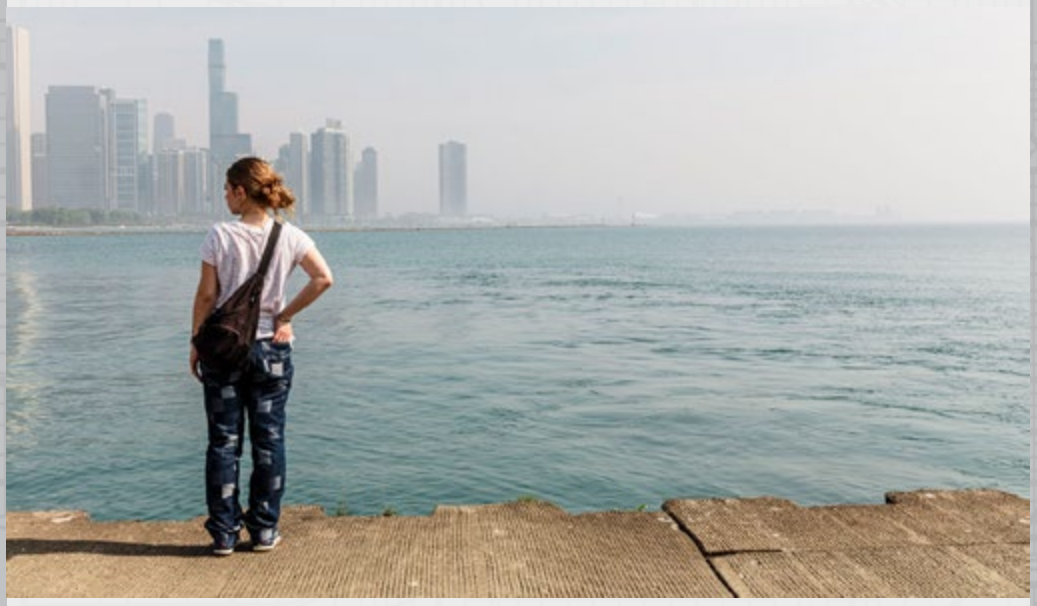
Metropolitan Planning Council

Building **Equity** in the Built Environment

# Cultivating Equitable Water Access

## A review of the role state governments play in providing technical assistance to water utilities

November 2025



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# Executive Summary

## A Review of the Role State Governments Play in Providing Technical Assistance to Water Utilities

Black, Indigenous, and people of color are more likely than white people to live in municipalities with lead service lines, experience water shut-offs, reside in communities facing water affordability challenges, and miss out on the benefits of federally subsidized water infrastructure financing.

This white paper examines the role of state governments in strengthening the long-term capacity of water utilities to address these racial inequities.

States should provide assistance directly to utilities to help them secure funding, identify infrastructure challenges, and plan for long-term operational and financial stability. We argue that Illinois should adopt two types of commonly-found assistance with the following considerations:

### *Preconstruction financing to create funding early in the project cycle:*

- Create a **streamlined administrative process** that is easy for utilities to apply to.
- **Make financing for preconstruction activities affordable** through grants, deferral options, and keeping interest rates low.
- **Staff up at IEPA as needed to administer the program,** using set-asides and leveraging the SRF as needed.

### *Proactive technical assistance to assess and coordinate capacity development:*

- Implement a water utility **capacity assessment protocol** that includes a policy for setting capacity standards and a process for measuring water system capacity.
- Create a **simple application process**, supplemented with direct invitations.
- Develop and coordinate a **pre-qualified pool of at least three technical assistance providers** with expertise in areas including municipal finance and asset management.

Our recommendations for Illinois are drawn from a national review of technical assistance commonly offered through the State Revolving Fund (SRF)[1] programs. In addition to preconstruction financing and proactive technical assistance, we identify two capacity development strategies common across states and active in Illinois: small system assistance and lead service line replacement assistance.

We focus on Illinois because, as a regional organization based in Chicago, Metropolitan Planning Council is interested in action that can be taken to support utilities in our state. Readers in other states may find that the recommendations offered here similarly applicable in their own contexts.

We are left with many questions and avenues for future research. **We invite the feedback and collaboration of the policy community in building our collective understanding of how states and other actors support water utilities, and whether those programs promote racial equity in the drinking water sector.**

1 Technical assistance programs may entail coordination with SRF programs, but exceed the strict programmatic boundaries of the SRF.

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**CHAPTER 1**

# Water System Capacity Development: A Review of 50 States

## Preview

In this first chapter, we provide an overview of our national scan and lay the groundwork for deeper programmatic analysis in the chapters ahead. We identify four common approaches states use to support water systems' capacity: 1) small system assistance, with a focus on a subset of that assistance (circuit rider programs); 2) preconstruction financing opportunities; 3) assistance specific to lead service line replacement; and 4) what we will call proactive technical assistance programs[2]. Our findings are summarized in Table 1 below.

Table 1: Overview of Capacity Development Elements

| SRF Capacity Development Elements | Number of SRFs (% of total 50) |
|---|---|
| Small system assistance | 44 (88%) |
| Preconstruction financing opportunities | 27 (54%) |
| Lead service line replacement assistance | 21 (42%) |
| Proactive technical assistance program | 6 (12%) |
| More than one of these elements | 37 (74%) |

Based on that assessment of national trends in capacity development, this chapter offers two specific recommendations for capacity development in Illinois: 1) preconstruction financing applications, 2) proactive technical assistance programs.

In Chapters 2 and 3, we turn our attention to deeper analysis of how two types of capacity development elements operate: preconstruction financing (Chapter 2) and proactive technical assistance (Chapter 3). In those Chapters, we ask: how are these programs structured and staffed? What can we learn about similarities and differences among them, and are there any emergent best practices? Throughout both chapters, we offer suggestions for programmatic design in Illinois, which may also have applicability in other states.

In the Conclusion, we offer some thoughts on research that remains to be done.

## Introduction

### Capacity and technical challenges for utilities

In 2021, Congress passed and President Biden signed into law the Bipartisan Infrastructure Law (BIL), which authorized $50 billion for essential water infrastructure over five years. Most of this sum, $43 billion, will be administered through State Revolving Fund (SRF) programs to support drinking water and wastewater systems (US EPA 2023a). This BIL funding provides much-needed investment into the country's water infrastructure.

However, if history is any guide, this funding will not equitably reach its potential to assist disinvested communities. Capacity-limited utilities face challenges with applications and reporting to the SRF[3]. Recent national evidence shows that more racially diverse communities are less likely to receive SRF financing (Hansen et al. 2021a; Hansen and Hammer 2022).

To address this gap in utility access to access federal funding, national, state, and local actors are offering technical assistance to utilities – a broad range of activities designed to enhance the capacity of utilities. Technical assistance is designed to enable both short-term access to funding streams like BIL, and longer term capacity to, for example, apply for SRF loans and plan for capital improvements.

2 We enumerate these as separate approaches for analytic clarity, but they are sometimes connected in practice. For instance, proactive technical assistance programs can link water systems to preconstruction financing opportunities.

3 A 2015 Metropolitan Planning Council report, Let the Dollars Flow, details some of the challenges Illinois communities face in applying to the SRF program, including producing financial loan documentation (Metropolitan Planning Council 2015).

This white paper focuses on the activities of one particular set of actors - state agencies – in supporting the capacity of water utilities to access BIL and beyond. We ask: **what are state agencies doing to build the capacity of water systems to plan, finance, and manage their infrastructure? Specifically, what steps can Illinois take to improve capacity development and technical assistance for its water systems?** To answer these questions, we review existing literature and available SRF program information in all 50 states.[4]

In addition to the specific recommendations to improve water utility outcomes through capacity development, we hope this white paper will contribute to the policy community's understanding of how SRF programs operate. Such a robust, cross-state analysis is absolutely necessary for improving the performance of the SRF within states.

## Why states? And why the SRF?

We focus on states because of the unique role they play in regulating and funding drinking water infrastructure:

- **States have regulatory and enforcement authority.** All states but Wyoming[5] are responsible for enforcing the Safe Drinking Water Act. This means that states are responsible for reviewing utility plans, ensuring compliance with federal and state law, and crucially, providing technical assistance to public water systems.
- **States administer federal water infrastructure assistance funding.** State agencies administer the foremost federal water infrastructure assistance program, the State Revolving Fund programs. This means that states regularly have access to federal funding that they can direct toward improving water infrastructure and utility capacity.
- **States can take a systemwide view.** Because states have regulatory authority over a large geographic jurisdiction, they are in a position to understand and support diverse water utilities within their boundaries and to coordinate activity across utility boundaries.

This report looks to capacity development activities through or adjacent to[6] SRF programs for two reasons:

- SRFs **operate across all 50 states,** making them a consistently comparable feature of drinking water regulation.
- SRFs **require states to maintain capacity development strategies.** Consequently, there is reporting available on how states provide support to utilities.

# Capacity Development Beyond Small Systems

Capacity development is the language used by the US EPA (2020) to describe the programs that support water utilities' technical capacity (i.e., infrastructure to deliver safe and adequate water to consumers), management capacity (i.e., staffing, expertise, and authority to efficiently run and maintain a water system), and financial capacity (i.e., funds, borrowing ability, and a sustainable revenue stream). In this terminology, capacity in each of these areas is the intended outcome of technical assistance. Technical assistance describes a broad range of services provided by state agencies, US EPA, and third-party contractors to support water systems and develop their respective capacities.

Each SRF is required to develop and maintain a capacity development strategy or risk losing a portion of their base capitalization grant from US EPA after the amended Safe Drinking Water Act of 1996 was enacted (US EPA 2020).[7] To fund program administration costs and support capacity development programs, the US EPA designed a system of "set-asides" from the base capitalization grants that are distributed to each SRF. These set-asides are funds that state agencies can reserve for purposes other than loans or principal forgiveness to utilities. Four categories of set-asides are permitted: administration and technical assistance (up to 4% of the grant or $400,000, whichever is larger), small system technical assistance (up to 2% of grant), state program management (up to 10% of grant),

4 Washington, DC and US territories are not included because, although they do receive capitalization grants from US EPA, they do not operate conventional SRF programs. Guam, American Samoa, US Virgin Islands, and DC do not have SRF programs because they only have one water system or one centralized agency that manages all water systems in the territory. Puerto Rico does have an SRF program but appearsd to only have one borrower, a centralized public water authority.

5 See US EPA (2024).

6 Our review of SRF programs also led to further review of broader capacity development initiatives or related programs operated by agencies with state drinking water authority.

7 This report uses the generic language of "SRF" but focuses on Drinking Water State Revolving Funds rather than Clean Water State Revolving funds because the full capacity development framework and set-aside system is a component of US EPA's drinking water program.

and other local assistance (up to 15% of grant, with no more than 10% going to one program). Each SRF enjoys considerable discretion with respect to how these set-asides are used and may change their allocations each year, and US EPA has found that there is wide variation in how states use them to meet capacity development goals (US EPA 2017)[8].

