Funding Improvements to Water Infrastructure

MARCH 2023

Reconnaissance Study on Challenges and Opportunities in Southeastern Pennsylvania

DELAWARE VALLEY REGIONAL PLANNING COMMISSION — dvrpc

ENVIRONMENTAL POLICY INNOVATION CENTER

WATER RESOURCES ASSOCIATION OF THE DELAWARE RIVER BASIN

SOUTHWEST ENVIRONMENTAL FINANCE CENTER

The Delaware Valley Regional Planning Commission is the federally designated Metropolitan Planning Organization for the Greater Philadelphia region, established by an Interstate Compact between the Commonwealth of Pennsylvania and the State of New Jersey. Members include Bucks, Chester, Delaware, Montgomery, and Philadelphia counties, plus the City of Chester, in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties, plus the cities of Camden and Trenton, in New Jersey.

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DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. We are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices.

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Acknowledgements

The following four organizations began coordinating in 2021 on the needs for infrastructure improvements to water, wastewater and stormwater systems. We embarked on this reconnaissance study to better understand systems' challenges and workable solutions in 2022.

- Lead sponsor: the [Delaware Valley Regional Planning Commission (DVRPC)](), the regional planning agency for Greater Philadelphia

- [Water Resources Association of the Delaware River Basin]() (WRADRB) is a nonpartisan advocacy and public information organization of water professionals, water purveyors, and commercial, industrial, and maritime river users in the Delaware River Basin.

- [Environmental Policy Innovation Center]() (EPIC) is a nonprofit organization based in Washington, DC focused on building policies that deliver spectacular improvement in the speed and scale of environmental progress.

- The [Southwest Environmental Finance Center at the University of New Mexico]() (SWEFC) is a public service entity within the University of New Mexico, dedicated to assisting government and the private sector with technical, managerial, and financial aspects of environmental service delivery and compliance.

Special thanks to Lauryn Magno, Katy Hansen, and Denise Schmidt of EPIC, Skelly Holmbeck of WRADRB, and Heather Himmelberger of the SWEFC for making this report possible.

The individuals interviewed for this report generously gave their time, expertise, and wisdom. Interviewees included Executive Directors, Managers, Commissioners, Superintendents, Mayors, Board Chairs, and Supervisors. A common theme throughout our discussions was a dedication to serving the public, with excellence and without fail. A unique aspect of the water and wastewater sectors is the critical nature of these services. We are grateful to the interviewees not just for the time they spent talking with us, but for their leadership and service to our communities.

Executive Summary

Water systems (drinking water, wastewater and stormwater management) across the country are largely underinvested, with estimates of needs ranging between between $1 and $2 trillion over the next 20 years.[1] Water system investment needs are particularly significant in Southeastern Pennsylvania, a region characterized by aging infrastructure, fragmented government and utilities, and areas with high concentrations of poverty. Utilities, which are largely funded at the local level, face growing affordability concerns in the presence of these significant challenges, including the need for costly water infrastructure improvements. State and federal programs can help finance these investments, and the Infrastructure Investment and Jobs Act (IIJA) injected significantly more funding into these programs. Unfortunately, many systems historically have not applied for these state and federal funds. This report investigates how municipalities and utilities currently view infrastructure needs and funding programs, asking why they choose to pursue certain programs and how access to funds for infrastructure could be improved.

The investigation included 20 structured interviews with municipal and utility managers in Southeastern Pennsylvania from Philadelphia, Bucks, Chester, Delaware, and Montgomery counties, as well as managers in adjacent systems within the Delaware Basin. The interviews focused on the challenges in finding, applying for, securing, and managing funding for water infrastructure. We also asked about successful funding opportunities, the strengths of programs, and interest in a new technical assistance initiative by EPIC, SWEFC, DVRPC, and other partners called the Funding Navigator.

Overall, we found that water systems struggle to identify appropriate funding sources, engage the community, and work through the application process itself. In contrast, we found that most systems feel confident in administering and managing the funding awards.

We recommend how responsible parties such as funders, technical assistance providers, water systems/municipalities, elected officials, and community partners can address the barriers utilities and municipalities encounter in accessing public funds for water infrastructure.

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[1] Estimates for the water investment gap vary significantly due to a lack of consistent and accurate data, however most estimates fall between the range of $1-$2 trillion. The US Water Alliance estimated that the US needs to invest at least $1 trillion over the next 20 years while the Value of Water Campaign and the American Society of Civil Engineers estimated that the US needs to invest an additional $109 billion per year over the next 20 years. See American Water Works Association, *Buried No Longer: Confronting America's Water Infrastructure Challenge* (Denver, CO: AWWA, 2017). https://www.awwa.org/Portals/0/AWWA/Government/BuriedNoLonger.pdf?ver=2013-03-29-125906-653 and American Society of Civil Engineers and Value of Water Campaign, *Economic Benefits of Investing in Water Infrastructure* (Value of Water Campaign, 2020). https://thevalueofwater.org/sites/default/files/Economic%20Impact%20of%20Investing%20in%20Water%20Infrastructure_VOW_FINAL_pages.pdf. Others have cited EPA's Needs Surveys; however, many of the estimates are grossly underestimated due to the surveys' datedness, failure to adjust for population growth, and failure to include system operation and maintenance (O&M) costs. See The U-M Water Center, *Water and Sewer Infrastructure and Funding Gap* (Ann Arbor, MI: Graham Sustainability Institute, 2022). https://graham.umich.edu/system/files/pubs/Water-Sewer-Infrastructure-Funding-Gap.pdf

Recommendations include establishing a funder coordinated pre-application system; promoting tools that centralize clear, easy-to-understand information on the funding sources available to water systems; providing direct technical assistance for grant writing, engineering and community engagement, especially to disadvantaged communities; clarifying eligibility requirements and terms of awards in pre-application documents; and being proactive and seeking technical assistance when needed. The recommendations for technical assistance providers will inform the Mid-Atlantic Funding Navigator Program, a program funded by the William Penn Foundation to serve water systems and municipalities in the Delaware River Basin by providing direct technical assistance on identifying appropriate funding sources, preparing an application, and engaging the community. Table 1 summarizes the recommendations.

Table 1: Recommendations to improve systems' access to funding sources

Responsible Parties	1. Identifying appropriate funding sources	2. The application process	3. Managing and closing out the award	4. Community engagement
1. Technical Assistance Providers (e.g., *engineering firms or the Mid-Atlantic Funding Navigator Program*)	**1.1a** Connect people with and publicize tools that provide clear, easy-to-understand information on the spectrum of funding sources available to Southeastern Pennsylvania water systems, such as direct technical assistance consultations to help them strategize their best approach to funding.	**1.2a** Provide grant writing assistance, engineering, or other technical assistance, particularly for low-resource communities and systems.	**1.3** Support systems' management and administration of awards with direct technical assistance, management tools, and guidance, as needed.	**1.4a** Emphasize the importance of meaningful community engagement and connect systems with community engagement providers, as well as develop a library of general materials and a template for customizable materials for those able to undertake the engagement in house.
		1.2b Serve as a sounding board and reviewer for systems' preparing their own applications.		**1.4b** Coordinate a peer network where practitioners across the sector can share what worked and didn't work for them.
2. Funders	**2.1a** Provide potential applicants both up-to-date pre-recorded info-sessions, and live webinars (with Q and A), to learn more about programs. Sessions	**2.2a** Streamline the application process for multiple state-administered funding sources (e.g. a funder coordinated pre-application	**2.3a** Reduce the lag between applications and awards.	**2.4a** Provide guidance on how to receive assistance to conduct meaningful community engagement.

