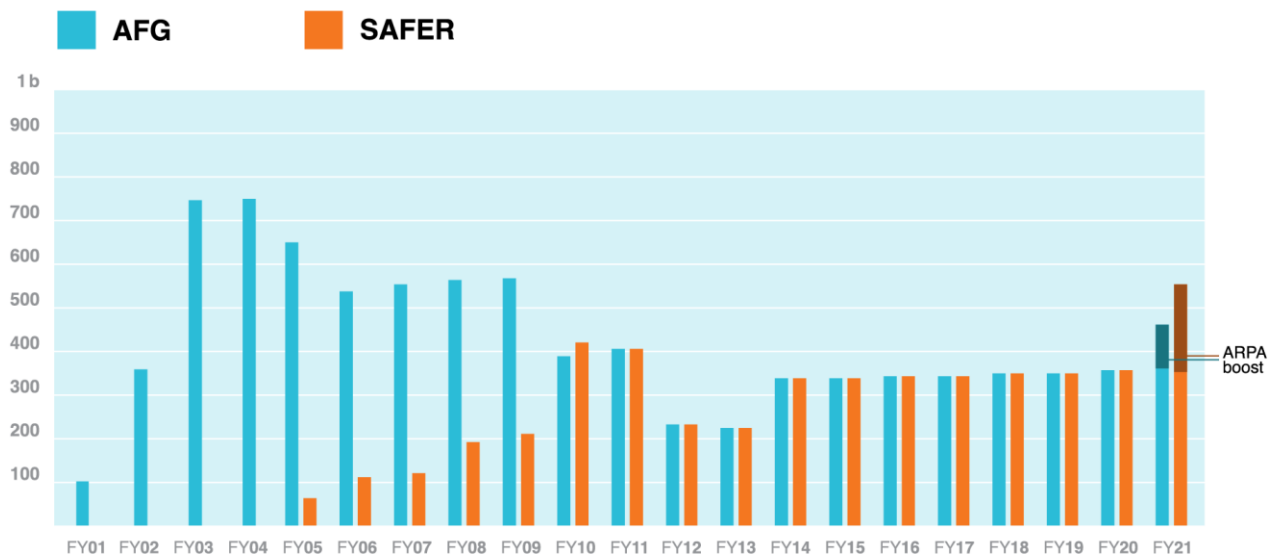


Figure 4

The final year AFG received 100 percent of firefighter assistance program appropriations was FY2004 with a \$746 million allocation. Adjusted for inflation, this figure would be \$1.07 billion in 2021, when AFG's total appropriation was **\$460 million**, which included a \$100 million boost with the American Rescue Plan Act aimed to respond and recover from the COVID-19 pandemic (Figure 5). Rural departments with needs of vehicle acquisition feel the pinch of reduced AFG funding, consistent competition, decreasing purchasing power due to rising inflation, and also face a statutory **25 percent** cap on total program use for vehicles. This 25 percent must be distributed equally among urban, suburban, and rural communities, and 10 percent of the vehicle funding must be put toward ambulance purchases.

NSDC strongly supports SAFER programming, but urges Congress consider increasing authorization and appropriations for AFG to mitigate the competitive squeeze on the smallest of agencies seeking support and assistance. Further, NSDC recommends Congress to modify the statutory limit for vehicle acquisition to better position rural departments for success in their efforts to provide as much adequate fire suppression service as possible. The 118th Congress will consider reauthorization for firefighter support programs including AFG, and the Coalition stands ready to work with congressional stakeholders to achieve greater AFG programming.

Reviewing FEMA's Hazard Mitigation Planning Process

Wildland fire disasters are becoming more common and more severe – especially in areas near the wildland urban interface (WUI). Adequate water infrastructure for firefighting is proven to reduce destruction to the built environment from wildfires in the WUI. The South Tahoe Public Utility District's adequate infrastructure for firefighting and access to water resources are credited as "**pivotal**" in the 2021 Caldor Fire fight and in preventing its spread into the community of South Lake Tahoe, Calif. Despite the success outlined with the Caldor Fire, the region's water providers have identified more than \$60 million in outstanding needs to upgrade their water infrastructure to adequately serve firefighting needs.

NSDC recommends FEMA examine the potential benefits of including water infrastructure for firefighting projects as an applicable component of its Hazard Mitigation Planning (HMP) program. Inclusion of such projects under HMP would be significant to advance these critical projects. Participation in a local HMP is limited and significant, as each planning cycle is five years long and eligible projects can receive a 75 percent cost share.