Although there is variation across states with respect to how they operationalize capacity development and organize their SRF programs, there are also patterns. Below, we present the results of a 50-state scan of capacity development programs offered through or in coordination with the SRF undertaken in 2023. We also briefly discuss Environmental Finance Centers.

## Small system assistance

The most common form of capacity development offered across SRF programs is assistance for small water systems, usually systems serving communities with 10,000 residents or less. SRF programs in 44 states have taken the set-aside for small system technical assistance, and the remaining states often provide these services through another funding source such as the local assistance set-aside (15%) or state program management set-aside (10%). Small and rural water systems are numerous in the US and considered to be especially financially constrained due to their limited consumer base (Bickel 2006). SRF programs are required by the Safe Drinking Water Act to ensure that 15% of the financing that they award is offered to small systems (US EPA 2020). SRF programs may invest in assistance for small systems to ensure there are sufficient applications from small systems to meet this goal.

While there are a variety of technical assistance activities states may provide under the small systems set-aside, one particular type of program stands out: circuit riders, which provide time-limited or project-based assistance multiple small utilities. Illinois provides a good example of this model. In the past, Illinois EPA, the state agency responsible for administering the SRF program, contracted the Illinois Rural Water Association (IRWA) as a third-party technical assistance provider using the 2% small systems technical assistance set-aside. As of FY 2024, Illinois EPA uses the 15% local assistance set-aside for a 5-year extension of this contract at $200,000 per year (Illinois EPA 2023a). For their part, IRWA (2023) provides technical assistance where contracted engineers from across the state travel to provide on-site training and consultation in communities under direction from Illinois EPA.

Small system assistance through the circuit rider model is extremely common across SRF programs. This form of technical assistance is essential for ensuring that small systems get help with day-to-day operations and maintenance tasks like sampling, testing, water treatment, staff training, and reporting.

## Preconstruction financing

SRF programs can organize their application procedures to provide financing to water systems before they have projects ready for construction. These preconstruction financing opportunities enable utilities to plan for specific projects and eventually access State Revolving Fund financing: they provide up-front funding to complete the studies and planning necessary to apply for infrastructure funding. 27 SRF programs have preconstruction financing options. We discuss these programs in greater depth in Chapter 2.

Major design considerations for preconstruction finance opportunities include:

- Whether the funding is available as loans or grants
- Repayment terms
- Caps on amount of funding
- Application design

The preconstruction application offered by the SRF program in Iowa offers a good example of how this financing option works:

> *These loans have 0 percent interest for up to three years and no initiation or servicing fees. In addition, there is no minimum or maximum loan amount… Eligible costs include engineering fees, archaeological surveys, environmental or geological studies, and other costs related to project plan preparation. P&D [planning and development] Loans will be rolled into a State Revolving Fund (SRF) Construction Loan or can be repaid when other permanent financing is committed*. (Iowa State Revolving Fund 2023)

For water utilities in Iowa, these loans provide a low-cost source of funding for planning potential SRF projects, and the Iowa SRF program reports that they have funded 760 preconstruction financing applications at a total of $300 million since 2005 (Iowa State Revolving Fund 2023).

8 This study focused on only the most recent available Intended Use Plans for SRF programs and thus may miss creative ways that some SRFs have used set-asides to provide technical assistance in the past. However, many SRF programs with standing technical assistance programs must take the set-asides annually in order to keep these programs funded.

Preconstruction financing applications are a way that SRF programs make financial assistance available to help plan a project in the first place. For this reason, preconstruction financing represents an important strategy for creating an on-ramp to the SRF for water systems with limited technical, management, or financial capacity to plan capital improvements.

## Assistance for lead service line replacement

Lead service line replacement projects have specific financing, outreach, and legal challenges. Twenty-one SRFs have created programs to specifically provide additional support for lead service line replacement projects.

Many of these programs are focused on supporting service line materials inventories in water systems. Based on the 2021 Revised Lead and Copper Rule, the US EPA has required every state to submit an inventory of lead service lines by October 16, 2024 (US EPA 2022b). For their part, state drinking water regulators may have their own timelines for service line inventories to be submitted by each local water system. In Illinois, for instance, the Illinois EPA has set a deadline of April 15, 2024, for the submission of final service line materials inventories to comply with state policy (Illinois EPA 2023c). These inventories represent a significant administrative hurdle for many water utilities that might have incomplete records of service lines and limited staffing. To overcome this hurdle, SRF programs have adopted two primary strategies for supporting lead service line inventory projects: financial assistance for inventory development and contracted technical assistance for inventory development.

Illinois EPA has taken the route of financing inventory projects by creating a grant program with set-asides from the additional BIL grants. Of the 1,740 community water systems in Illinois, 120 have already received support in the first two of three rounds of applications with award installments from $20,000 to $50,000 (Illinois EPA 2023c). Suburban water systems with disproportionate lead burdens and concerns with affordability have been included in this funding program, an indicator of its reach.

Some states have also used SRF monies to contract third-party organizations with expertise in inventory projects. In Virginia, the SRF program has contracted with TruePani, Inc., an engineering consulting company, to assist water systems in completing service line materials inventories (Virginia Department of Health 2023b).

Assistance for lead service line replacement projects also may be provided through preconstruction applications and/or proactive technical assistance programs. Indeed, some SRFs that have established preconstruction applications are funding lead service line inventory projects through that pathway. The Ohio SRF, for example, has included multiple “Lead Service Line Investigation” projects in its 2022 project priority list as planning or development loans (Ohio Environmental Protection Agency 2022).

Beyond inventory assistance, states may also provide informational and resource sharing. Massachusetts, for instance, has also worked to create a repository for lead service line replacement successes, lessons learned, and recommendations in the form of webinars and guidelines posted online. This resource hub centralizes knowledge generated by ongoing lead service line replacement. In one webinar, for instance, water utility administrators from New Bedford recommended contracting plumbers rather than using engineers on staff due to the odd hours required for work on residential properties and constraining labor policies for public employees (Massachusetts Department of Environmental Protection 2021).

## Proactive technical assistance

Proactive technical assistance is a term we use[9] to describe specialized services provided by state agency staff or a third-party firm, which are provided at no cost to the utility, through a standard process. These technical assistance services might be as simple as scheduling meetings to keep an SRF application on track or as complex as developing a complete asset management plan for the water system. Our review identified 6 SRF programs that had a proactive technical assistance program of this kind. These programs are notable because they centralize the allocation of technical assistance based on a statewide capacity assessment protocol and provide a single point of contact for utilities. We analyze these programs in depth in Chapter 3.

Major design considerations for proactive technical assistance include:

- Assessing statewide water system capacity,
- providing an application process for utilities in need to request assistance, and
- coordinating a pool of qualified assistance providers with a range of different expertise areas.

9 We are not aware of others who use this term.

Virginia Department of Health's Office of Drinking Water, for instance, uses a simple capacity assessment questionnaire to gather data on water system's capacities and works with those with the lowest scores to address areas of concern. They also provide a request form that water system operators, local elected officials, or other responsible parties can submit to request customized assistance. Virginia Department of Health's Office of Drinking Water links a Word document form to their capacity development website (Virginia Department of Health 2023a). Water systems administrators download, print, and mail (or email) this form to initiate a formal request.

Proactive technical assistance programs can also be used to support communities that are struggling to proceed with specific types of projects, for instance lead service line replacement projects. In New Jersey (NJDEP 2023), utilities can request tailored technical assistance lead service line replacement projects in addition to two other types of projects: "Lead Service Line Inventory Development," "Lead Service Line Replacement Law Compliance Assistance," "Lead Service Line Replacement Program Creation and Implementation." In this way, proactive technical assistance has the advantage of providing tailored support to water systems that includes assistance with lead service line replacement, obviating the need for a separate lead servicer line replacement assistance program from these SRFs.

### Environmental finance centers

Outside of SRF programs, the US EPA also funds Environmental Finance Centers (EFCs), which are increasingly a source of technical assistance for water utilities. Specifically, $98 million of the BIL funding packages allocated for SRFs has been channeled into 29 EFCs to help water systems access public funds for infrastructure (US EPA 2022c). This is a significant expansion of the EFC structure that began in 1992 with 10 EFCs, one for each EPA Region. These EFCs were mostly affiliated with universities and focused on researching financial strategies for funding efforts to comply US EPA regulatory standards. The rollout of BIL funds enabled US EPA to create a new category of EFCs for water infrastructure and to appoint national EFCs.

EFCs, while an important source of technical assistance, are not specifically provided by states, and thus remain outside the scope of this study. Nevertheless, they play a role in coordinating technical assistance within states and adding technical capacity, and thus we include a brief discussion of them here.

Of the 10 regional EFCs that were funded by the US EPA before BIL, at least five actively coordinate with SRF programs within the regions they serve. The Region 1 New England Environmental Finance Center based at the University of Southern Maine, for instance, was created in 2001 and became a water infrastructure EFC as well in 2022. To fulfill this new role, the New England EFC coordinated with state SRF programs and other technical assistance providers like University of Massachusetts Boston and Quantified Ventures to create a New England Water Infrastructure Network that offers free assistance navigating financing opportunities to water systems (New England EFC 2023). These services are available to water systems in EPA Region 1: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont.

Effective coordination between EFCs and the SRF program has proven to be helpful in expanding technical assistance services in EPA Region 2 as well, specifically in New Jersey. EPA Region 2 also includes New York, Puerto Rico, and the US Virgin Islands. These states and territories have been served by the EFC at Syracuse University since 1993 (2023). The EFC at Syracuse provides technical assistance to water systems in the region and, since the formation of the Jersey Water Works Collaborative in 2015, has coordinated with the New Jersey Department of Environmental Protection (Jersey Water Works 2023). This means that water utilities in New Jersey can approach the EFC at Syracuse or the state agency with requests for technical assistance and receive the same information and guidance with respect to accessing public funds.

Coordination between SRF programs and EFC are one way that states can provide technical assistance. EFCs can provide additional technical assistance and industry expertise to water systems and, unlike state agencies, are never responsible for regulatory enforcement. As such, EFCs may be more approachable for water system operators or managers. Region 1 and Region 2 have centralized and well-established EFCs, a fact that has undoubtedly contributed to their success on this front. Indeed, the proactive technical assistance program in New Jersey can even refer water systems in their state to the Syracuse EFC for assistance because the EFC is already funded by US EPA to do this work. Coordination with the EFCs presents an opportunity to enhance the effectiveness of state capacity development efforts.