Responsible Parties	1. Identifying appropriate funding sources	2. The application process	3. Managing and closing out the award	4. Community engagement
	would be digested best if organized by specific type of infrastructure needs, i.e. lead pipe replacements, green stormwater management practices, emerging contaminants.	process that all applications are submitted through and jointly evaluated by the funders for best fit). Distill technical requirements into something simpler and reduce the number of required supporting materials for applicants where possible.		
	2.1b Clarify eligibility requirements and the terms of the award (i.e., type of award as loan, grant, or hybrid) in pre-application information and documents.	**2.2b** Replace confusing and outdated websites with more streamlined, centralized, and electronically-accessible information on public funds.[2]	**2.3b** Ensure needed resources and attention are provided to historically disadvantaged communities.	**2.4b** Help utilities conduct proactive community outreach through direct assistance (i.e., act as facilitators, help identify key stakeholders to involve, help design the engagement process.)
3. Water Systems	**3.1a** Understand the need for infrastructure improvements, and develop projects that meet the regulatory, public health, and customer service needs of the community. Actively inquire about and pursue funding for improvements, reaching out to funders and/or technical assistance providers when help is needed.	**3.2a** Allocate the time and resources needed to effectively pursue funding for improvements.	**3.3a** Allocate the time and resources needed to effectively manage a grant or loan.	**3.4a** Proactively communicate with the public about infrastructure needs and funding and offer opportunities for public input.

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[2] PENNVEST implemented an all-digital loan application, settlement, and disbursement process, which "currently averages about six months until funds can be drawn." An EPA report points to PENNVEST's model as a best practice in regards to streamlining the application and speeding up the process, but interviewees indicated that improvements are still necessary to alleviate the burden placed on applicants, particularly small and under-resourced systems. See U.S. EPA, *AWIA Best Practices for Administration of Drinking Water State Revolving Funds*, (Washington D.C.: US EPA, 2022). https://www.epa.gov/system/files/documents/2022-04/awia-best-practices-for-administration-of-drinking-water-state-revolving-funds_2.pdf

Responsible Parties	1. Identifying appropriate funding sources	2. The application process	3. Managing and closing out the award	4. Community engagement
	3.1b Integrate tasks to identify and apply for loans and grants into workflow, so that the time required is part of employees' core tasks, rather than an extra add-on done on top of all other responsibilities. If the grant work is truly above and beyond, incentivize workers.	**3.2b** Seek technical assistance when needed.	**3.3b** Seek assistance and guidance when needed.	**3.4b** Seek assistance and guidance when needed.
4. State and Federal Elected Officials	**4.1** Continue and increase direct support to water systems, including notifying them of funding opportunities.	**4.2** Deliver more technical assistance funding through annual program appropriations to support low-resource water systems.	**4.3** Provide increased capacity at the state level, including increased funding for administration, grant programs, and staffing to support efficient administration and management of awards.	**4.4** Support, understand, and clearly communicate the importance of publicly-funded infrastructure improvements, especially in relation to local community needs.
5. Local Officials	**5.1** Prioritize water system improvements by staying up to date on the condition of local water system infrastructure. Keep the community informed about local water infrastructure systems and ensure that proposed projects meet community needs. Increase direct support to water systems to carry out improvements.	**5.2** Provide the administrative and financial support needed for successful applications.	**5.3** Provide the administrative support needed to successfully manage funding awards.	**5.4** Publicly promote water sector efforts for community engagement and actively engage in water infrastructure projects.
6. Community Partners	**6.1** Organize to prioritize and communicate water system needs to municipalities and utilities.	**6.2** Assist with additional information that may be needed to support application materials, especially for disadvantaged communities, such as an income survey.	**6.3** Ensure that all project elements are completed as proposed to meet the needs of the community prior to grant close out. Identify any areas	**6.4a** Provide outreach and connections to community groups and community members, especially those who may not otherwise be brought into the process.

Responsible Parties	1. Identifying appropriate funding sources	2. The application process	3. Managing and closing out the award	4. Community engagement
			that are insufficient.	
				6.4b Partner with water systems to engage with community groups and residents.

Introduction

Introduction

Background

Providing safe and reliable water, wastewater, and stormwater management services—referred to collectively as water systems in this report—requires investment in infrastructure. Estimates suggest that water systems across the country must invest between $1 and $2 trillion over the next 20 years.[3] The needs are often acute in Black, Indigenous, people of color (BIPOC) and low-income communities.[4] Day to day operations of water systems are largely financed through the local revenue the utilities collect from the customers they serve. That revenue is generally insufficient to fund major infrastructure upgrades requiring utilities to turn to outside funding sources.

The largest sources of public funds for water infrastructure are the Drinking Water State Revolving Fund (DWSRF) program and Clean Water State Revolving Fund (CWSRF) program.[5] The federal government finances about 10 percent of water infrastructure investment mainly through State Revolving Funds (SRFs). The SRF programs received a significant increase in funding in the Infrastructure Investment and Jobs Act (IIJA) in 2021, which includes nearly $50 billion additional dollars for the SRF programs over the next five years. Pennsylvania will receive $46.3 million in new SRF funds in 2023 to improve water infrastructure, after Congressional Directed Spending (commonly referred to as earmarks).[6] This federal investment in water services—the largest since the Construction Grants Program in the 1970s—has the potential to deliver profound benefits to public health, the environment, and economic development.

Purpose

There is an urgent need to ensure all communities can access federal funds to invest in safe drinking water, sanitation, and protection from flooding. It is important to note that while the SRFs are the largest sources of funding for water systems, there are other government programs as well that systems choose to access. Many water systems have historically not

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[3] See footnote 1. Estimates for the water investment gap vary significantly due to a lack of consistent and accurate data, however most estimates fall between the range of $1-$2 trillion. The US Water Alliance estimated that the US needs to invest at least $1 trillion over the next 20 years while the Value of Water Campaign and the American Society of Civil Engineers estimated that the US needs to invest an additional $109 billion per year for the next 20 years.

[4] Sara Hughes. "Flint, Michigan and the Politics of Safe Drinking Water in the United States." Perspectives on Politics 19, *4* (2020): 1219-1232. doi:10.1017/S153759272000136X.

[5] Also commonly referred to as State Revolving Funds, or SRFs.

[6] Although Pennsylvania was originally predicted to receive $1.4 billion over the next five years, the SRF capitalization grant has been used to pay for Congressional Directed Spending over the last two years. The results of these earmarks is that the net amount that Pennsylvania was to receive will be much lower than initial estimates. See Council of Infrastructure Financing Authorities (CIFA), "Federal funding earmarks," cifanet.org, 2023 https://www.cifanet.org/federal-funding-earmarks. See also [a] The White House. 2021. "The Infrastructure Investment and Jobs Act will Deliver for Pennsylvania." https://www.whitehouse.gov/wp-content/uploads/2021/08/PENNSYLVANIA_Infrastructure-Investment-and-Jobs-Act-State-Fact-Sheet.pdf

accessed the SRF funding sources. For example, only 7 percent of eligible drinking water systems nationwide have received assistance from these programs in the past decade.[7]

Utilities face multiple barriers to accessing public funds to invest in water infrastructure. To better understand these barriers, the Delaware Valley Regional Planning Commission (DVRPC), the Water Resources Association of the Delaware River Basin (WRADRB), the Southwest Environmental Finance Center (SWEFC), and the Environmental Policy Innovation Center (EPIC) conducted 20 in-depth interviews with municipalities and utilities in Southeastern Pennsylvania. This report summarizes the challenges water systems face in applying for funding and the gaps in available technical assistance. We conclude the report with recommendations to address these issues. Our findings can apprise funding partners such as Pennsylvania Infrastructure Investment Authority (PENNVEST) as well as inform a new program launching in the Greater Philadelphia area in early 2023—the Funding Navigator. The Funding Navigator is a team of experts that help water systems, especially in overburdened communities, seek and secure public funds to develop environmentally and financially sustainable water infrastructure projects.