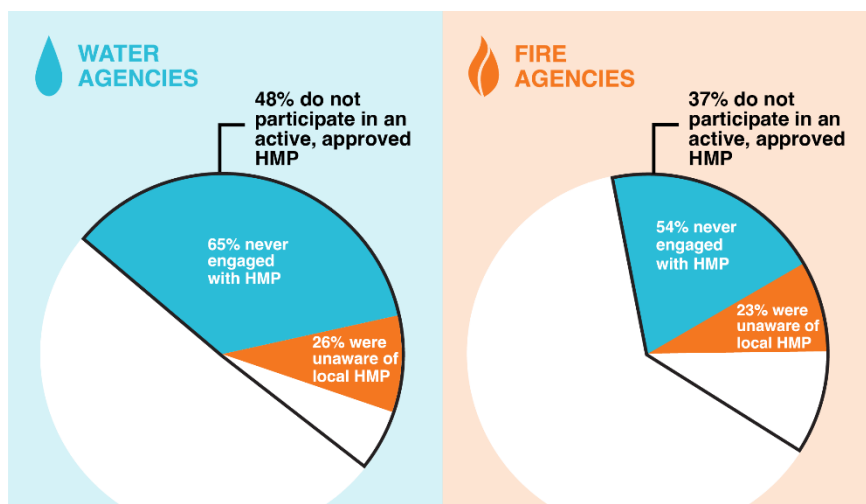


Figure 6

Furthermore, agencies in rural communities usually have fewer resources available to independently execute the FEMA HMP processes report less engagement and participation in counties' multijurisdictional hazard mitigation planning process. The opportunity to participate in, and contribute to, a multijurisdictional plan is critical and can come at reduced costs to the agency. Yet, many standalone water and fire

departments do not have FEMA-approved hazard mitigation plans that could provide financial assistance for critical mitigation projects. Among surveyed fire organizations, 37 percent do not participate in an active, approved HMP; of which, 54 percent were had never engaged with the HMP program and 23 percent were unaware a local multijurisdictional plan existed. Forty-eight (48) percent of water agencies do not participate in HMP; of those, 65 percent had never engaged with the FEMA HMP program and another 26 percent were unaware of a multijurisdictional plan in place. (Figure 6)

NSDC recommends organized stakeholder groups to promote more awareness and education on the program while also recommending a FEMA review of how multijurisdictional HMPs engage with all relevant agencies within its operations area to ensure maximum participation.

Recommendations for Stakeholder Associations

Communication and Collaboration

Addressing deficiencies in water infrastructure for fire flow requires involvement and collaborations from both water and fire agencies, which is noted as needing improvement. Fostering working relationships and open lines of communication between the two groups can be essential to finding solutions to water infrastructure issues and promoting the shared goal of health and safety for their communities.

NSDC recommends associations and other organized groups help to implement and develop forums for open lines of communication and collaboration between water and fire agencies. Forums to help establish and implement best practices for communication and coordination between water and fire agencies will help the agencies to better understand each other and their practices and thus promote more collaboration between the two.

Fostering Understanding and Training

While creating forums for open communication between fire and water agencies is a big step toward fostering working relationships, working group members still expressed a broader need for better understanding and training. A frequent topic working group members from both water and fire agencies discussed was awareness of time, resources, and access to their counterparts, which can create tension or even distrust.

Working group members from both water and fire agencies advocated for the development of shared training opportunities between the two. NSDC recommends associations assist with training program development to better streamline water and fire agency collaboration. For instance, based on working group discussions, participating water agencies did not fully understand requirements for adequate fire flow and fire suppression from the perspective of fire agencies. To remedy this common issue, as an example, opportunities are needed to educate water agencies on the needs of fire agencies, and the two agency types could discover more from each other how two-inch pipes are inadequate to provide proper pressure as well as proper understanding of fire hydrants maintenance and testing.

Technical Grant Assistance and Reliable Grant Writers

Many members of the working group expressed a need for grant technical assistance. Grant writing training, reimbursement, and notifications would be essential to addressing gaps in the grant writing process that water and fire entities both experience. The ability to access information on existing grant programs for water and fire agencies to leverage would be a major step in addressing some of these major infrastructure funding issues.