## Recommendations for Illinois

Drawing from the national scan above, there are two opportunities for Illinois to enhance or expand its capacity development activities. **MPC recommends that Illinois EPA 1) offer preconstruction financing through the SRF; 2) develop a general, proactive technical assistance program.**

Our recommendations are based on an assessment of Illinois EPA's current capacity development offerings. As of 2024, the Illinois EPA employs a capacity development strategy that includes three kinds of technical assistance:

- **A technical assistance contract with Illinois Rural Water Association (IRWA) in the circuit rider model.** IRWA is contracted to provide technical assistance services to water systems with needs identified Illinois EPA including, "technical training of staff, assistance with compliance related issues, user charge analysis [rate studies], asset management activities, overall system analysis, water loss analysis, capacity development issues, etc." (Illinois EPA 2023a, 9).

- **Asset management assistance.** Asset management assistance in Illinois is primarily provided by the regional branch of the Rural Communities Assistance Program (RCAP): Great Lakes Community Action Partnership (GLCAP)[10].

- **Lead service line inventory assistance.** Illinois EPA created a lead service line inventory grant program that provides funds for utilities to allocate staff hours or contract engineering firms to complete service line materials inventories. Grants are for $20,000-50,000 and can be awarded to the same water systems successively if they continue to need assistance (Illinois EPA 2023c).

Additional technical assistance offerings through preconstruction financing and proactive technical assistance would support capacity development in Illinois in the following ways:

- **Wider geography.** The circuit rider model specializes in supporting small, rural water utilities. The specific challenges of scale and workforce facing the smallest rural utilities are different from the challenges of small to medium sized suburban utilities. Preconstruction financing and proactive technical assistance should be designed to develop utility capacity regardless of geography and with a broader range of utility sizes in mind.

- **Bigger Scale.** IRWA's contract with Illinois EPA is for $200,000 per year. Preconstruction financing, on the other hand, can provide millions of dollars in planning and design assistance to utilities every year.

- **Long-term, systematic, and statewide capacity development.** Circuit riders and asset management are utility-focused services: they provide direct and hands-on assistance to utilities. To our knowledge, their provision in Illinois is not based on a systematic assessment of statewide utility needs. Proactive technical assistance leverages data to identify utilities who could most benefit from technical assistance and connect them to technical and financial resources, thereby ensuring services are supporting long-term capacity of utilities across the state.

The remainder of this report details specific programmatic design considerations for preconstruction financing and proactive technical assistance. As will become clear from the diversity of states and programs described, these types of services are feasible and scalable within Illinois.

10 Because RCAP is funded by the US EPA at the national level, the Illinois SRF program does not contract with GLCAP to provide these services but does refer utility operators who are interested in asset management to GLCAP's federally funded assistance programs (Illinois EPA 2023b). For this reason, asset management provided by RCAP is generally not included in this review, except to the extent that this program is an aspect of RCAP's work as a national EFC would fall in line with our discussion on EFCs.

## STUDY DESIGN FOR CHAPTER 1

This report is based on a review of relevant academic or trade literature and a review of state SRF program documentation. This approach drew on a wide range of sources to identify key overarching themes and best practices for capacity development work in water infrastructure financing.

Data on SRF programs was gathered through review of state SRF program webpages, copies of their reports, and (when possible) specific documentation of their capacity development programs. Each SRF program is required to post an annual Intended Use Plan for how the US EPA funds will be administered, including set-asides and a project priority list. These Intended Use Plans were reviewed for strategies for capacity development. Additionally, SRF project application documents, information packets, or various webpages were reviewed to understand the scope and administration of SRF programs in as much detail as possible.

US EPA and EFC websites also served as a source of data for understanding the role of EFCs in supporting water systems. The web presence of the 10 pre-existing regional EFCs and the EFC Network were reviewed for this purpose.

Literature and EFC sources were reviewed qualitatively for themes and examples of capacity development elements. Data on SRF programs was compiled and analyzed according to a series of six binary (yes/no) questions regarding capacity development. Programs were only grouped in the affirmative “yes” category if there was clear evidence of a specific capacity development element in publications or documentation.

1) Each SRF program was reviewed to determine whether they take the SRF small system technical assistance set-aside. 2) Programs and state RWA publications were reviewed to determine if there was any evidence that the SRF programs were contracting specifically with RWAs for technical assistance. 3) Programs were reviewed to determine if there was a standing, proactive program for providing technical assistance services to water systems. Evidence of such a program was usually a form (printable or electronic) or procedural outline for requesting and receiving specific technical assistance services. 4) SRF programs were reviewed to determine if there were application materials or procedures specifically for planning, development, or other non-construction projects (e.g., preliminary studies, etc.). 5) Programs were reviewed for evidence of assistance or programs intended to specifically support lead service line replacement projects. 6) Program publications and documents were reviewed to determine if there were state budget allocations for water infrastructure financing or capacity development beyond required matching funds for SRF capitalization grants from the US EPA.

Table 2: Capacity Development Elements in 50 States

| State | Small System TA SA | Preconstruction Financing | LSLR Program | Proactive TA | Additional Funding |
|---|---|---|---|---|---|
| AL | | | | | |
| AK | ✓ | | ✓ | | |
| AZ | ✓ | ✓ | | | |
| AR | ✓ | | ✓ | | |
| CA | ✓ | ✓ | ✓ | ✓ | ✓ |
| CO | ✓ | ✓ | | | ✓ |
| CT | ✓ | ✓ | ✓ | | |
| DE | ✓ | | ✓ | | |
| FL | ✓ | ✓ | | | |
| GA | ✓ | | ✓ | | |
| HI | ✓ | | ✓ | | |
| ID | ✓ | ✓ | ✓ | | |
| IL | | | ✓ | | |
| IN | ✓ | | ✓ | | |
| IA | ✓ | ✓ | | | |
| KS | | ✓ | | | |
| KY | ✓ | ✓ | | | |
| LA | ✓ | | | | |
| ME | ✓ | ✓ | ✓ | | |
| MD | ✓ | | | | ✓ |
| MA | ✓ | ✓ | ✓ | | |
| MI | ✓ | | | | |
| MN | ✓ | | ✓ | | |
| MS | ✓ | | | | |
| MO | ✓ | ✓ | | | |
| MT | ✓ | | ✓ | | |
| NE | ✓ | ✓ | | | |
| NV | ✓ | ✓ | | | ✓ |
| NH | ✓ | ✓ | ✓ | | |
| NJ | | ✓ | | ✓ | |
| NM | ✓ | | | | |
| NY | ✓ | ✓ | | ✓ | ✓ |
| NC | ✓ | ✓ | | ✓ | ✓ |
| ND | | | ✓ | | |
| OH | ✓ | ✓ | | | |
| OK | ✓ | | ✓ | | |
| OR | ✓ | ✓ | | | |
| PA | ✓ | | | | ✓ |
| RI | ✓ | | | | |
| SC | | ✓ | | | |
| SD | ✓ | | | | |
| TN | ✓ | ✓ | | | |
| TX | ✓ | ✓ | ✓ | | ✓ |
| UT | ✓ | ✓ | | | ✓ |
| VT | ✓ | ✓ | ✓ | ✓ | |
| VA | ✓ | ✓ | ✓ | ✓ | ✓ |
| WA | ✓ | ✓ | | | |
| WV | ✓ | | ✓ | | |
| WI | ✓ | | | | |
| WY | ✓ | | | | |

CHAPTER 2

# Preconstruction Financing

## Introduction

In our conversations with advocates, utility leaders, engineers, and state professionals, there is broad agreement that one sticking point in the SRF application process is the engineering and planning stage. In Illinois for example, community water supplies must submit planning documents including consideration of construction item costs, environmental impacts, plan for debt service, and a discussion of basis of design. These are important planning requirements, yet they present a challenge to capacity-strained systems.

To ease the SRF's preconstruction administration requirements, 27 states provide preconstruction loans or grants that water systems can apply for before they have plans that are ready for construction. These programs provide up-front revenue so that utilities can complete the planning they need to submit a successful SRF application.

Based on a review of these 27 DWSRF programs that explicitly offer preconstruction financing, this Chapter presents a series of recommendations for Illinois EPA to structure its own preconstruction financing element through the SRF. Those recommendations are summarized below.

**Create a streamlined administrative process**

- Specify a "preconstruction" option in the standard SRF funding nomination form
- Roll preconstruction loans into long-term SRF construction financing

**Make financing for preconstruction activities affordable**

- Provide principal forgiveness for DAC, according to an updated DAC definition
- Project funding cap of no less than $100,000
- 0% interest for any preconstruction loans
- Defer repayment start date

**Staff up to administer a preconstruction financing program**

- Utilize set-asides to fund staff time to manage preconstruction financing
- Leverage SRF to raise additional funds to finance projects as needed

Because we are especially interested in making recommendations that will be feasible in Illinois, we will frequently turn to California, North Carolina, and Ohio as examples of states that appear to have effective preconstruction financing options and large-scale infrastructure needs.

A preconstruction financing option has a present-day counterpart in Illinois: Illinois' lead service line inventory grant program is, in fact, an example of a successful preconstruction financing grant opportunity. This program provides grants for community water systems to develop required service line materials inventories in increments of up to $50,000, and it has already dispersed funds to over 100 water systems over the first two application cycles with one more cycle planned (Illinois EPA 2023). Given the success of this program and the demand for preconstruction financing that it reveals, we recommend Illinois SRF include a broader opportunity moving forward.

# About Preconstruction Financing in the SRF

By "preconstruction financing" we are specifying loans or grants that are dispersed before a project is ready for construction. The purpose of preconstruction financing options is to provide a limited amount of funding with a limited administrative burden as early as possible in the lifecycle of water infrastructure projects. This type of financing provides a crucial onramp to accessing SRF resources for water systems that would otherwise struggle to develop competitive project plans.

Contrast that approach with bundling construction and planning costs, which requires water systems to front the money for engineering and planning. Preconstruction financing provides planning funding before it is initiated; bundling by contrast reimburses a utility for work already contracted and potentially paid for. The 27 states that we have identified with preconstruction financing options provide water systems with the option to submit an abbreviated application with shorter financing terms than a construction loan to cover these costs.

Our findings suggest that, in general, preconstruction financing options provide limited (often capped at a dollar amount or cost percentage), short-term (often five years or less), and low-cost (or no-cost) financing to water systems for preparing effective construction projects for the SRF.

Below, we outline the major design considerations for developing a preconstruction financing option.

## The application process

**MPC recommends IEPA include an additional item in the funding nomination form for applicants to specify a "preconstruction" application that would be prepared and reviewed according to an abbreviated set of criteria compared to construction applications.** Including this option in the SRF application cycle will allow water systems that have infrastructure concerns but need engineering support before proceeding with a construction application. California provides a good example, where applicants can simply specify on the standard project nomination form that they wish to be considered for "planning/development" financing with a checkbox. Applicants who check this box can then skip sections of the form related to engineering and construction.

Preconstruction financing is made available across SRF programs we surveyed in three different ways. Many of the SRFs included in our sample (17 total) had standalone preconstruction financing programs that dispersed grants or loans alongside the general SRF pool and project priority list. These programs have their own entirely separate application process. Some programs (11 total) instead provided instructions for submitting a planning-only or design-only project in their general SRF application. This might take the form of a checkbox or designated "planning-only project" section of the application form itself.