This report summarizes the results of our qualitative research gauging Southeastern Pennsylvania water utilities' capacity to seek, obtain, and administer public funds for water infrastructure improvements, and identifies specific barriers, and solutions, to obtaining public funds. Overall, we find that systems struggle the most with knowing where to start. Systems reported that their biggest challenges related to identifying appropriate funding sources is due to disparate and confusing information, submitting applications with limited staff capacity and financial resources, and knowing how to engage the community in decision-making. In contrast, most systems reported feeling more confident in administering and managing funded awards.

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[7] Katy Hansen, Sara Hughes, Andrea Paine, and James Polidori, *Drinking Water Equity: Analysis and Recommendations for the Allocation of the State Revolving Funds* (Washington, D.C.: Environmental Policy Innovation Center (EPIC) 2021). https://static1.squarespace.com/static/611cc20b78b5f677dad664ab/t/614ce18c71125612978901b5/1632428438 124/SRFs_Drinking-Water-Analysis.pdf

Methods

Methods

Study Approach

The aim of the study is to explore and identify mismatches between the need for and allocation of public water infrastructure funds, and to increase understanding of challenges, impediments, and system inertia. To achieve this, DVRPC, WRADRB, SWEFC, and EPIC conducted 20 structured in-depth interviews with utility managers and municipal officials, focused in five Southeastern Pennsylvania counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia, and in several adjacent areas within the Delaware River Basin.[8]

Initially, we randomly identified about 40 systems in the five-county Greater Philadelphia area from a list of all systems in the region, using data from the Safe Drinking Water Information System (SDWIS)[9] Federal Reporting Services and National Pollutant Discharge Elimination System Publicly Owned Treatment Works (NPDES POTW) permit holders. System managers and staff were contacted to participate in a 30- to 45-minute virtual meeting with one of the project partners. A standard interview format was used in each case (see Appendix A), and all interviews were confidential.[10] Interviews took place between May and November of 2022. While many who were contacted were eager to participate, others, for various reasons, were unable to engage with us. We augmented the random sample with referrals and professional connections to ensure a sample size of at least 20 interviews representing water systems across geography, size, and type.

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[8] DVRPC, WRADRB, SWEFC, and EPIC conducted 20 standard interviews with 20 different water systems. However, two interviews were held with *more* than one staff member from a system, resulting in a total of 22 *interviewees*.
[9] U.S. EPA, "SDWIS Overview," EPA.gov, 2022. https://www.epa.gov/enviro/sdwis-overview
[10] No identifying information to be shared in the report.

Findings

Findings

Characteristics of water systems interviewed

As an older region, many of the systems we interviewed have wastewater infrastructure that is over 100 years old and drinking water infrastructure that is over 120 years old (see Table 2). Many of the systems received upgrades in the last 20 to 30 years. Despite ongoing improvements, a majority have some infrastructure that is past or approaching the end of its expected life and in need of significant repairs and upgrades. In particular, interviewed systems reported capital intensive challenges including combined sewer overflows (CSOs), lead service lines (LSLs), deteriorating drinking water distribution and sanitary systems, PFAS (an emerging contaminant of concern also referred to as polyfluoroalkyl substances), inflow and infiltration (I/I) problems, along with unique issues facing individual systems. Due to customer affordability concerns, utilities and municipalities have limited ability to raise rates to pay for needed system improvements.

Table 2: Water System Characteristics

Category	Drinking Water and Wastewater
Time since system first established	55-200 years
Public or private	95% public
Employees (average)	40 employees*
Population served (average)	< 39,000*

* The Philadelphia Water Department is excluded from the averages to avoid skewing the data, as it is a notable outlier with 2,000 employees and a service population of over 2,000,000.

A majority of the interviewed systems serve small (less than 10,000 people) to mid-size (between 11,000 to 50,000 people)[11] communities and have a small staff. More than half of the systems (12) have less than 50 employees (see Table 2 above). Several systems have fewer than 15 employees. The Philadelphia Water Department is a notable outlier in terms of age, size, population, and number of staff. Out of the 22 interviewees representing the 20 systems, the majority that we spoke with were in leadership or executive roles, including executive directors, commissioners, system managers, and supervisors, and some were engineers, finance, or public officials. The interviewees' average length of service in the industry was 14 years. The interviewees were most receptive to being interviewed by representatives from local, known and trusted organizations, demonstrating the importance of relationships.

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[11] 40 CFR § 141.2

Sources of public funds for water infrastructure

There are multiple sources of public funds for water infrastructure in Pennsylvania. Each water system we interviewed has successfully applied for and received funding for water infrastructure in the past. Table 3 lists the sources that interviewees have applied for.

Table 3: List of Pennsylvania Water and Wastewater Funding Sources (Source: modified from Environmental Finance Center Network (EFCN) Funding Tables)

Level of Government	Organization	Program	# Applied
Federal	U.S. EPA	Water Infrastructure Finance and Innovation (WIFIA)	2
	U.S. Department of Transportation (DOT)	The Rebuilding America's Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant program	1
	U.S. Department of Homeland Security	FEMA Grants	2
	US Army Corps of Engineers (USACE)	Section 219: Environmental Infrastructure	1
	Military Installation Remediation and Infrastructure Authority (MIRIA)	Act 101 of 2019	1
State	Pennsylvania Department of Agriculture	Pennsylvania's Dirt Gravel, and Low Volume Road Maintenance Program	1
	Pennsylvania Department of Community and Economic Development (PA DCED)	Commonwealth Financing Authority (CFA)	2
		COVID-19 ARPA Local Fiscal Recovery Funding	3
		Community Development Block Grant Program (CDBG)	1
		H2O PA Program: Water Supply, Sanitary Sewer and Storm Water Projects	6
		Flood Mitigation Program (FMP)	1
		PA Small Water and Sewer Grant Program	5
		Unspecified*	2

Level of Government	Organization	Program	# Applied
Local	Pennsylvania Department of Environmental Protection (PA DEP)	Growing Greener Plus Grants Program	2
		Unspecified*	2
	Pennsylvania Infrastructure Investment Authority (PennVEST) and Pennsylvania Department of Environmental Protection (PA DEP)	Clean Water State Revolving Fund (CWSRF)**	0
		Drinking Water State Revolving Fund (DWSRF)**	0
		PennVEST (unspecified)*	3
	Pennsylvania Office of the Budget	The Redevelopment Assistance Capital Program (RACP)	1
	Municipal Sources	Local sources, including local nonprofit fundraising	2
	Private Sources	Bank Loans	1
		Bonds	2
		Foundation Grants	1

* Note: General funding organizations, excluding specific programs. For example, see "PA DCED, unspecified."