The grant writing process can be a hefty burden, especially for small agencies. Grant searching and grant writing is very time consuming and often not worth the overuse of resources, some report. It is not uncommon for grant writing to be more costly than beneficial for small agencies that spend significant amounts of time writing and researching grants when they often are rejected. This is magnified for smaller, rural, and volunteer organizations whose benefit-cost ratio is extremely low therefore not qualifying them to receive grants.

NSDC recommends associations help to mitigate these issues through increased frequency of grant notifications, facilitating grant training programs, grant writing assistance, and reimbursement programs offered as member benefits for technical assistance.

NSDC also recommends associations build relationships with reliable, trustworthy grant writer organizations and share as endorsed options to their memberships. This recommendation pertains to the high response rate of agencies unable to review grant applications, which is speculated to be a result of some third-party grant writers that do not review unsuccessful applications with clients. Establishing these partnerships may reduce instances of low-quality grant writing operations from catering to small agencies with little resources to execute reviews on their own. Finally, NSDC urges special districts and all agencies utilizing third-party grant writers to list a chief officer as the primary point of contact to ensure direct communication with granting agencies.

About the Working Group

The NSDC Legislative Committee voted to establish the Water Infrastructure for Firefighting Working Group on March 24, 2022, to examine gaps in infrastructure resources for firefighting. NSDC Members representing fire protection and drinking water districts each were able to appoint”

- One (1) fire protection district providing services in an urban/suburban area
- One (1) fire protection district providing services in a rural/WUI area
- One (1) district providing drinking water services in an urban/suburban area
- One (1) district providing drinking water services in a rural/WUI area

The working group’s makeup was intended to provide geographic diversity and equity in representation across NSDC member states: California, Colorado, Florida, Oregon, South Carolina, Texas, Utah, Washington, and Wyoming.

Members of the working group are as follows:

FIRE SERVICE PARTICIPANTS



KEVIN TAYLOR

Fire Chief – Montecito Fire Department
Montecito, Calif.

Kevin Taylor has served in fire service since 1987, beginning his career with Cal Fire and working through the ranks at Paso Robles Fire Department. He began at the Montecito Fire Department in 2015 and was promoted by the Board to Fire Chief in 2019. Chief Taylor has an extensive experience in emergency management having been a founding member of the Santa Barbara County Type 3 Incident Management Team.



DOMINIC BURCHETT

Fire Chief/CEO – Unified Fire Authority
Salt Lake City, Utah

Dominic Burchett has served Salt Lake County for over 20 years and currently served as the Fire Chief and CEO at Unified Fire Authority. Chief Burchett has spent his career as a Firefighter, Wildland Specialist, Paramedic, Captain, Division Chief, and Assistant Chief of Support Services.



DANIELLE O'TOOLE

Fire Marshal – Chino Valley Fire District
Chino Hills, Calif.

Danielle O'Toole serves as the Fire Marshal for the Chino Valley Fire District and has worked in the fire service for over 20 years. Danielle was appointed to her position in 2018, having previously served as Deputy Fire Marshal and Fire Inspector. During her career she has worked on a variety of community development projects throughout the district from entitlement to certificate of occupancy. Danielle served on the implementation team for the current ERP software that includes permit and plan check for the district.



TJ STECK

Fire Chief – Elizabeth Fire Protection District
Elizabeth, Colo.

TJ Steck currently serves as Fire Chief for the Elizabeth Fire Protection District. Chief Steck has been in the fire service for 30 years and has advanced through the ranks from Firefighter to Fire Marshal and up to Fire Chief of a rural / suburban combination fire department.



CHRIS BARRON

Fire Chief – Travis County Emergency Services District
Travis County, Texas

Chris Barron currently serves as the Fire Chief for the Travis County Emergency Services District and has worked in fire service for over 31 years. Chief Barron served for 15 years as the Executive Director for the State Firefighters' and Fire Marshals' Association before retiring and now owns his own consulting company to assist emergency services across the country.



PHILL JOLLEY

Fire Chief – Pelham Batesville Fire District
Spartanburg County, S.C.

Phill Jolley has worked for the Pelham Batesville Fire District for 33 years and currently serves as the Fire Chief. Chief Jolley also has a long public service record, having worked for many organizations and currently serves as the President for the South Carolina Special Purpose District Association.

MARK HOLBROOK

Fire Chief – Gantt District Fire Department
Greenville, S.C.

Mark Holbrook currently serves as the Fire Chief for the Gantt District Fire Department and has served there since 1981. Chief Holbrook served as the department's Training Officer from 2001 through 2019. He has also been a Resident State Fire Marshal since 2001, overseeing the department's building inspection and pre-planning programs from 2006 through 2013.