Additionally, three SRF programs had a referral process for predevelopment financing. In this scenario, water systems that had a construction project on the project priority list but are not ready to proceed with long-term construction financing in that period could instead take a short-term planning and design loan that would allow them to move their project forward without committing to long-term financing.[11] Finally, five of the SRF programs we reviewed offered some combination of these three mechanisms for distributing funds, although no state has all three mechanisms.

Table 3: Preconstruction Application Mechanisms

| Application Mechanism | Number of SRFs (% of 27 total) |
|---|---|
| Standalone preconstruction | 17 (63.0%) |
| Option in standard SRF | 11 (40.7%) |
| Referral option in SRF | 3 (11.1%) |
| More than one of these | 5 (18.5%) |

11 It is possible that this practice of providing remedial preconstruction financing to projects that are already on the project priority list is more widespread than we were able to capture. Because this financing option is only offered to water systems after they have a construction project on the priority list, these financing options may not be listed as separate "planning" or "planning and development" projects even when they are being funded for this work. Additionally, these financing options might be provided through broad set-aside uses like "technical assistance" and thus not detectable in our review.

# Design Elements

Across predevelopment financing applications reviewed for this study, we identified five key design elements that varied across SRF programs but were often present. These elements include principal forgiveness or granting policies, interest rates (for loans), term length (for loans), caps on amount, and eligibility requirements. In this section we provide a short discussion of these design features, the range of approaches we found across SRF programs, and a few key examples of states that deploy these approaches.

## Forgiveness and granting

**MPC recommends IEPA provide preconstruction financing as loans with the opportunity to receive principal forgiveness under clear, comprehensive criteria (see section below on "Eligibility Requirements"). Further, MPC recommends universal eligibility to roll preconstruction financing into long-term construction financing.** This model provides a streamlined way to provide preconstruction financing and encourages water systems to make use of SRF financing in the long term. California, discussed below in greater detail, provides clear criteria for applicants to qualify for principal forgiveness and permits loans to be rolled into long-term financing, as discussed below.

One of the primary differences in approaches to preconstruction financing across SRF programs is whether funds are provided as grants or as loans. Of the 27 total SRF programs included in our review, we found that 11 provided predevelopment financing as grants or with the opportunity for complete principal forgiveness, 5 provided some combination of grants and loans, and 11 provided preconstruction financing as loans only. When providing preconstruction financing as a grant, SRF programs always capped the amount of the grant, with these caps ranging from $10,000 in Colorado (Department of Public Health & Environment 2023) to $150,000 in North Carolina (Department of Environmental Quality 2023) and Massachusetts (Clean Water Trust 2023).

Table 4: Types of Financing Products

| Financing product | Number of SRFs (% of total 27) |
|---|---|
| Loan | 11 (40.7%) |
| Grant | 11 (40.7%) |
| Combination of loan and principal forgiveness | 5 (18.5%) |

Grant-only preconstruction financing programs are characterized by their relatively low caps on amount and relatively stringent eligibility requirements compared to loan programs. Massachusetts, for instance, has a very detailed asset management grant program that funds planning activities for water systems that will make them strong candidates for SRF construction projects. This grant program funds up to $150,000 or 60% of estimated planning costs, whichever is less, and stipulates how water systems are expected to match grant funding with cash or in-kind contributions depending on the size of the water system. Large and medium water systems are expected to contribute more cash to projects while small systems are permitted to contribute a larger share of in-kind services (Clean Water Trust 2023).

For the 5 states that offer some combination of loans and grants for preconstruction costs there were two general models: (1) a subset of water systems is eligible for grants or principal forgiveness, or (2) all preconstruction financing starts as a loan but can be forgiven if certain criteria are met. The California SRF, for example, permits any water system to apply for preconstruction financing but only those water systems that serve small or disadvantaged communities (by California definitions) qualify for principal forgiveness and receive this financing as a grant (California Water Boards 2023). In Florida, disadvantaged small communities (by Florida definitions) can receive up to 50% principal forgiveness on preconstruction loans (Florida Department of Environmental Protection 2022).

In Oregon, by contrast, all water systems can apply for preconstruction financing and receive it as a loan. However, if planning is complete and a construction project is ready to proceed within 2 years, these loans are eligible for principal forgiveness. Small systems are prioritized for preconstruction financing and principal forgiveness in Oregon, but any system is potentially eligible (Business Oregon 2023). Because these five states (California, Florida, Missouri, Tennessee, and Oregon) have unique approaches to providing preconstruction financing they will generally not be included in the statistics on grant programs or loan programs.

Loans are the most varied form of preconstruction financing. Of the 27 total SRF programs we reviewed, 11 provided preconstruction financing as loans without advertised opportunities for principal forgiveness. These loan programs range from being administered as a short-term loan that can then be rolled into long-term SRF financing for a construction project, in states like Kentucky or New Jersey, to a short-term standalone loan with its own terms of repayment in states like Texas and Washington. Later sections summarize our findings on the financing terms of these loans.

## Eligibility requirements

**MPC recommends IEPA develop a comprehensive disadvantaged community (DAC) definition and use this updated DAC as an eligibility criteria for pre-construction financing principal forgiveness. MPC also recommends that all water systems be eligible for loan-based preconstruction financing.** A revised DAC definition should include a variety of social and infrastructural vulnerability indicators like poverty rate, water affordability, water quality violations, and other factors included in CDC's Social Vulnerability Index. Prioritizing principal forgiveness according to these metrics will provide no-cost support for planning to communities that face the greatest inequities in water infrastructure. California, again, provides a good example that is discussed in greater detail below.

Ten out of twenty-seven states surveyed included eligibility requirements to ensure funds are utilized only by those water utilities that most need the additional support for planning and development. Such eligibility requirements are more common when financing is distributed as grants rather than loans (see Table 5)[12].

The most common eligibility requirement for preconstruction financing programs is tailored to small systems[13]. Nebraska for example, provides grants to cover preconstruction expenses for water utilities that have projects that are on the priority list for SRF financing, are small systems, and have a regulatory violation (Nebraska Department of Environment and Energy 2023). Of the 27 states we reviewed, nine had such small system eligibility requirements.

While it may be most common to tailor eligibility requirements around small system status, **MPC recommends that eligibility for principal forgiveness be centered on DAC status.**

California's program offers an example: priority is given to both small systems (defined as systems with at least five but less than 14 connections)[14] and water utilities that serve DAC (California Water Boards 2023). In California and several other states DAC can be defined either at the municipal or census-tract level.

Table 5: Eligibility Requirements

| Type of Eligibility Requirement | Number of Grant-only Programs (11 total) | Number of Mixed Programs (5 total) | Number of Loan-only Programs (11 total) |
|---|---|---|---|
| Small Systems | 5 | 4 | 0 |
| DAC | 0 | 1 | 0 |
| No Requirement | 6 | 0 | 11 |

12 SRF programs also sometimes exclude private for-profit water systems from preconstruction financing. For instance, this prohibtionis made explicit in Virginia and North Carolina's grant programs and in Washington's loan program.

13 In general, small systems are those that serve communities with 10,000 or fewer residents.

14 This is an unusually restrictive definition of small systems that is unique to California.

## Caps on amount

**MPC recommends IEPA institute a reasonable cap on preconstruction financing only if deemed necessary. Any such cap should be no lower than $100,000 per project each year.** Caps on preconstruction financing prevent large water systems that have the financial capacity to plan and develop projects from over-utilizing this option, but they must be high enough that small systems and DAC can receive sufficient funds to contract external engineers when needed. North Carolina, for instance, caps preconstruction financing at $150,000 per project and each water system can only receive this award twice in three years (North Carolina Department of Environmental Quality 2023).

In addition to eligibility requirements, many SRF programs also limit the amount of funds available to water systems as preconstruction financing: 15 of the 27 programs included an explicit cap on grant or loan funding.

At the high end, Washington (Washington State Department of Health 2020) sets a simple cap on predevelopment costs at $500,000 and New York (New York Department of Health 2022) caps short-term loans at one-third of total project costs (including projected construction costs). At the low end, Colorado has a standalone grant program that provides up to $10,000 or 80% of the cost, whichever is less, to assist small systems in planning and development (Colorado Department of Public Health & Environment 2023). The most common cap, and the median of those that cap amounts, is $100,000, found in 4 SRF preconstruction financing programs.

Among the 5 SRF programs that provide a combination of loans and grants, 2 states also put a cap on how much principal forgiveness can be provided. Florida, for example, limits principal forgiveness to 50% of borrowed amount for qualifying DAC, the same limit that this state has for principal forgiveness on construction loans (Florida Department of Environmental Protection 2022).

The purpose of these caps is not specified but we assume is to ensure that large water systems do not monopolize preconstruction financing opportunities. Indeed, SRF programs that do not set caps on predevelopment financing explicitly are those in states where there are very few large systems (e.g., Iowa, New Hampshire, Vermont) or those where financing is only offered as loans.

Table 6: Caps on Financing

| Type of Cap | Number of Grant-only Programs (11 total) | Number of Mixed Programs (5 total) | Number of Loan-only Programs (11 total) |
|---|---|---|---|
| Amount | 5 | 1 | 2 |
| Percentage | 1 | 0 | 2 |
| Both | 4 | 0 | 0 |
| No cap | 1 | 4 | 7 |

## Interest rates and fees

**MPC recommends Illinois EPA provide preconstruction financing loans at a 0% interest rate and no fees.** Preconstruction financing programs are designed to assist water systems with limited financial capacity and, ideally, will be rolled into long-term construction financing, obviating the need to assess interest in the short term. Ohio, for example, does not charge interest on preconstruction financing during a deferment period.

For SRF programs that provide preconstruction financing as loans rather than grants, there is also variation in their approaches to assessing interest on these loans. Of the 11 states that provide preconstruction financing as loans only[15], five assess no interest and charge no fees to borrowers. In these cases, borrowers simply repay the principal (or roll it into a construction loan). States like Iowa, New York, and Ohio are among these five that offer interest-free preconstruction financing. There are also 4 states where an interest rate (below market rate) is assessed on preconstruction loans. These interest rates vary by state and range from a flat 1% interest rate in Arizona that is set specifically for preconstruction loans to 2.5% in Kentucky where the standard SRF interest rate is applied to preconstruction financing.

As an alternative to assessing interest, 2 SRF programs assess a fee on preconstruction financing due at the time of initiation. The

15 We limit our inquiry in this section to programs that provide only loans.

primary difference between a fee and interest appears to be that a fee is assessed outright based on principal and does not capitalize, in addition to the fact that fees can sometimes be incorporated into the borrowed principle. This allows the SRF program to cover some of its administrative costs associated with predevelopment applications by rolling it into the financing products offered to water utilities. These fees range from a nominal fee of 0.1% in New Jersey to 2.0% in Washington. Washington requires that water utilities put forward a 2% fee on preconstruction financing but permits the fee to be included in the loan amount, so a $100,000 loan could be adjusted to $102,000 to cover the fee (Washington State Department of Health 2020).