** Included are additional funding sources from the Environmental Finance Center Network (EFCN), including sources not cited by interviewees. The additional sources contextualize the interviewee-cited sources within the available funding landscape in Pennsylvania. See a comprehensive list in appendix

Water systems financed different types of projects with public funds. These projects included water main replacements, sewer line replacements, wastewater treatment plant (WWTP) repairs, lead service line removal (LSLR), emerging contamination (i.e., PFAS) remediation, and stormwater management. Systems financed wetland restoration and vulnerability assessments less frequently.

The success rate for receiving water infrastructure funding is varied.[12] While 75 percent of systems indicated they had received some funding in the past, the interviewees had the most success with state-administered programs and private sources of funds. Several systems found the most success with programs through the Pennsylvania Department of Community and Economic Development (PA DCED) including: the PA Small Water and Sewer Grant Program;

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[12] For the survey question,*"Did you receive funding,"* under section 2.1, many interviewees indicated they were successful in receiving funds but did not specify from which programs they received funding. While we are able to evaluate the general success of applications, we were unable to pull accurate data on the success rate of specific Pennsylvania funding programs.

the Commonwealth Financing Authority (including Casino Grants according to one interviewee); and COVID-19 ARPA Local Fiscal Recovery Funds (ARPA Funds). Other state-led programs such as Pennsylvania's Department of Environmental Protection's (PA DEP) Growing Greener Plus Grants Program and private sources including bank loans and municipal bonds were also listed as successful sources of water infrastructure funds. Other funds were more difficult to access, particularly those through the Military Installation Remediation and Infrastructure Authority (MIRIA), PA DCED's H20 PA Program: Water Supply, Sanitary Sewer and Stormwater Projects, and PENNVEST. Many of the source's interviewees applied to recently were still pending at the time of the interview, including Water Infrastructure Finance and Innovation (WIFIA) funds. Several systems said they failed to receive funds through PA DCED's H2O Program; in fact, only one system specified that they had been successful. PENNVEST applications were cited as one of the most time-consuming and frustrating, in that the outcome of a loan versus a grant award was uncertain. For example, one interviewee was told they were eligible for 100 percent grant funding but were instead offered a 50:50 grant-to-loan ratio. They ultimately felt that they were unable to afford the offered award, and it left the system feeling misled in the PENNVEST process.

Challenges to accessing water infrastructure funds

Systems face several challenges in accessing public funds to finance water infrastructure. Many expressed that the largest challenges are in identifying appropriate funding sources and preparing applications (see Figure 1 below). Nearly 75 percent of the interviewees said the application process was difficult or very difficult. In contrast, managing grants and closing out the awards are less burdensome—only 25 percent said managing or administering the grant or loan was difficult or very difficult.

Figure 1: Systems' average experience when applying to funding sources
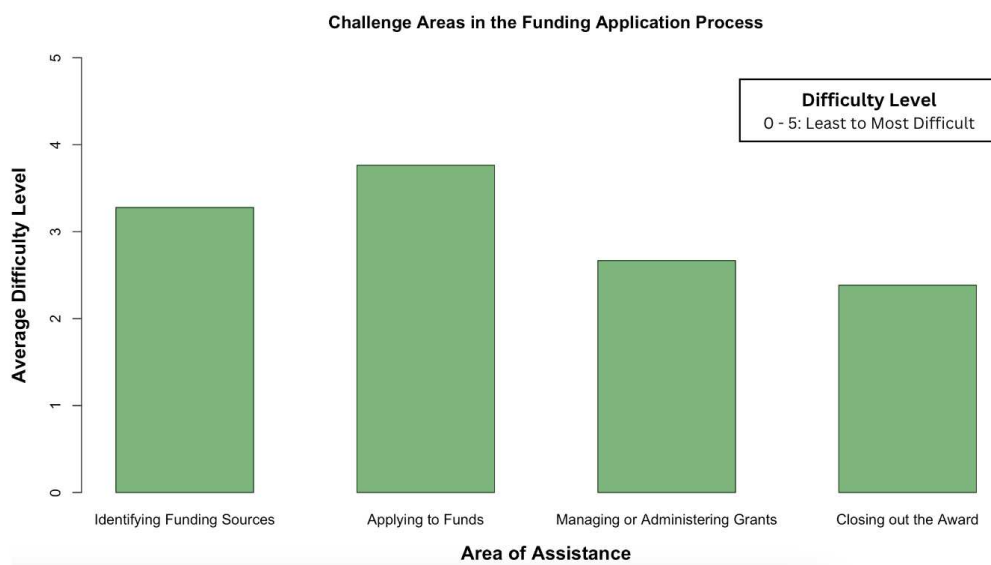
1. Multiple funding programs make **identifying appropriate sources** complex and uncertain

There are multiple sources of funding to finance water infrastructure projects in Pennsylvania. While having multiple sources is generally considered a positive, interviewees reported that confusing websites, outdated information, and unclear explanations on terms of awards (loans vs. grants) complicate their ability to identify the right funding program for their needs, sometimes to the point of inertia.

Many systems lack the staff capacity and financial resources to navigate the landscape of multiple funding programs. Several interviewees cited confusing websites and complicated submission instructions as a hindrance to pursuing an application. One respondent shared that they did not apply to a specific funding source due to broken links and outdated information on the funder's website. A lack of clarity on eligibility and the likelihood on the terms of the awards, or the type of award, are often unclear at the beginning of the application process and add uncertainty. For example, funds are commonly awarded in different forms depending on the funding source—SRFs are awarded as loans but also in the forms of principal forgiveness, grants, or negative-interest loans for certain eligible recipients and projects.[13] However, many communities are unaware of the terms of their potential awards until the application process is complete. Systems want to understand these terms before applying to determine whether they can take on the type of award offered, as the application process is incredibly time-consuming and costly.

The lack of clarity about different funding sources complicates systems' abilities to identify appropriate options and encourages systems to remain in their comfort zone. Most municipalities and utilities pursue funding from sources with which they are familiar, that offer straightforward application processes, and that match the problem they are trying to solve. For example, several said that municipal bonds are easier, less complex, and less expensive and can be bundled without needing shovel ready projects, which can be costly to design pre-funding. While the majority of systems stated they will apply for more funding in the future, identifying the best program for the system's needs and financial situation and understanding how to start the process remains the largest obstacle.

To navigate the complex landscape of funding sources, systems have often turned to external resources for guidance. A majority of the water systems interviewed rely on engineering firms to direct them to appropriate funding because the systems do not have the expertise or time available in-house. Some municipalities and utilities expressed how much they value their engineering firms, while others said they desired access to additional perspectives and

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[13] Katy Hansen, Becky Hammer, A Fairer Funding Stream: How Reforming the Clean Water State Revolving Fund Can Equitably Improve Water Infrastructure Across the Country (Washington, DC: Natural Resources Defense Council (NRDC), 2022). https://static1.squarespace.com/static/611cc20b78b5f677dad664ab/t/6358a6f8227cca7a13eed501/16667543072 65/EPIC_NRDC_A+Fairer+Funding+Stream.pdf

resources.[14] Some systems said that engineering firms are a frequently-used resource because of the firms' technical expertise and their ability to identify and assist in preparing applications. There are occasions when firms will assist in competitive applications pro bono, with the understanding that they will do the work if funding is secured. In many instances, the cost for this technical support is an additional obstacle. These systems would benefit from shared resources, without conflicts of interest (i.e. the same grant writer working for multiple systems applying for the same funds), to identify and apply for funding. Water systems also rely on the advice and encouragement of in-house finance staff, bond councils, municipal authorities such as the Pennsylvania Municipal Authority Association, and local trade organization chapters like the American Water Resources Association (AWRA), the Pennsylvania Rural Water Association (PRWA) and the American Water Works Association (AWWA). For the 72 percent of respondents that have received assistance in completing applications, engineering firms, financial consultants, or in-house staff were employed the most. Local colleges and universities were also cited.