PAM FEELY

Board Member- West Metro Fire Protection District
Lakewood, Colo.

Pam Feely, CPA, MBA is the owner of Feely Consulting, LLC. Feely Consulting works with small businesses, candidate and issue committees on

financial reporting and compliance. Pam served as a trustee of Colorado Fire Police Pension Association for 8 years. Pam was first appointed to the West Metro Fire Protection District Board of Directors in Lakewood, CO. in June of 2009. She was subsequently elected in 2012 and 2016 and served 11 years. She served as Board President for 8 years. In 2019.



SCOTT SANFORD

Chief of Department- Palm Harbor Special Fire Control and Rescue District
Palm Harbor, Fla.

Scott Sanford has over 25 years of experience in the fire service. Currently, he is the

Chief of Department for Palm Harbor Special Fire Control and Rescue District. Scott also serves as a Florida Association of Special Districts (FASD) board member.



DARREN BUCICH

Fire Chief – McKenzie Fire/Rescue
Springfield, Ore.

Darren Bucich has been in the fire service in some capacity for over 30 years. For the past 12 years he has served as the Fire Chief for McKenzie Fire/Rescue a combination Fire

District east of the town of Springfield Oregon. Chief Bucich has been a part of several State and local committees and boards. He is the Past President of the Oregon Fire Chiefs Association, currently serves as the Chair of the Board on Public Safety and Training, serves on the State Interoperability Executive Council and on the Trust for Special Districts of Oregon.



PAUL LOEFFLER

Limestone County Emergency Services District
Limestone County, Texas

Dr. Paul Loeffler has worked for the Limestone County Emergency Services District for 6 years, serving as President for 2 years. Prior to this, Dr.

Loeffler worked for 4 years at West Lake Volunteer Fire Department as a Grant Administrator/Grant Writer. He also has an extensive academic background having worked over 40 years in academia.



MAX DOSHER

Battalion Chief – Park City Fire Service District
Park City, Colo.,

Max Doshier's fire career started in 1993 as a wildland firefighter in Colorado. He has been with the Park City Fire Service District for 22 years and

has been a firefighter, engineer, paramedic, rescue technician, and captain. Battalion Chief Doshier leads the training division and is responsible for teaching and managing certifications for all aspects of emergency medical, fire, and technical rescue response.



CRAIG HASLAM

District Chief – Fremont County Fire Protection District
Fremont County, Wyo.

Craig Haslam currently serves as the District Chief for the Fremont County Fire Protection District.

WATER SERVICE PARTICIPANTS



BARBARA BIGGS

**General Manager – Roxborough
Water and Sanitation District**
Littleton, Colo.

Barbara Biggs has over 30 years of experience in the water and waste-water industry and currently serves as General Manager at the Roxborough Water and Sanitation district, Chair of the Colorado Water Conservation Board's Metro Roundtable, Chair of the One World One Water Advisory Council of Metropolitan State University, and board member of the Colorado Water Trust and National Association of Clean Water Agencies.



GREG ANDERSON

**General Manager/CEO – Kearns
Improvement District**
Kearns, Utah

Greg Anderson currently serves as the General Manager/CEO of the Kearns Improvement District. Anderson has extensive experience in his field having served 35 years in the private practice as a Principal Engineer in providing consultation services in water infrastructure projects through the Intermountain West.



SEAN BARCLAY

**General Manager – Tahoe City
Public Utility District**
Tahoe City, Calif.

Sean Barclay currently serves as the General Manager at Tahoe City Public Utility District, he also served on as an ACWA Region 3 Board Member and is a licensed professional land surveyor in CA and NV.



JEFF FIELD

**Executive Director- Laurens
County Water and Sewer
Commission**
Laurens County, S.C.

Jeff Field has served as the Executive Director at the Laurens County Water and Sewer Commission since 2005, prior to working for LCWSC, Field was employed by South Carolina DHEC in the Bureau of Water Drinking Water Permitting and Compliance Section. He also serves on numerous local and regional boards.



DAN YORK

**General Manager – Sacramento
Suburban Water District**
Sacramento, Calif.

Dan York has 42 years of service in the public sector of water utilities with 27 years at the Sacramento Suburban Water District. Prior to his employment with the Sacramento Suburban Water District, York worked for the Rio Linda Water District and the Arcade Water District and has been extensively involved in the water industry serving within organizations such as the Sacramento Area Water Works Association and ACWA Region 4 Board.