Table 7: Interest and Fees

| Interest or Fee Assessment | Number of Loan-only Programs (11 total) |
|---|---|
| No Interest or Fee | 5 |
| Interest (1-2.5%) | 4 |
| Administration Fee (0.1-2.0%) | 2 |

## Term length

**MPC recommends Illinois EPA allow loan repayment to be deferred until 12 months after the completion of the planning project, with the opportunity to roll this loan into long-term construction financing or to repay on a term of no more than 5 years.** By deferring repayment until 12 months after funds are completely allocated, water systems are given a window of time to secure long-term construction financing through the SRF or another source. Due to the relatively small size of preconstruction awards, short-term repayment is appropriate. This is the model in place in Ohio, detailed below.

The length of financing terms is perhaps one of the design elements with the greatest degree of variation across SRF programs. There are significant differences between states with respect to when repayment begins and the length of the repayment period. Furthermore, many of the SRF programs we reviewed do not have transparent posted policies for setting preconstruction loan terms.

In general, preconstruction loans often have a specific repayment period and deference term that is distinct from those offered on standard SRF construction financing. Of the 11 loan-only programs for preconstruction financing, 5 have an explicit deference term ranging from less than one year after loan initiation in Washington to 12 months after project completion in Ohio. Iowa and Arizona have a more moderate deference term of 3 years, at which point the loan will be rolled into long-term construction financing or repaid in full.

With respect to repayment itself, several preconstruction loan programs offer a specific short-term repayment option that is distinct from their long-term construction financing offerings. Repayment periods range from just 2 years in New Jersey to 10 years in Washington.

Ohio has a very clearly outlined preconstruction loan program and is an instructive example. Specifically, the deferment term in Ohio replicates the general deferment term of the SRF program for construction financing: repayment officially begins 12 months after the completion of the project and full use of allocated funds. Unless incorporated into a longer construction project that is also financed by the SRF, the repayment term for preconstruction loans from the Ohio SRF is 5 years (Ohio EPA 2023b). These loan terms are not long but are effective for lowering the financial burden of planning and preparing projects for water utilities long enough for these utilities to secure long-term financing for construction and repay borrowed funds.

Table 8: Loan Repayment Terms

| Repayment Terms | | Number of Loan-only Programs (11 total) |
|---|---|---|
| Deference Term | Separate Deference Term | 5 |
| | No Deference Term | 6 |
| Repayment Term Length | Repayment Term Less than 5 years | 3 |
| | Repayment Term 5 years or Greater | 3 |
| | Repayment Term Unknown | 5 |

# Size and Capacity of Preconstruction Financing Prorams

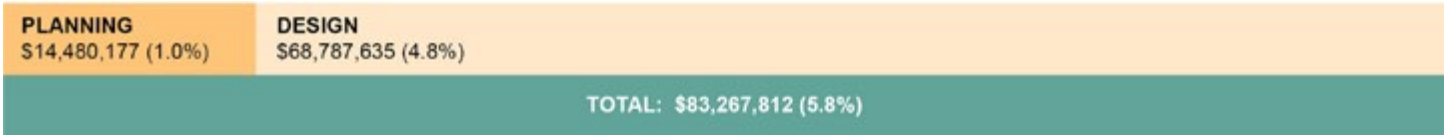
**As needed, MPC recommends that Illinois EPA utilize a greater percentage of set-asides to provide grants and loans for preconstruction financing and fund necessary staff capacity to manage applications. Additionally, as necessary, MPC recommends that IEPA leverage the SRF on the municipal bond market to maintain a sufficient pool of SRF financing.** These strategies will help Illinois EPA balance the dual mandate of supporting water system capacity development and maximizing available financing. For example, Ohio took 9.7% of its base capitalization grant from US EPA as set-asides in 2022 and has leveraged the SRF in 6 of the last 15 years. Illinois, by comparison, took 3.9% of its base capitalization grant as set-asides in 2022 and has leveraged in 4 of the last 15 years.

In this final section, we offer some thoughts both on the question of preconstruction finance program size and how to fund it.

Because the funds for preconstruction financing are allocated and organized through a few different mechanisms with different reporting protocols, it is difficult to say how much financing is provided for preconstruction across our sample. That being said, there is at least one state where there is a clear record of preconstruction financing: Ohio. In Ohio, preconstruction financing is listed on the intended funding list as either “planning” or “design” loans depending on what activities are being funded. As shown in the figure below, the Ohio SRF has identified $83,267,812 in intended planning and design projects as of the 2024 funding cycle (Ohio EPA 2023a). This accounts for 5.8% of the Ohio SRF’s total intended projects of over $1.4 billion listed in 2024.[16]

Furthermore, of the approximately $84 million intended planning and design loans, $29 million is accounted for by projects for Columbus, the state capitol and largest city. Because Ohio has neither caps on amount nor specific eligibility requirements for preconstruction financing, these amounts should be treated as an ambitious scenario for a preconstruction financing program.

Figure 1: Planning and design funding committed in OH (% of SRF total)




While providing preconstruction financing is a crucial strategy for ensuring equitable access to SRF resources, it is also important to recognize that SRF programs face their own operational constraints. Two primary constraints are the number of water systems that are eligible for SRF financing in any given state and the limited resources reserved for SRF administration itself. In short: SRF programs are tasked with fulfilling their mandate to get financing products out the door while ensuring that the program itself has sufficient resources to support potential applicants and perform well.

The number of community water systems in a state is an important consideration in how states experience those two constraints. States with relatively large numbers of water systems, for instance, may receive a larger volume of SRF applications for financing in any given year. Among the 27 states with preconstruction financing applications, the number of water utilities ranges from 376 in Kentucky to 4,655 in Texas according to US EPA data (2023a). Illinois, for reference, falls in the middle of this range at 1,740 water utilities. Ohio has fewer water systems than Illinois with 1,149 water utilities while New York has slightly more with 2,269.

While states with larger numbers of water utilities certainly face challenges with administering the larger number of applications generated by preconstruction financing options, there are strategies for overcoming these challenges. Namely, by taking set-asides and leveraging funds to increase available financing, other populous states with many water utilities have built out their staff and maintain a large pool of available public funds.

In general, states with preconstruction financing options took more set-asides: the median set-aside among the 27 SRF programs with preconstruction financing options was 20.9% versus 16.8% among the 23 SRFs that do not advertise preconstruction financing options. By comparison, the Illinois SRF had cumulatively taken only 3.9% of set-asides by 2022, making it the state that appropriated the lowest percentage of the 50 we reviewed. While it may not be necessary for the Illinois SRF to increase set-aside utilization to 20.9%, greater use of set-asides provides an important opportunity to increase staffing to manage preconstruction applications.

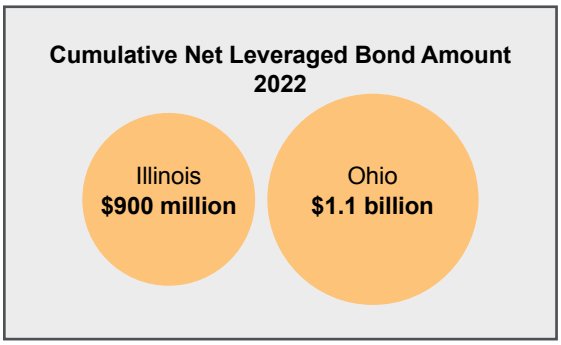
16 It should be noted that this number is high because Ohio’s published list includes all intended projects. Illinois has a much smaller list, for instance, because that program does not include projects for which there is unlikely to be sufficient funds.

Table 9: Set-aside Usage

| 2022 Cumulative Set-aside Usage as % of Grants (of 31% max) | Programs with Preconstruction (27 total) | Programs without Preconstruction (23 total) |
|---|---|---|
| Minimum | 8.8% | 3.9% (IL) |
| Median | 20.9% | 16.8% |
| Maximum | 28.7% | 26.4% |

But how do SRF programs make up for the meaningful deduction in their SRF financing pool when they take a larger share in set-asides? Of the 27 SRF programs in our review sample, 14 states have leveraged their funds on the municipal bonds market to raise additional money to finance water infrastructure projects (Moore 2018). Due to their tax and credit characteristics, SRFs can borrow very cost-effectively on this market (Hansen et al. 2021). This means that SRFs can take on bonds to increase the overall pool of available financing for traditional construction projects while retaining a lower interest rate than most municipal water systems would qualify for on their own.

Figure 2: SRF Leveraging




In sum, to staff or contract to review and administer preconstruction loans, the Illinois SRF could take a larger share of its available set-asides and leverage its grants on the municipal bonds market, as needed, to maintain funds for project financing. Illinois regularly leveraged the SRF in the past and should deploy this strategy more extensively moving forward. Peer states like Ohio and New York, that offer preconstruction financing options, take this approach: despite being a state with a smaller population and smaller number of water systems, Ohio has leveraged $1.1 billion cumulatively in 2022 to $900 million leveraged by Illinois (US EPA 2023b).

# Conclusion

## Preconstruction Financing in Context

Preconstruction financing enables states to provide significant financial resources to utilities to complete the engineering and planning work necessary to undertake successful construction projects. In this chapter, we describe some of the major procedural, financial, and staffing considerations relevant to designing a preconstruction financing option within the SRF.

While preconstruction financing is an important tool to help utilities plan for improvements and ultimately ease access to SRF funding, preconstruction financing is not a panacea for building utility capacity. Engineering and planning studies may ultimately recommend projects that utilities do not take on because of strained financial or staffing capacity to see projects through.

To enhance capacity upstream and ensure preconstruction financing is reaching the utilities that can most benefit from it, states will need to provide additional technical assistance. In the next chapter, we describe how 6 states enhance and coordinate capacity development through proactive technical assistance.

## STUDY DESIGN AND METHOD FOR CHAPTER 2

This review focused on the 27 SRF programs that we identified as having some form of preconstruction financing option available to water utilities. To learn more about these programs we compiled publicly available documents for each state like application forms, intended use plans, and annual reports. Importantly, the level of documentation on preconstruction financing options for each SRF program varied considerably. This is reflected in the way that we present our data: we focus on specific design elements or features of preconstruction financing options where they are evident. For instance, if we were unable to identify eligibility requirements for preconstruction financing, this could be either due to their not being included in publicly available documents or due to the actual lack of eligibility requirements for that program. To err on the side of caution, we treat these as unknowns and tabulate them when relevant.

Our analysis of preconstruction programs followed a binary classification schema where each program was sorted according to whether it did or did not have each of the following features: grant offerings, loan offerings, eligibility requirements, caps on funding, interest rates or fees, and a deference term. Then, based on this preliminary review we identified a few areas where more granularity was needed: the loan term length, whether preconstruction financing could have been rolled into construction financing, differences in eligibility requirements, and the process for applying to these funds. Finally, to contextualize these programs as potential recommendations for Illinois EPA, we gathered data from US EPA on the proportion of set-asides taken by each SRF program.