Resources from funding programs, such as PENNVEST representatives are also available, but applicants have varying experiences working with them. Several interviewees mentioned strong positive relationships with their PENNVEST representative that made PENNVEST a more attractive source. Others stated frustration with the PENNVEST process and guidance, including the uncertainty of whether a grant or loan will be offered, the expense of compiling a PENNVEST application, the feeling that small systems would not compete well statewide in PENNVEST's evaluation, and the burden of complying with Build America, Buy America (BABA) requirements.

The systems cited the following barriers to identifying appropriate funding sources:

- The whole process is overwhelming—websites are confusing, instructions are complicated, and requirements can be extensive which makes them time-consuming and/or costly to compile.

- Finding the funds for planning, for example identifying repairs and costs, is challenging. A study or design, if required for an application, can be anywhere from tens of thousands to a million dollars.

- Balancing the knowns and unknowns is challenging, particularly around likelihood of funding, timing of funding, ability to secure matching funding, and the terms of that funding. Municipalities and utilities often pursue multiple sources in parallel and proceed without knowing if and when any funding will be granted.

- Balancing the priorities of keeping rates reasonable and operations safe and reliable with the need for ongoing repairs, capital improvements, and community engagement is a

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[14] Although engineering firms were cited as a frequent and valued resource by interviewees, some would prefer additional or other resources to help them navigate funding programs. Engineering firms can be costly for under-resourced utilities to contract, and there can be implicit bias in their work, such as expectations to conduct additional work if their recommendations are followed.

formidable challenge for managers. Fold in the constraints of underfunding, and some challenges become insurmountable.

2. **The application process** is often challenging

Once past the initial hurdle of identifying the right funding source, nearly every system finds applying for funds the most difficult aspect. Limited staff capacity and technical expertise to complete applications and costly and time-consuming requirements for additional materials to supplement applications (e.g., preliminary engineering reports, environmental documentation, and financial documentation) are just a few barriers listed by interviewees. In addition, the already onerous process is further muddied by what many interviewees labeled as a lack of transparency from funders. This left applicants confused by which documents they need to submit, the timeline to apply and hear back, who to reach out to, and generally how to create a successful application.

Lack of capacity and technical expertise make pursuing specific types of funding even more difficult. Because the majority of systems interviewed have small staff, and some even rely on community volunteers for certain roles, there is simply not enough capacity to both maintain current operations and pursue the complex process of funding for infrastructure improvements. The technical requirements of applications for infrastructure improvements typically require expertise from engineers, finance experts and grant writers. If a system does not have sufficient capacity related to these skill sets in-house, they must outsource to consultants and others, which contributes to the upfront costs they must take on in order to seek funds, described in more detail below.[15]

Interviewees considered certain aspects of application processes to be onerous, and thereby overly time-consuming and costly. Utilities often have to provide various documents to demonstrate their technical, managerial, and financial (TMF) capacity. Gathering the required documentation, which can include asset management plans, financial sustainability plans, environmental and engineering reviews, is very time-consuming, particularly for systems with smaller staffs. There are upfront costs that make applying to funds more difficult, including hiring external support and compiling the needed documentation. These upfront costs may sometimes be rolled into the overall costs which are either used as a match to a grant or may even be reimbursed once the award is distributed, but the time delay and uncertainty of the award places a strain on the system. While many systems have applied for and been successful recipients of funds, for systems that are new to a funding source, the application process can be seen as too much of a risk considering the time and resources required to pursue the funding.

Systems cited the following difficulties with the application process:

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[15] See footnote 13. The resources most utilities are familiar with are limited, primarily engineering firms or consulting firms, which can be costly for utilities to contract.

- Applications take tremendous time, effort, expertise, and expense, and there is not sufficient staff capacity to actively pursue needed funding (this was cited by all systems, from large to small).

- PENNVEST applications require extensive amounts of information that is difficult and time-consuming to compile, especially when the outcome of a grant or a loan is uncertain. Securing a loan from a bank can be easier.

- Technical expertise is limited and makes pursuing funds more difficult, particularly for systems interested in energy saving components of projects. When it is not an element of the utility's core competency and expertise does not reside within the facility, having the correct information for an application can require additional expenditures that are outside of the financial capabilities of the system.

- Application requirements are onerous and can be significant barriers. Some interviewees cited frustration with the need to compile Letters of Support from state and/or federal elected officials, which they found more difficult if their jurisdiction was of the opposite political party.[16]

3. Managing and closing awards has obstacles, too

While identifying the right programs and preparing a successful application are the main challenges to accessing water infrastructure funds, managing and closing out the awards presents hurdles as well. The basic process after an application is submitted and awarded includes acceptance of the terms by the applicant (particularly financial terms), scheduling milestones, beginning or continued construction, invoicing for expenses, and closing out the award. There are often long lead times between when a system applies for funds and when the funds are distributed, which may require systems to take out bridge loans or other sources of temporary funds while they await an award or payment. For example, one system said that it can sometimes take a year between applying and receiving the award, making it more difficult for the system to appropriately plan for the work of managing the grant. The construction phase has hurdles, as well, including reviewing contractor bills, submitting invoices with the correct documentation, and complying with the BABA and Davis-Bacon Act regulatory requirements.

The extent to which the awarded funds are sufficient can be another barrier. For 65 percent of the systems that had received public funds, the awards did not cover all the project costs. Most of the funds were either low-interest loans or grants; many required a match. The match in most cases was burdensome to secure. The project costs not financed with public funds were most often covered with ratepayer revenue, other grant funds, cash reserves, or other municipal funds. For resource-constrained systems, even if grants or principal forgiveness were available, the application process was either too difficult to navigate, or interviewees believed that better-resourced systems would out-compete them for available funds.

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[16] This barrier does not include support from local elected officials, whose support is vital to ensure the development of community-centered projects.

Systems cited the following challenges in managing and closing out the awards:

- The entire process, including managing the loan/grant, is overwhelming and requires much more direct assistance especially for a system with limited external funding experience and in-house resources.

- Long lead time between the application development/submission and announcement of the award makes it hard for a system to plan accordingly. Sometimes these time gaps can be over one year.

- Match requirements can be an insurmountable burden. The complexities around source eligibility and the difficulties in securing a match can be a challenge for any municipality, and especially challenging for smaller or typically underserved communities.

4. **Community engagement** is difficult to prioritize

Community engagement is an important part of developing water infrastructure projects but is often a secondary consideration for water systems who are overwhelmed just addressing fundamental operational issues and concerns. This is a missed opportunity.