BRANDY MILROY

**Water Resource Manager–Mason
County Public Utility District**
Shelton, Wash.

Brandy Milroy has served at the Madison County PUD since 2007 and currently manages the entire water operations at Madison County PUD.



KATIE NICHOLLS

**District Manager – Three Lakes
Water and Sanitation District**
Grand Lake, Colo.

Katie Nicholls currently served as the District Manager at the Three Lakes Water and Sanitation District and is responsible for the management and operation of the district as well as all other entities contracted for services with the district, these include Columbine Lake Water District and North Shore Water District.



ROY WATTS

**General Manager – Powder
Mountain Water and Sewer
Improvement District**
Weber County, Utah

Roy Watts Currently serves as the General Manager at Powder Mountain Water and Sewer Improvement District has 40 years' experience working in the water and wastewater industry. Served as chairman of the Utah Association of Special Districts as well as board member and chair of other community boards.



ADAM DENLINGER

**General Manager – Seal Rock
Water District**
Seal Rock, Ore.

Adam Denlinger currently serves as the General Manager at Seal Rock Water District as well as Co-Convener at Mid-Coast Water Planning Partnership and Board Member at the Special District Association of Oregon.



SIMON VANDYK

**Director of Business Development
– Touchstone District Services**
Katy, Texas

For the past 13 years, Simon VanDyk served in various capacities including as the Public Information Officer (PIO) for Harris County Emergency Service District No. 48 (HCESD 48) in Katy, Texas. Starting as a volunteer firefighter in 2009, his passion for community outreach led him to establish innovative communication platforms and several new community education initiatives; further, he focused on connecting with and building strong relationships with the 37 municipal utility districts (MUDs) that are within the fire district.

Believing MUDs are great for Texas, Simon began attending his own MUD's meeting and eventually became the first resident director on Willow Point MUD in May 2018 – the same year that he and his wife, Laura, founded the consulting firm Touchstone District Services, LLC. As the chief PIO and director of business development, Simon works closely with special purpose districts and their consultants across Texas to help them tell their story to the residents they serve.

CURT BREES

General Manager – Silver Lake Water and Sewer District
Snohomish County, Wash.

Curt Brees currently serves as the General Manager for the Silver Lake Water and Sewer District and has worked in that role for 5 years. Brees has worked for 5 years in current role, 8 total as a general manager of a special purpose water/sewer district, 7 additional years of experience as small city PW Director operating water/wastewater systems.

National Special Districts Coalition

The National Special Districts Coalition is the only national organization representing and advocating for all special districts at a national level. Organized in 2018, a group of five state special districts associations in California, Colorado, Florida, Oregon and Utah established a memorandum of understanding aimed to share resources, best practices and openly network to identify solutions to common problems for special districts across state lines. In 2021, the coalition expanded its mission to include federal advocacy for special districts to receive equitable access to critical programs available to local governments.

NSDC consists of associations, organizations, and businesses each representing and supporting special districts across the country. Uniting special districts and stakeholders as *one voice*, NSDC fosters strong national collaboration to strengthen and advance essential community service enhancing American communities' quality of life.

Contact

This report was prepared by the National Special Districts Coalition.

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Acknowledgements

NSDC thanks all the individuals and organizations involved in making this study a success, including members of the working group outlined above and **Hannah Tomasello**, 2022 Legislative Intern, California Special Districts Association. We also appreciate background meetings conducted with the **Federal Emergency Management Agency** the **International Association of Fire Chiefs (IAFC)**, and the **National Association of Emergency and Fire Officials**. NSDC also thanks **IAFC** for promoting the stakeholder survey to its membership and **Duran Kinst Strategies** for formatting this report and creating its infographics.

Methodology of Study

NSDC's Working Group examining gaps in water infrastructure programs aid communities with adequate fire suppression were selected by NSDC's members. In all 24 members were appointed with water and fire district stakeholders from NSDC's member states. The group was divided into a subgroup for each type of service provider. They met independent of each other the weeks of April 11, 2022, and April 18, 2022. They met jointly the weeks of April 25, 2022, and May 2, 2022.

NSDC member associations, working group members, and partnered organizations distributed the survey to their members and peers. In total, 121 water and fire agencies from California, Colorado, Florida, Oregon, South Carolina, Texas, Utah, and Washington responded to the survey efforts between May 17, 2022, and July 10, 2022, providing a 9.1 percent margin of error.