Table 10: Preconstruction Programs Across States

| State | Grant | Loan/Grant | Small or DAC Eligibility | Cap on Financing | Interest or Fee |
|---|---|---|---|---|---|
| AZ | | | ✓ | | ✓ |
| CA | | ✓ | | | |
| CO | ✓ | | | ✓ | |
| CT | | | ✓ | | ✓ |
| FL | | ✓ | | | ✓ |
| IA | | | ✓ | | |
| ID | ✓ | | | ✓ | |
| KS | ✓ | | | ✓ | |
| KY | | | ✓ | ✓ | ✓ |
| MA | ✓ | | | ✓ | |
| ME | ✓ | | | ✓ | |
| MO | | ✓ | | | |
| NC | ✓ | | | ✓ | |
| NE | ✓ | | | ✓ | |
| NH | ✓ | | | | |
| NJ | | | ✓ | | ✓ |
| NV | ✓ | | | ✓ | |
| NY | | | ✓ | ✓ | |
| OH | | | ✓ | | |
| OR | | ✓ | | ✓ | |
| SC | | | ✓ | | ✓ |
| TN | | ✓ | | | ✓ |
| TX | | | ✓ | ✓ | |
| UT | ✓ | | | ✓ | |
| VA | ✓ | | | ✓ | |
| VT | | | ✓ | | |
| WA | | | ✓ | ✓ | ✓ |

CHAPTER 3

# Proactive Technical Assistance

## Introduction

In Chapter 2, we analyzed preconstruction financing as an onramp into SRF construction project financial support. Preconstruction financing facilitates access to SRF funding when a community has a project identified, providing money earlier in project development to fund the preliminary engineering and environmental assessment that are required for long-term construction financing. While this option is an important component of easing access to SRF financing, its efficacy is reliant on utilities (1) knowing that the SRF exists as an option for their community; (2) having administrative capacity to successfully identify and plan needed construction projects; (3) capacity to see a project through engineering and into construction. For some communities, these conditions may not be met.

This chapter moves further upstream to discuss how state programs can help build the capacity of water utilities to maintain and improve their water systems and protect public health. In our national scan of TA programs, MPC identified six examples where state agencies that administer the SRF coordinate what we call "proactive technical assistance" to water utilities. Based on an in-depth review of these six programs, we recommend for Illinois EPA to create and staff a proactive technical assistance program with the following components:

A water utility **capacity assessment protocol** that includes a policy for setting capacity standards and a process for measuring water system capacity, especially financial and managerial capacity.

A **simple application process** for water utilities with critical capacity needs to request free assistance from Illinois EPA, supplemented with invitations to water systems that are determined to have limited capacity to apply.

A **pre-qualified pool of at least three technical assistance providers** with expertise in various areas, particularly municipal finance and asset management.

## What is Proactive Technical Assistance?

"Proactive technical assistance" is, so far as we know, a term that MPC created for this white paper. For the purposes of this paper, the term proactive technical assistance applies to cases where:

(1) capacity assessment protocols of some kind;

(2) a standard procedure for requesting or applying for specialized expert assistance, and;

(3) a pool of at least three different technical assistance providers who are matched with water system needs.

This assistance is proactive in the sense that it is focused on building the baseline capacity of water systems across each state, rather than responding to one particular construction project need.

A key function of proactive technical assistance is that it coordinates activities across these assessment and service provider activities. These programs have designated capacity development staff who track utility performance, identify capacity gaps, connect utilities with needed technical support, and help finance any contractors. This requires coordination across compliance, field operations, permitting, and financial assistance units of state agencies. This level of coordination addresses the gap between the level of capacity required to meet contaminant reporting requirements in the short term and the level of capacity required to manage and finance water system infrastructure in the long term.

Proactive technical assistance operates alongside, and supplements, the circuit rider model of technical assistance we discussed in Chapter 1. The circuit rider model uses set-asides from the base capitalization grant to contract a technical assistance provider (i.e., state rural water associations) to assist small water systems with operations and maintenance2. Circuit rider programs provide essential operations, maintenance, and compliance assistance to small communities facing day-to-day challenges with the upkeep and management of their water systems.

However, in the states we reviewed, circuit rider programs usually do not have the funding or the range of expertise to provide intensive asset management or financial planning assistance to every water system where it is needed. According to experts we interviewed, circuit riders tend to provide a relatively hands-on project-based form of technical assistance to many different communities in large service areas (Interview 2/23/2024; Interview 4/3/2024). Indeed, each state reviewed here maintains a circuit rider program but also provides the more extensive technical assistance that we analyzed here. Proactive technical assistance leverages the work that rural water associations, the Rural Community Assistance Partnership (RCAP), and other third-party organizations have long been providing by using a state program to coordinate services to community needs and fund them when necessary.

Table 10: Staffing and Funding

| State | Number of Utilities Served Annually | Number FTE | Most Recent Funding Level | Funding Source |
|---|---|---|---|---|
| California[17] | 300 | 16 | $212 million | State budget + dedicated revenue |
| New Jersey[18] | 11 | 3 | $1.0 million | Set-asides + loan fees |
| New York[19] | 70 | N/A | $15.5 million | Set-asides |
| North Carolina[20] | 145 | 5 | $10 million (FY23-25) | Set-asides + state budget |
| Vermont[21] | 50 | 4 | $1.7 million | Set-asides |
| Virginia[22] | 60 | 4 | $3.7 million | Set-asides + state budget |

Proactive technical assistance requires staffing and funding commitments to be effective. In all the states reviewed except New Jersey, there are staff teams within the relevant state agencies who work exclusively on coordinating water system capacity development. Proactive technical assistance also requires funding for third-party technical assistance providers with relevant expertise whether through contracts or grants.

The programs reviewed here vary in their scale of operations and how they are funded. In terms of scale, California's program is by far the largest with over 300 water systems currently engaged, 16 full-time employees working on technical assistance coordination, 14 third-party technical assistance providers contracted, and $212 million in funding committed (Interview 2/7/24). This funding is generated through state legislation that created designated revenue for water infrastructure and budget appropriations. At the other end of scale, Vermont's program engages approximately 50 water systems per year, has four full-time employees who coordinate assistance, contracts with four different service providers most years, and is funded by the 15% local assistance set-aside from the SRF capitalization grants that totaled $1.7 million in 2022 (Interview 2/23/2023; Vermont Department of Environmental Conservation 2024). New Jersey has even fewer staff hours devoted to technical assistance (approximately three full-time employees), but their program is in early stages of development (Interview 3/11/24) and this may change over time.

17 Interview 2/7/24
18 Interview 3/11/24
19 New York Environmental Facilities Corporation 2023; New York Department of Health 2023
20 Interview 3/19/24
21 Interview 2/23/24; Vermont Department of Environmental Conservation 2023
22 Interview 2/7/24; Virginia Department of Health 2023

Funding for these programs comes from a variety of sources:

- **Dedicated state revenue.** California, for example, created a dedicated state revenue source for water infrastructure and technical assistance programs. In California, there is an annual commitment of up to $130 million from the state's cap-and-trade Greenhouse Gas Reduction Fund until 2030 (California Water Boards 2021). The current funding commitments referenced above ($212 million) include additional state budget allocations for water infrastructure from prior legislative action.
- **Other state budget allocations.** This is the approach taken by North Carolina and Virginia. In North Carolina, the state legislature allocated $9 million from the state's general fund to create the Viable Utilities Program, a technical assistance program that identifies distressed utilities, in 2020. This program grew with the infusion of state funding from the 2021 American Rescue Plan Act (ARPA), but this money is now beginning to expire (Interview 3/19/24). Another $10 million is allocated for viable utilities in the 2023-25 state biennial budget (Interview 3/19/24). In Virginia, the General Assembly allocated $1 million to create the Equitable Drinking Water Infrastructure Fund to support the costs of consolidating small water systems, as a supplement to its SRF set-asides for technical assistance in 2022 (Virginia Department of Health 2023a), although this funding has not been renewed (Virginia Department of Health 2023b).
- **Set-asides from SRF base capitalization grants.** New Jersey is using set-asides from the increased Bipartisan Infrastructure Law (BIL) capitalization grants to fund the first five years of its program. New York, for its part, is using BIL set-asides from it both its clean water and drinking water SRF programs to fund both an outreach model and a capacity assessment program for technical assistance. North Carolina uses set-asides to fund staff positions in its programs while state budget allocations fund assistance agreements (Correspondence 6/4/2024).
- **Service fees charged by the state agency.** New Jesey and assesses a 0.02% service charge on loans to fund a reserve account for technical assistance (Interview 3/11/24). New York's programs receive funding from administrative fees on SRF financing products (New York Environmental Facilities Corporation 2023).

# Component 1: Capacity Assessment Policies and Processes

**MPC recommends that Illinois EPA create and systematically distribute a short capacity assessment questionnaire (no more than 20 questions) to gather data on technical, managerial, and financial capacity.** Responses should be centrally maintained and used to identify systems that require additional capacity, through either a formal threshold of utility performance or a comparative assessment of utility performance.

In each of the six states reviewed, proactive assistance begins with assessment of utility capacity. Based on these assessments, agency staff can then determine the priority or eligibility of each water system for technical assistance from the state. These capacity assessments vary with respect to what they include and how they gather their data. In all cases, these capacity assessments go beyond compliance data focused on the technical capacity of a water system to operate its infrastructure and include aspects of managerial and financial capacity. Assessment occurs in roughly two phases: 1) setting a standard for water system capacity in policy and 2) engaging in a process for identifying water systems that do not meet this standard and thus require assistance.

## Policies: Setting thresholds for capacity development

The Safe Drinking Water Act requires all SRF programs to have a capacity development strategy that outlines how each state agency will support new and existing water systems to ensure that they provide adequate drinking water service to their customers. State agencies have significant freedom to interpret these requirements. For instance, 26 states including New Jersey, New York, and Virginia, require asset management plans in some way (New Jersey Department of Environmental Protection 2023; New York Department of Health 2023; Virginia Department of Health 2023b).

What is unique about proactive technical assistance, however, is that agency staff set a broad standard for water system capacity based on indicators, like asset management plans, beyond simply what is required by federal law. These standards then help states identify priority utilities that would benefit from capacity building activities.

In the states we reviewed, standards are set in one of three ways:

- **A formal standard that is applied based on assessment data.** California and North Carolina deploy formalized definitions of "failing" or "distressed" water systems, respectively, that are then applied to utilities who meet specific criteria.
- **A relative standard that is set based on peer utility performance.** New Jersey, New York, and Virginia instead set a cutoff point for focusing their assistance based on assessment data. Virginia Office of Drinking Water, for instance, looks for a natural "break" in assessment data between those communities that need support and those that do not (Interview 2/7/24).
- **Type of assistance needed.** Because Vermont's water systems are overwhelmingly small and rural, all are eligible for proactive assistance. Assessment data is instead used to identify the most important areas of need (e.g., rate setting or application assistance) in that state (Interview 2/23/24).