We are in a "critical moment to prioritize continuous stakeholder engagement," wrote Megan Sheekey of Bloomberg Associates. " With public and private funding available to build community capacity, local governments can better assess needs, establish strategic priorities, and leverage resources. Sheekey quotes Ben Hecker, Managing Associate at Hagerty Consulting and former Deputy Chief of Staff for the City of Minneapolis Mayor's Office: "'Ultimately, cities are reliant on community partners to be our service providers, whether that is as a grantee, contractor, or a vendor as a subrecipient. The more capacity we can build in our partner organizations, the better shape cities will be in terms of being grant ready and able to manage compliance risks on the back end.'"[17]

A "communication, decision-making, and governance method," community engagement gives local people the agency to vocalize and make the changes they want to see in their communities, to ensure more equitable and sustainable outcomes.[18] Although interviewees' less frequently cited community engagement as a challenge compared to other aspects of the funding process, community engagement remains a major area of concern for many. If done correctly, community engagement can provide a range of co-benefits to the community such as supporting the local economy, community resilience, and neighborhood stability.[19]

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[17] Megan Sheekey, "Building Community Capacity for Federal Funds: How Municipalities Can Help," Bloomberg Philanthropies, Nov 14 2022,
https://www.bloomberg.org/blog/building-community-capacity-for-federal-funds-how-municipalities-can-help/.
[18] Danielle Bergstrom, Kalima Rose, Jillian Olinger, Kip Holley, *The Sustainable Communities Initiative: The Community Engagement Guide for Sustainable Communities* (Oakland, CA: PolicyLink, 2012).
https://www.policylink.org/resources-tools/community-engagement-guide-for-sustainable-communities
[19] American Water Works Association (AWWA), *A Water Utility Manager's Guide to Community Stewardship* (Denver, CO: AWWA, 2019).
https://www.awwa.org/Portals/0/AWWA/Communications/AWaterUtilityManagersGuidetoCommunityStewardship.pdf

Most systems want to develop projects that meet community needs, while keeping rates affordable. The process to identify these needs through frequent means of engagement requires resources. For example, one system expressed that identifying the right forums or community events to promote involvement in the project development phase is challenging. Largely, this is due to the fact that community engagement takes a substantial amount of staff time, including developing communication materials for the public, traveling to and from community events, and hosting forums for community members and other stakeholders. Funding for community engagement would allow municipalities to hire staff dedicated to and experienced in community engagement efforts, rather than the current full-time staff who may need to work overtime to meet the minimum requirements.

Many systems do not have the capacity for proactive community engagement and lose out on the multiple benefits, including: improved relations between government and community members, legitimacy for the water utility, increased community support for projects and associated rate increases, and a more holistic approach to community and agency understanding of the water system and its local issues.[20]

Systems cited the following challenges in community engagement:

- Conducting effective community outreach is difficult with limited staff. Hiring part timers with the expertise to do special events could be beneficial rather than people working overtime.

- Finding the right forums and events where we can promote involvement is challenging; there should be community engagement funds.

5. Water systems are concerned about **climate change and emerging contaminants**

Interviewees expressed deep concerns about impacts from climate change and how to make water infrastructure more resilient, as well as the growing costs to treat emerging contaminants. Systems reported increasingly higher frequencies of 100-year storms, extreme weather events, and flooding, and the need to manage subsequent damage on a regular basis. They also cited worries about the lack of a sense of urgency and consistent sources of money to address climate change impacts. Some smaller systems conveyed that emerging contaminants are such a growing problem that there will never be enough funding to adequately address, and they may need to shut down and have neighboring systems pick up their customers.

Planning processes such as vulnerability assessments, asset management programs, studies measuring impacts of climate change, and continuity of operations studies were named as some of the primary mechanisms to boost systems' resilience. At least two systems proposed transitioning to an all green fleet (i.e., electric vehicles) for their operations and construction projects as a climate mitigation measure, as well as other carbon reduction upgrades in their

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[20] Bergstrom, Rose, Olinger, Holley, *The Sustainable Communities Initiative*.

operations. However, systems also conveyed a lack of knowledge on how to fund resilience and mitigation initiatives.

Interviewed systems voiced the following challenges:

- PENNVEST's emphasis on gray infrastructure over green infrastructure makes it harder to do green infrastructure projects.

- Finding funds to prioritize the incorporation of mitigation measures in project designs is confusing, and applicants are uncertain of where and how to access these funds.

- Systems need more funding for emerging contaminants.

To overcome the barriers of applying to funding sources, technical assistance is required. At the start of the application cycle, good technical assistance can provide beneficial support for systems as they navigate water infrastructure funding. In particular, identifying funding sources, conducting community outreach, and preparing applications make up roughly 70 percent of areas where systems could use assistance (see Figure 2). Specifically as it relates to community outreach, one system said that assistance to find the right mediums to encourage community involvement and meet certain community engagement requirements would be most beneficial, especially for under-staffed systems. Managing and administering the grants and loans is less of a burden, with roughly 25 percent of systems indicating they need assistance in these areas.

Figure 2: Areas that systems identified as needing assistance
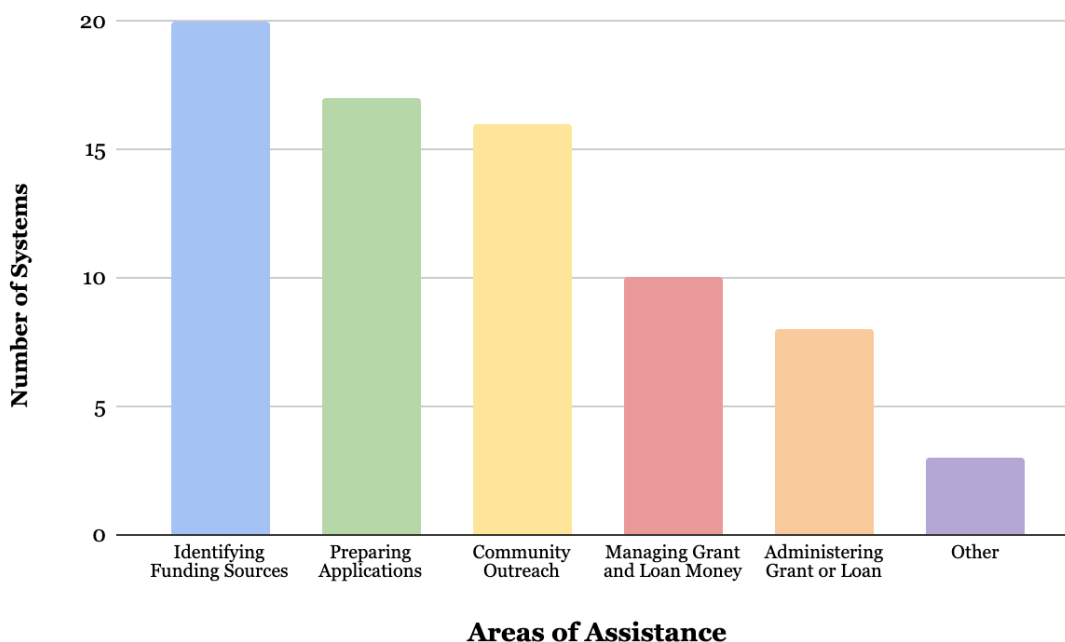
* Note: Only one response was recorded in the other category. The interviewee noted that funders' websites are not the best; they're hard to use and hard to find the information you need. Also, there are so many other things going on, it is hard to focus on funding, which takes a lot of time and energy.

Recommendations

Recommendations

The interview findings demonstrate that identifying appropriate sources of funds, submitting strong applications, managing an awarded project, and conducting community engagement present challenges to most water systems regardless of size and type. Every system interviewed expressed a desire for more technical assistance in one or more of these areas, with the most help needed for identifying appropriate funding, compiling applications, and conducting community engagement.