Table 11: Assessment Protocols

| State | Standard Type | Primary capacity assessment process |
|---|---|---|
| California | Formal standard | Compliance Data |
| New Jersey | Relative standard | Compliance Data |
| New York | Relative standard | TMF Questionnaire |
| North Carolina | Formal standard | Compliance Data |
| Vermont | Type of Assistance | TMF Questionnaire |
| Virginia | Relative standard | TMF Questionnaire |

## Process: Method of assessment

States take two approaches to gathering data and assessing utility capacity: (1) analyzing pre-existing compliance data or (2) circulating a capacity assessment (TMF) questionnaire tailored to key areas of concern financial and managerial capacity.

California, North Carolina, and New Jersey rely heavily on pre-existing sources of compliance data to assess individual water utilities' capacity. North Carolina has some of the most robust financial data on municipal water systems of any state due to its long history of financial oversight of local government units, dating from the 1930s. Local government units in this state must submit annual financial audits to the Local Government Commission of North Carolina. Available data include cash reserves, budgets, and revenue projections (North Carolina Department of Environmental Quality 2020). Staff with the Viable Utilities Program review these data to identify "distressed" utilities that need direct assistance (Interview 3/19/24). California and New Jersey rely on data reported (or missing, as the case may be) in compliance with Safe Drinking Water Act regulatory standards (California Water Boards 2023a; New Jersey Department of Environmental Protection 2000). California supplements this data with questions about customer complaints, revenue, staff training, and cash on hand in its required annual report from water systems (California Division of Drinking Water 2023), despite not using a tailored capacity assessment questionnaire like the following states.

New York, Virginia, and Vermont also gather data with tailored capacity assessment questionnaires. In Virginia, for example, an 18-item questionnaire completed every three years with regular sanitary surveys[23] gathers information on key indicators of managerial and financial capacity. One strength of this approach is that the data gathered can be tailored to the concerns of the drinking water authority in the state. Virginia, for instance, asks water systems whether the water system has an asset management plan, whether the utility has budgetary independence from other government operations, and if their staffing is sufficient to allow vacation time (Virginia Department of Health 2023b). New York has a new 37-item capacity assessment questionnaire that was trialed in 2023 with the intent to include it with sanitary surveys in the future (New York Department of Health 2022), and Vermont has a voluntary capacity assessment evaluation that they encourage utilities to participate in to help inform their assistance offerings (Vermont Department of Environmental Conservation 2015).

23 Sanitary surveys are a regular state inspection, usually every three years, of public water systems required by US EPA policies to ensure treatment, maintenance, and operation in accordance with the Safe Drinking Water Act (Office of Water 2019).

## Types of capacity assessed

Assessments address managerial and financial capacity in addition to the technical capacity documented through sanitary surveys and compliance reporting. Findings are summarized in Table 12.

Table 12: Types of Capacity Assessed

| State[24] | Managerial Capacity | | | Financial Capacity | | | |
|---|---|---|---|---|---|---|---|
| | AMP | Staffing | Customer Comms | Budget | Revenue | Cash on Hand | Reserves |
| California | | ✓ | ✓ | | ✓ | ✓ | ✓ |
| New Jersey | ✓ | ✓ | | ✓ | ✓ | | ✓ |
| New York | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| North Carolina | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Vermont | ✓ | | ✓ | | ✓ | ✓ | |
| Virginia | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

### *Managerial capacity*

In general, there are three main types of managerial capacity assessed: asset management, staffing, and customer communication:

- Asset management includes inventorying infrastructure and conditions of infrastructure, planning for maintenance and rehabilitation, and ultimately identifying needs for future capital improvements. Ideally, asset management allows utilities to time their capital projects to maximize quality of service and minimize costs (Southwest Environmental Finance Center 2024).
- Staffing indicators include the adequacy of staff coverage, staff training levels, and continuing education commitments.
- Customer communication protocols about service interruptions and rate charges are also included as aspects of managerial capacity.

In sum, a well-managed water system should have plans for maintaining its infrastructure, sufficient expert staff, and a good rapport with its local community. Asset management plans (AMPs) are also a requirement for SRF financing in New Jersey, New York, and Virginia, and are a key measure of water system capacity in those states (New Jersey Department of Environmental Protection 2023; New York Department of Health 2023; Virginia Department of Health 2023b).

### *Financial capacity*

Financial capacity is measured through several kinds of indicators: budgetary independence, rate setting, cash on hand, debt service, and reserves for capital improvement:

- Budgetary independence refers to whether water systems have a budget separate from the sewage system or other municipal departments.
- Rate setting is assessed to determine whether a water system can generate sufficient funds to support its operations or increase revenue when necessary, or if local decisionmakers even have the data available to determine this.
- Cash on-hand cash is a measure of emergency preparedness. If a major piece of infrastructure fails and there is not time to secure external funding for repairs, replacements, or immediate mitigation this cash may be essential.
- Debt service refers to the revenues that the water system already has committed to payments on existing loans as a measure of the water system's borrowing capacity.
- System reserves for future capital improvements are an overall indicator of financial health.

Each of these metrics provides useful insight into the resilience and capacity of drinking water systems' financial health.

We recommend that Illinois EPA adopt elements of all these approaches. Illinois EPA already has regulatory compliance data and conducts a TMF pre-screening survey when it conducts engineering evaluations of water systems (Illinois Environmental Protection Agency 2023, 26). This survey covers all managerial and financial concerns discussed above and could be streamlined to generate a usable dataset. These data would then ground either formal or relative assessment of utility performance and inform proactive outreach and assistance to utilities for a full range of technical assistance offerings.

24 Sources for these data are those criteria, forms, and questionnaires cited in the text.

# Component 2: Applications

**MPC recommends that Illinois EPA create a simple online application for free technical assistance** that can be completed by utility operators or elected officials. Additionally, we recommend that Illinois EPA invite water systems with greatest capacity needs – as identified in the assessment process - to apply for assistance.

Once community water systems have been identified as eligible or in need of services, they must somehow be matched with service providers and provided funding for assistance projects. All the technical assistance programs reviewed here use applications to scope these projects. The way that these applications are initiated varies considerably but there are two general pathways: (1) outreach from the state drinking water authority inviting water systems to apply for assistance and (2) applications initiated by water system operators after referral by enforcement staff or stakeholders.

Table 13: Application Processes

| State[25] | Application Source |
|---|---|
| California | Referral |
| New Jersey | Referral/Invitation |
| New York | Referral/Invitation |
| North Carolina | Invitation |
| Vermont | Invitation |
| Virginia | Invitation |

Invitations to apply for technical assistance are the most common model: 5 states in this review reported inviting utilities to apply. Typically, this occurs when agency staff systematically analyze capacity assessment data, identify communities in need, and then contact water systems to coach them through accessing state resources. In Virginia, for instance, capacity development staff in the Office of Drinking Water review responses to the 18-item capacity assessment questionnaires and invite water systems with the lowest scores to apply for grant programs that fund technical assistance projects (Interview 2/7/24). North Carolina operates a similar program where water utilities which have been identified as “distressed” based on capacity assessment are not only encouraged to apply for funded assistance but required to meet key capacity benchmarks like creating an asset management plan (Interview 2/23/24). Alternatively, Vermont invites all water systems in the state to apply for its assistance programs, using capacity assessment to determine what kinds of programming to offer, prioritizing systems that have not recently participated (Interview 2/23/24).

Other states rely more on referrals for technical assistance applications. In these cases, enforcement staff or stakeholders familiar with a water utility will refer water system operators to the technical assistance program where a simple online form (or even a button to a designated email address in the case of New York) allows operators to request assistance and a meeting with staff. Technical assistance staff in California, for example, tend to rely on compliance staff and technical assistance organizations who work in communities to refer water systems to their program when these systems need help (Interview 2/7/24). Self-Help Enterprises, Inc., for example, is a community development NGO that works in the San Joaquin Valley and often identifies water infrastructure assistance needs while working on affordable housing. Self-Help staff then refer community leaders to the state technical assistance program that can fund key planning and asset management projects (Interview 3/11/24).

New Jersey and New York both operate similarly to California in this regard, relying heavily on referrals from NGOs and enforcement units, but they also do outreach to publicize their programs. For example, New York’s SRF programs are jointly administered by the Environmental Facilities Corporation and the Department of Health, both do outreach but neither currently appear to issue targeted invitations (or incentives) (New York Department of Health 2023; New York Environmental Facilities Corporation 2023).

A combination of invitation and referral approaches would likely provide the greatest benefit to water utilities. Illinois EPA can establish a simple online application, coordinate with third-party NGOs to refer utilities to the application portal, and proactively invite systems with the greatest needs for technical assistance to submit requests for funded work with assistance providers. An open-ended, online application or request procedure would ensure that any water systems can be considered for assistance.

25 These data are current estimated confirmed in interviews with state agency staff or providers in each state

# Component 3: Technical Assistance Provider Pool

**MPC recommends that Illinois EPA coordinate and fund at least three different technical assistance providers** with differing areas of expertise in water system management and municipal finance. This will form the pool of providers who assist utilities.

In order to fulfill requests for assistance, each of the technical assistance programs reviewed here also maintains a pool of third-party technical assistance providers. To operate effectively, a technical assistance provider pool that covers the full range of needs must be assembled and these providers must be effectively matched to applicants.

Table 14: Technical Assistance Providers

| State | Minimum Number of Current TA Providers | Funding Model |
|---|---|---|
| California | 14 | State grant to provider |
| New Jersey | 12 | State contract |
| New York | 3 | State facilitation |
| North Carolina | 4 | State grant to community |
| Vermont | 4 | State contract |
| Virginia | 4 | State contract |

Pools of technical assistance providers are typically assembled through Request for Proposals (RFP) process or a Solicitation of Qualifications (SOQ) process where the state agency staff identify which organizations to fund for assistance through contracts or grants. Importantly, to assemble an effective pool of providers these programs must cover a range of different types of expertise in municipal finance, law, water system maintenance and operations, and environmental or civil engineering. One way to ensure adequate coverage is to permit these contractors or grantees to subcontract when necessary, hiring an attorney or accountant to work with a particular community when needed. This is the approach taken by California (Interview 2/7/2024; Interview 3/11/2024). Some states carefully limit the financial commitment of these grants or contracts and of individual technical assistance projects. Virginia, for instance, contracts three engineering firms to assist with small projects of about $20,000, typically for small communities (up to about 3,300 residents) that would not be able to get SRF financing (Interview 2/7/2024; Virginia Department of Health 2023b).

How technical assistance providers are funded varies somewhat by state. In most of these programs, the state directly funds technical assistance providers through contracts or grants. This is the case in California, New Jersey, Vermont, and Virginia. In these states, when a contractor or grantee assistance provider has been assigned to a utility, they work with the operators or leaders in the water system to create a workplan with a budget that is submitted to the state for accounting.