Technical assistance is currently provided through many of the funding programs themselves, consulting/engineering firms, elected officials' office staff, universities, and nonprofits. However, there remains a gap between what is currently offered and water systems' knowledge, trust, and/or financial ability to pay for these services. The application process itself was consistently cited as one of the most difficult aspects for systems in trying to access water infrastructure funds. Other types of competitive applications have been streamlined, such as the college application process. The adoption of the Common Application accepted by many public and private advanced education institutions has reduced the number of duplicative requirements for students. Redesigning a "common application" for water infrastructure funding programs, even if certain programs required supplemental information, would presumably streamline and facilitate more submissions, awards, and improvements to water infrastructure.

Based on the feedback from the interviews, DVRPC, WRADRB, SWEFC, and EPIC make the following recommendations to improve water systems' access to funding that will ensure continued clean, safe, and affordable water, sanitation and stormwater management to their communities:

Recommendations for Technical Assistance Providers, including the Mid-Atlantic Funding Navigator Program

- Connect people with and publicize accessible resources that identify available funding sources, and provide clear information about deadlines, qualification requirements, financial match requirements, and information about the previously funded projects (if available).[21] Resources can include consultations with utilities and municipalities to help evaluate potential funding sources and determine which sources are the best match for the project and utility.

- Provide technical assistance for grant and loan applications, especially for organizations without the staff or financial resources, and for historically underserved communities.

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[21] Some resources that identify available funding sources do exist and serve as examples for other states to learn from. For example, the Michigan Municipal League (MML) Foundation's MI Water Navigator Grants and Funding Database provides centralized information about most water and wastewater funding sources in Michigan, including their deadlines and potential award amounts. Additionally, the University of Delaware's Grant Assistance Program and Portal provides an overview of new and existing funding sources for Delaware communities.

- Provide financial support to hire engineering, grant writing, and community engagement professionals to disadvantaged communities unable to afford them.

- Develop guidance information, perhaps in checklist- or program management template-form, to help utilities effectively manage grants and loans.

- Get the word out about these technical assistance services, for example through presentations to AWRA, AWWA, local chapters of the Pennsylvania Municipal Authorities Association (PMMA), and the Pennsylvania Rural Water Association.

- Connect systems with community engagement experts, and provide guidance on how systems can conduct meaningful engagement.

- Leverage existing strong and trusted relationships where they exist, and spend time to build new relationships where needed.

- Coordinate with other technical assistance providers to share best practices and lessons learned and avoid duplicating efforts, recognizing that there is plenty of need, and more providers is a benefit to all.

Recommendations for Funders

- Create and publicize up-to-date pre-recorded information sessions and live Q&A webinars for potential applicants to learn about funding programs. Sessions would be best digested if organized by specific type of infrastructure needs, i.e. lead pipe replacements, green stormwater management practices, and emerging contaminants.

- Clarify eligibility requirements and the terms of the award (i.e. the type of award as loan, grant, or hybrid) in pre-application information and documents.

- Streamline the application process for multiple state-administered funding sources (e.g. a funder coordinated pre-application process that all applications are submitted through and jointly evaluated by the funders for best fit). The "common pre-application" would require supplemental information as needed, following the example of the Arkansas Water and Wastewater Advisory Committee (WWAC) "pre-application" for state-administered grant or loan funds to finance water/wastewater projects.[22]

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[22] The Arkansas Water and Wastewater Advisory Committee (WWAC) is a four-agency partnership that provides communities with project development guidance and project financing recommendations through its pre-application process. A utility or municipality must go through WWAC's pre-application process to be eligible for any state-administered water infrastructure funds. The process is as follows: a system completes and submits the pre-application to WWAC, funders review the pre-applications and assess which funding sources are most appropriate, WWAC notifies the system of what funding is available for their project, and then the system works with the related agency(ies) to complete the official application. Available at: https://www.agriculture.arkansas.gov/wp-content/uploads/WWAC-PreApp-with-instructions-02-10-2023-SAVABLE-FILLABLE-1.pdf

- Funders, in particular PENNVEST, can better facilitate the application process through improved transparency, clarity, and simplification of application requirements.

- Improve websites to be more user-friendly and clearer about the criteria and requirements for receiving loan versus grant versus hybrid awards.

- Build on PENNVEST staffs' strong relationships with certain utilities and expand to additional systems through peer introductions.

- Make any match requirements explicit, and offer suggestions for potential sources for matching funds.

- Reduce the lag between applications and awards. This reduces the need to take out bridge loans in emergency situations in which the system is nonfunctional without an immediate fix.

- Offer funding for planning and design of water infrastructure to build a pipeline of projects.

- Provide guidance in the application materials on how to conduct meaningful community engagement, and act as facilitators for the system with either the community or a technical assistance provider, to help the system design the engagement process.

- Provide incentives for green infrastructure improvements that offer co-benefits, and differentiate the application and administrative reporting requirements for such green infrastructure, which often do not correlate with gray infrastructure.

- Acknowledge and prioritize the need for climate mitigation and resilience measures in project designs, and allow and encourage such funding.

- Specify funding for addressing emerging contaminants.

Recommendations for Water Systems

- Develop projects that meet current infrastructure and customer service needs and regulatory and public health requirements.

- Develop asset management programs to identify and manage existing infrastructure and infrastructure improvements.

- Enact stormwater management fees to provide a consistent source of funding to plan, design, and construct stormwater management facilities

- Allocate capacity to pursue and administer funding programs, such as hiring a grant writer. Incorporate this work into employees' work flow and responsibilities, and reward/recognize employees for this work, especially when it is above and beyond their general responsibilities.

- Proactively seek funding for needed improvements and seek funding for full project costs.

- Proactively seek technical assistance as needed.

- Proactively engage with impacted customers and communicate about infrastructure needs, project plans, and offer opportunities for public input.

Recommendations for State and Federal Elected Officials

- Continue and increase direct support to water systems, including notifying them of funding opportunities and providing increased capacity at the state-level, particularly for administration and staffing.

- Recognize the need for technical assistance for complex water infrastructure projects, and financially support this aspect of the process by notifying systems of funding opportunities.

- Provide added resources to facilitate projects in disadvantaged communities, and communicate the importance of water infrastructure improvements for community wellbeing.

Recommendations for Local Officials

- Prioritize water system improvements by staying up to date on system finances, operational requirements, regulatory landscape, and workforce needs and keeping the community informed about local water infrastructure systems.

- Ensure that proposed projects meet community needs.

- Increase direct support to water systems to carry out improvements and support systems in seeking the funding for complete projects.

- Publicly promote water sector efforts for community engagement, and actively engage in water infrastructure projects.

- Visit the water infrastructure within the community and understand what type of infrastructure the community has, where it is located, and how it functions. Meet with utility staff at least annually.

Recommendations for Community Partners

- Organize to prioritize needed infrastructure improvements, and communicate to utilities and municipalities.

- Provide support to systems on additional application information, such as an income survey.

- Partner with municipalities and utilities to engage with community groups and residents, especially those who may not otherwise be brought into the process.

Conclusion

With one of the largest federal investments in water infrastructure currently available through 2026, there is an unprecedented opportunity to rebuild our aging water infrastructure, adapt to and mitigate impacts from climate change, and address emerging contaminants. Successfully accessing this funding for projects is a necessary first step, yet all water systems face numerous and complex barriers. This report uncovers and describes many of those hurdles and suggests solutions for overcoming them. These findings are intended to inform funders, water systems, elected officials, community partners, and technical assistance providers, particularly the Mid-Atlantic Funding Navigator. The Funding Navigator is a new program led by the report partners, funded by the William Penn Foundation, and launching in early 2023. The program will serve water systems and municipalities in the Delaware River Basin by providing direct technical assistance on identifying appropriate funding sources, preparing applications, managing awards, and conducting meaningful community engagement. In addition, the program contains funds to help disadvantaged communities pay for engineering and community engagement services. The Funding Navigator Program will coordinate with existing technical and community experts, funders, and others, to catalyze the region's access to water infrastructure funds and ensure clean, safe, and affordable water for all.