In New York and North Carolina, the state agency does not directly fund all technical assistance providers (Interview 2/23/24; Interview 3/13/24; Interview 3/19/24). Instead, state agency staff identify the scope of water system needs, identify an appropriate service provider, and may provide grants to communities for the work. In some cases, technical assistance providers may already be contracted by the state or funded by US EPA to provide these services, but in other instances local governments will be responsible for procurement. This approach may require more project management work from agency staff but does have the benefit of allowing water systems to identify whatever firm or organization is the best fit for their needs, even if that party does not have a relationship with state agencies. This approach also avoids replicating the technical assistance services offered by well-established Environmental Finance Centers (EFCs) like the Syracuse EFC or the EFC at University of North Carolina that already serve these states. North Carolina specifically has a grant program that funds communities for asset management or regionalization planning work (North Carolina Department of Environmental Quality 2024). In New York, it is clear that agency staff are expected to provide some direct assistance to water systems but unclear if there are also grant programs to fund studies or asset management for these systems.

Matching applicants with assistance providers is a process that balances two factors: relevant expertise and pre-existing relationships. Relevant expertise refers to having the right assistance provider for the job. In North Carolina, for instance, small water systems often need to complete asset management plans, rate studies, and may also conduct regional partnership studies. These varied needs may not be effectively addressed by a single technical assistance provider, instead requiring coordinated hand-offs (Interview 3/19/24). Meanwhile, in California, the pool of providers with grants is grouped according to their expertise in various technical, managerial, and financial project areas ranging from hydrogeological studies to legal services (California Water Boards 2023b). Vermont, alternatively, just

selects different contractors to run assistance programs based on water system needs, so one provider does leak detection while others might to application assistance (Interview 2/23/24).

In addition to relevant expertise, matching providers to applicants typically also considers pre-existing relationships between these parties. Namely, in many cases, small water systems may already have working relationships with NGOs or firms who have assisted them in the past or have a legacy of working in the region. This is the case, for example, with Self-Help Enterprises in the San Joaquin Valley in California (Interview 3/11/24).

MPC recommends adopting an approach that reduces procurement friction for all parties involved. This means assembling a pool of eligible contractors or grantees that the state directs to work with municipalities in addition to building coordinated relationships with the various EFCs funded by US EPA. One reason that states like California structure funding to assistance providers as grants rather than contracts is that the procurement policies for contracts are more rigid and onerous. To the extent Illinois faces similar challenges, Illinois EPA should explore the option of using grants to fund assistance providers as well. If there is an opportunity for these providers to be funded directly by Illinois EPA, that would be optimal from the community's perspective. In consultation with water system representatives, agency staff could match utilities with a provider with expertise in their area of need and has existing working relationships with the community or neighboring communities.

Specifically, we suggest Illinois EPA expand beyond its contract with Illinois Rural Water Association and partnership with Great Lakes Community Action Partnership (GLCAP) to provide asset management assistance funded by US EPA. These organizations are providing essential services but mostly focused on small and rural water systems and the capacity limitations they face. Coordinating a larger pool of assistance providers with an array of expertise would cast the widest net for capturing water systems in need of assistance across Illinois, regardless of the demography and geography of the community.

# Conclusion

Across the country, the predominant strategy for providing technical assistance to water utilities, and the approach taken by Illinois EPA, is to contract one organization (e.g., Illinois Rural Water Association) to run a circuit rider program focused on operations and maintenance support for small and rural water systems. This form of technical assistance is essential but not sufficient to meet the full range of financial and managerial issues facing water systems. The preceding recommendations would help the state to better assess utility financial and managerial shortfalls, and to proactively connect those utilities to the help they need. Furthermore, by assembling a pool of technical assistance providers with varied expertise, a broader range of water systems' needs will be reflected in assistance providers' expertise.

Ideally, state technical assistance offerings should build the long-term operating capacity of utilities – technical, managerial, and financial. The states profiled here have begun to proactively tackle this challenge. California's model, for instance, encourages long-term relationships between different NGO technical assistance experts and local communities by allowing providers to subcontract out specific tasks. North Carolina's model, meanwhile, focuses on building relationships between municipal leaders and state agency staff who can connect water systems with a wide range of resources depending on their needs. Having flexibility built into the system, whether in contractor and grantee workplans or in agency staff duties, surely helps these programs work. All the approaches we reviewed are good models of technical assistance that state agencies crafted in response to the specific challenges they face with the resources available to them. Our recommendation is for Illinois EPA to build a proactive technical assistance program like these states have done.

Specifically, a significant hurdle to effective asset management and capital improvement reported by disadvantaged water systems in Illinois is rate setting (Carroll et al. 2023, 79-82). Contracting technical assistance providers with expertise in asset management and municipal finance who can support the creation of independent budgets, capital improvement plans, and then conduct rate studies to balance affordability and water quality concerns proactively is essential.

It's important to underscore that several of the proactive technical assistance programs that we review in this memo are funded by state revenue. Given the uncertainty posed by the return of Congressional earmarks from the SRF programs, this strategy for supporting water infrastructure development and capital improvement may be necessary in Illinois, too.

## DATA AND METHODS FOR CHAPTER 3

This review included the most recent available published reports, documents, and materials from capacity development programs in 11 states that either had been identified by our prior research or were recommended by experts. These data included Intended Use Plans for DWSRF (and CWSRF where applicable), Capacity Development Strategies reported to the US EPA, Capacity Development Reports to Governors, Capacity Development Reports to the US EPA, and Annual Financial Reports for the relevant state agencies. Interviews with agency staff that provided additional background and detail were conducted in California, New Hampshire, New Jersey, North Carolina, Vermont, and Virginia. Interviews with technical assistance providers were successfully conducted in California, New Jersey, New York, and North Carolina, offering additional insights into the coordination of services and contracting procedures.

Five states were eventually excluded because they did not fit our criteria or adequate information was not available to determine whether they fit the criteria. These states were Nevada, New Hampshire, Louisiana, Massachusetts, and West Virginia. It is possible that more programs like the six reviewed in this memo exist but were not identified based on the information we had available.

The criteria for defining proactive technical assistance programs were developed while gathering and analyzing these data. As reflected above, we defined proactive technical assistance programs to be those that included (1) capacity assessment protocols, (2) an application or request system, and (3) a pool of at least three different technical assistance providers who are enlisted to provide services. We interpreted these three components broadly at times. New York, for instance, provides only a request "button" on the agency website and only coordinates a pool of providers to the extent that the agency has working relationships with several different TA providers who operate in the state. Even so, we judged this model to move sufficiently beyond other common approaches to technical assistance to be included here.

We are especially grateful to each of the agency staff and assistance providers who took time to speak with us and answer our questions about their work.

Table 15: Interviews with technical assistance providers

| Interview Date | Geography | Organization |
|---|---|---|
| 2/7/24 | California | California Water Boards |
| 2/7/24 | Virginia | Virginia DOH |
| 2/23/24 | Vermont | Vermont DEC |
| 2/23/24 | EPA Region 4 (NC) | UNC EFC |
| 2/28/24 | New Hampshire | New Hampshire DES |
| 3/11/24 | California (San Joaquin Valley) | Self-Help Enterprises, Inc. |
| 3/11/24 | New Jersey | New Jersey DEP |
| 3/13/24 | EPA Region 2 (NY, NJ) | Syracuse EFC |
| 3/19/24 | North Carolina | North Carolina DEQ |
| 4/3/24 | Northeast (NY) | RCAP Solutions |

CHAPTER 4

# Conclusion

Providing high-quality drinking water to every resident, regardless of race and income, requires all utilities have the technical, managerial, and financial capacity to deliver on that right to water. Unfortunately, there are utilities who struggle on one or more of these dimensions. States, because of their unique regulatory, financial, and systems-wide position, play a critical role in helping utilities develop these capacities.

In this white paper, we outlined four common approaches that states employ in enhancing the capacity of drinking water utilities:

- Small system assistance, especially circuit rider programs
- Lead service line replacement assistance
- Preconstruction financing
- Proactive technical assistance

We argue that Illinois should adopt preconstruction financing and proactive technical assistance, and we provided specific programmatic recommendations in chapters 2 and 3. Further, we identified financial resources that Illinois can use to staff and coordinate these programs.

This white paper is part of a bigger conversation about how technical assistance can be provided to utilities, looking at one particular actor (states) and one particular programmatic lens (SRFs). Some opportunities for future research include:

- **Evaluation of program performance.** Research in this memo focuses on the existence of programmatic mechanisms across states, and does not assess how such programs affect the performance of utilities statewide. One way to address this gap is to conduct an analysis of the states with/without specific technical assistance elements, to determine whether any one of the programs identified appears to increase utility capacity.
- **Evaluation of racial inequity.** A subset of the previous limitation that deserves drawing out: research presented above does not assess any racial disparity in utility access to SRF programs. In other words, one important goal of capacity building is to create greater racial equity in utility outcomes, as exemplified in access to the SRF. The research presented in this white paper does not evaluate whether the capacity building activities identified are effectively closing that racial gap. To seize the research opportunity presented here, the demographic characteristics of SRF recipients, with special attention to principal forgiveness, in key states could be compared.
- **Expand framework beyond the Drinking Water State Revolving Fund programs.** This study focused on programs offered either through or adjacent to State Revolving Fund programs. Although this choice was deliberate, we would recommend several expansions in future research:
  - Within state drinking water programs, outside of the SRF. Because we focus on the SRF, there may be capacity development programs that escaped our review. We invite feedback about any state level drinking water programs or components that we did not capture here.
  - In Environmental Finance Centers. As described in the first Chapter, Environmental Finance Centers are a significant part of the pipeline of public financing for water infrastructure, as technical assistance providers and consultants to water systems. Future study is needed to understand how EFCs fill this role and what effect they have on access to SRF financing for water systems that need it the most.
  - Across infrastructure types. Beyond drinking water utilities, there are federal and state programs providing technical assistance to state and local units of government. In 2023, the White House published a list of such programs in 15 different federal departments and agencies, with additional joint/interagency technical assistance programs also listed[26]. Some of the federal programs identified in this document, as well as in state programs across infrastructure areas, may provide useful lessons for how states can support water utilities in building capacity.
  - Across time. This study is a time-slice view of technical assistance elements offered in the most recently available SRF reporting documents. Further research could analyze past Capacity Development Reports and Intended Use Plans to identify the presence of additional capacity development elements.

MPC hopes these, and other yet-to-be-identified, limitations can be addressed in future research. To that end, we invite the reader's collaboration and feedback. Please email jwilliams@metroplanning.org with any questions, comments, or interest in collaboration.

26 See White House (2023). "Investing in America: Technical Assistance Guide" (https://www.whitehouse.gov/wp-content/uploads/2023/09/IIA-Technical-Assistance-Guide-September-2023-v091223.pdf)

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