Appendix

Appendix

Appendix A - Survey Instrument

SECTION 1. Your background and characterizing your system

1.1   Before we talk about funding for your water system, can you tell me a bit about yourself for context?

- Your title/role

- How long have you worked with this system?

- Do you live within the service area of the water system?

- What is your educational and/or professional background in water systems or local government? What drew you to this career?

1.2   How would you characterize your system in terms of

- the age of the infrastructure (when was it first built): ___

- the number of employees who work for the system: ___

- the number of people it serves: ____

- the ownership: is your system publicly or privately owned?

(estimates are fine, exact numbers not expected)

SECTION 2. Funding sources for your water system

Now we're going to move on to funding for your water system.

2.1   Has your water system applied for funding for infrastructure, such as grants or loans, since you've been involved with the system? Yes or No

IF YES:

- What funding sources did you apply to?

- Did you receive the funding?

- What was the purpose of the funding you applied for?

- Why did you choose these funding sources over other sources?

- Did the funding sufficiently cover the project costs? If not, how did you handle the shortfall in funds?

- Would you like to apply for more funding in the future? If so, how will you choose which funding source to use?

- Do you use any resources to help you find funding sources?

IF NO, why not?

SECTION 2. CONTINUED

2.2   Have you ever been encouraged to apply for certain funding sources? For example, did someone from a state agency,an engineer, or assistance provider suggest that you apply for one particular source or another?

> IF YES, can you tell me which entities encouraged you to apply and anything about how they did so? (e.g., during a meeting or by offering to help fill out an application)

2.3   Have you received assistance in completing funding applications for loans or grants?

> IF YES: Who (individuals, organizations, etc.) helped you complete the applications?

IF NO: Would it be useful to receive assistance in completing funding applications?

What specific areas do you need help with?

- identifying funding

- community outreach

- preparing applications

- managing grant and loan money

- administering the grant or loan

- other

2.4   Do you have concerns about how climate change might affect your water system? If so, what types of actions will you take to address these concerns?

- Follow-up: Do any of these actions require additional funding? Do you know how to find funding?

SECTION 3. The positive and negative aspects of applying for funding

3.1   On a scale of 1 to 5, with 1 being easy and 5 being difficult, can you rank your experience with the following aspects of the funding process:

- finding appropriate sources of funding 1 2 3 4 5

- the application process 1 2 3 4 5

- Managing or administering the grant or loan 1 2 3 4 5

- closing out of the award 1 2 3 4 5

- Any other part (please specify) 1 2 3 4 5

3.2   Can you talk specifically about what you found most challenging with the grant program?

Probes, as needed:

- What were the challenges related to identifying funding sources?

- What were challenges related to the application process, including any forms you had to fill out or reports or documentation you needed to provide? Or any other part of the application process

- If you received funding, did you have any challenges related to managing the money and otherwise administering the grant or loan, including any reports or information you were required to provide to the funding agency?

- How much help did you receive from the funding agency, or others (who?) during this process? Was that assistance sufficient?

- In your experience, what parts of the funding process worked well? Probes: Were there any parts of the process you found helpful, informative, or otherwise positive? In what ways were they helpful? Were particular individuals or organizations helpful to you, such as the funder, a regulatory agency, a non-profit organization? In what ways were they helpful?

SECTION 4. Improvements, suggestions, advice for other water systems, and any other final thoughts

4.1   Considering all we have talked about, what are your recommendations for improving water systems' access to funding programs in SEPA?

- If they are having difficulty answering the question, consider restating: If you could wave a magic wand to make things better for water systems to access

grants and loans, what would you want to see change?

4.2   What advice would you give to other water systems, as they consider funding opportunities?

4.3   As mentioned in the beginning, the core partners expect to launch a program called the Funding Navigator later this year to help water systems and local governments. The Funding Navigator is a team of experts in funding and finance, community engagement, and technical assistance. Would you be interested in learning more about how the Funding Navigator could help you?

4.5 Any other final thoughts or questions?

Thank you for your time…. You've given me a great deal to think about. – thanks for participating with this information gathering process. I will be in touch if I need to clarify anything you've said. Please be in touch if you have any questions; you have my email so don't hesitate to reach back. We expect to share high level results of this project in the summertime and will email them to you.

At the end/bottom of the linked sheet, be sure to fill in the following:

SECTION 5. Key Takeaways (3-5)

5.1   Based on what you believe are the main takeaways from the interview

5.2   Is this person/system a candidate for Funding Navigator: Yes/No

- IF NO, why not?

- IF YES, include any notes about why this person would be a good candidate.

If they were interested in engaging with Funding Navigator say that we will circle back in summer/fall as the FN program is established, to reconnect. Within 2 days, follow up with a thank you email.

Appendix B - List of Funding Sources with EFCN Additions

Level of Government	Organization	Program	# Applied
Federal	U.S. EPA	Water Infrastructure Finance and Innovation (WIFIA)	2
	U.S. Department of Transportation (DOT)	The Rebuilding America's Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant program	1
	U.S. Department of Homeland Security	FEMA Grants	2
	US Army Corps of Engineers (USACE)	Section 219: Environmental Infrastructure	1
	Military Installation Remediation and Infrastructure Authority (MIRIA)	Act 101 of 2019	1
	US Department of Agriculture (USDA)	Water and Waste Disposal Guaranteed Loan Grant Program	0
		Water and Waste Disposal Predevelopment Planning Grants	0
		Special Evaluation Assistance for Rural Communities and Households (SEARCH) Grant	0
State	Pennsylvania Department of Agriculture	Pennsylvania's Dirt Gravel, and Low Volume Road Maintenance Program	1
	Pennsylvania Department of Community and Economic Development (PA DCED)	Commonwealth Financing Authority (CFA)	2
		COVID-19 ARPA Local Fiscal Recovery Funding	3
		Community Development Block Grant Program (CDBG)	1
		H2O PA Program: Water Supply, Sanitary Sewer and Storm Water Projects	6
		Flood Mitigation Program (FMP)	1
		PA Small Water and Sewer Grant Program	5
		Unspecified*	2

Level of Government	Organization	Program	# Applied
Local	Pennsylvania Department of Environmental Protection (PA DEP)	Growing Greener Plus Grants Program	2
		Unspecified*	2
	Pennsylvania Infrastructure Investment Authority (PennVEST) and Pennsylvania Department of Environmental Protection (PA DEP)	Clean Water State Revolving Fund (CWSRF)**	0
		Drinking Water State Revolving Fund (DWSRF)**	0
		PennVEST (unspecified)*	3
	Pennsylvania Office of the Budget	The Redevelopment Assistance Capital Program (RACP)	1
	Municipal Sources	Local sources, including local nonprofit fundraising	2
	Private Sources	Bank Loans	1
		Bonds	2
		Foundation Grants	1

Funding Improvements to Water Infrastructure
A Reconnaissance Study on Challenges and Opportunities in Southeastern Pennsylvania

Abstract: This report investigates how municipalities and utilities currently approach infrastructure needs and funding programs, asking why they choose to pursue certain programs and how access to funds for infrastructure improvements could be improved.

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