Water Utility Partnerships: Resource Guide and Toolbox

Prepared by:
James L. Henderson and Robert S. Raucher
Corona Environmental Consulting, LLC

and

Katie Henderson
The Water Research Foundation

Co-sponsored by:
American Water Works Association
National Association of Clean Water Agencies

2019
The Water Research Foundation (WRF) is a nonprofit (501c3) organization that provides a unified source for One Water research and a strong presence in relationships with partner organizations, government and regulatory agencies, and Congress. WRF conducts research in all areas of drinking water, wastewater, stormwater, and water reuse. The Water Research Foundation’s research portfolio is valued at over $700 million.

WRF plays an important role in the translation and dissemination of applied research, technology demonstration, and education, through creation of research-based educational tools and technology exchange opportunities. WRF serves as a leader and model for collaboration across the water industry and its materials are used to inform policymakers and the public on the science, economic value, and environmental benefits of using and recovering resources found in water, as well as the feasibility of implementing new technologies.

For more information, contact:
The Water Research Foundation

1199 North Fairfax Street, Suite 900
Alexandria, VA 22314-1445
P 571.384.2100

6666 West Quincy Avenue
Denver, Colorado 80235-3098
P 303.347.6100

www.waterrf.org
info@waterrf.org

©Copyright 2019 by The Water Research Foundation. All rights reserved. Permission to copy must be obtained from The Water Research Foundation.
WRF Project Number: 4750

This report was prepared by the organization(s) named below as an account of work sponsored by The Water Research Foundation. Neither The Water Research Foundation, members of The Water Research Foundation, the organization(s) named below, nor any person acting on their behalf: (a) makes any warranty, express or implied, with respect to the use of any information, apparatus, method, or process disclosed in this report or that such use may not infringe on privately owned rights; or (b) assumes any liabilities with respect to the use of, or for damages resulting from the use of, any information, apparatus, method, or process disclosed in this report.

Prepared by Corona Environmental Consulting, LLC and The Water Research Foundation.

This document was reviewed by a panel of independent experts selected by The Water Research Foundation. Mention of trade names or commercial products or services does not constitute endorsement or recommendations for use. Similarly, omission of products or trade names indicates nothing concerning The Water Research Foundation’s positions regarding product effectiveness or applicability.
Acknowledgments

Research Team

Principal Investigators:
James L. Henderson, MS  
*Corona Environmental Consulting LLC*

Robert S. Raucher, PhD  
*Corona Environmental Consulting LLC*

Project Team:
Jeffrey Hughes, MS  
*North Carolina Environmental Finance Center*

Scott Rubin, JD  
*Public Utility Attorney and Consultant*

WRF Project Subcommittee and Other Key Contributors

Michael Deane  
*Consultant*

Adrienne Harris  
*U.S. Environmental Protection Agency*

Carolyn Peterson  
*Association of Metropolitan Water Agencies*

Bill Teichmiller  
*EJ Water Cooperative*

Robert Walters  
*Davidson Water Company*

Wendi Wilkes  
*Association of State Drinking Water Administrators*

Nathan Gardner-Andrews  
*National Association of Clean Water Agencies*

WRF Staff

John Albert, MPA  
Chief Research Officer

Katie Henderson  
Research Manager
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWWA</td>
<td>American Water Works Association</td>
</tr>
<tr>
<td>BACWA</td>
<td>Bay Area Clean Water Agencies</td>
</tr>
<tr>
<td>BASCWA</td>
<td>Bay Area Water Supply and Conservation Agency</td>
</tr>
<tr>
<td>BCE</td>
<td>Business case evaluation</td>
</tr>
<tr>
<td>CIP</td>
<td>Capital improvement planning</td>
</tr>
<tr>
<td>CM</td>
<td>Consolidated management</td>
</tr>
<tr>
<td>DWSRF</td>
<td>Drinking Water State Revolving Fund</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>HRSD</td>
<td>Hampton Roads Sanitation District</td>
</tr>
<tr>
<td>JPA</td>
<td>Joint powers authority</td>
</tr>
<tr>
<td>MCL</td>
<td>Maximum contaminant level</td>
</tr>
<tr>
<td>MS4</td>
<td>Municipal separate storm sewer system</td>
</tr>
<tr>
<td>NACWA</td>
<td>National Association of Clean Water Agencies</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operations and maintenance</td>
</tr>
<tr>
<td>Pa. PUC</td>
<td>Pennsylvania Public Utilities Commission</td>
</tr>
<tr>
<td>RCAP</td>
<td>Rural Community Assistance Partnership</td>
</tr>
<tr>
<td>SMRWC</td>
<td>Southern Maine Regional Water Council</td>
</tr>
<tr>
<td>TEC</td>
<td>Technical Education Council</td>
</tr>
<tr>
<td>WARN</td>
<td>Water and Wastewater Agency Resource Networks</td>
</tr>
<tr>
<td>WRF</td>
<td>The Water Research Foundation</td>
</tr>
</tbody>
</table>
Using the Resource Guide
A Framework for Evaluating Partnerships

This Resource Guide helps water professionals evaluate potential utility partnerships, or collaboration opportunities between two or more utilities to help achieve a mutually beneficial outcome. This document outlines the broad range of issues related to developing successful drinking water and clean water utility partnerships, and leads practitioners through the process of considering the essential elements for a partnership. These elements include partnership options, common legal structures, potential benefits, common concerns, legal issues, and communication approaches. A toolbox at the end of the document contains workbooks to help practitioners as they make their way through the steps.

This Guide was informed by two expert workshops. The first workshop refined the scope for the project and developed research priorities, while the second workshop helped develop the framework for the guide. Also included in the Guide are two white papers on topics identified as higher priority research needs during the scoping workshop—one on business case evaluations for water utility partnerships, and the other on common legal structures used in utility partnerships.

This Resource Guide:

- Leads utilities and other practitioners through the steps of understanding utility partnership options, and then evaluating the appropriateness of potential partnerships for their utility.

- Directs utilities and practitioners to additional resources for the major steps in the process for considering utility partnerships.

- Provides tips for engaging the full range of team members needed to create a partnership, including decision makers, utility managers and staff, local elected officials, and community leaders.

- Provides two white papers to further explore two research areas related to utility partnerships—business case evaluations for utility partnerships, and common legal structures used for utility partnerships.

- Helps the water community understand how to consider utility partnerships as a potential approach to manage water and wastewater utilities cost effectively in order to protect public health.
Introduction

Utilities face many water resource management challenges today, and there are limited resources available to help meet them. Achieving greater technical, managerial, and financial capacity is a critical goal of every utility. When utilities work in partnership, they can often achieve greater water supply reliability, improve water quality, maintain regulatory compliance, or manage escalating costs. Utility partnerships are a key strategy to address challenges and opportunities at the regional or watershed level.

A utility partnership is a collaboration between utilities (or similar organizations with water management responsibilities) located in proximity to one another, for the purpose of addressing challenges or taking advantage of opportunities. The drivers for utility partnerships include improving efficiencies, reducing costs, improving water supply reliability and/or water quality, and enhancing the level of service provided by the organizations. Partnerships need to be mutually advantageous to all parties, and can take several different forms.

This Resource Guide identifies issues associated with evaluating potential utility partnerships, and links to other relevant reports and resources. This Resource Guide was developed as part of WRF project 4750, which was co-funded by the American Water Works Association (AWWA) and the National Association of Clean Water Agencies (NACWA). The project included information gathering through two workshops with technical experts and utility practitioners. The workshops contributed to the development of this Resource Guide and two white papers to help practitioners assess, and act on, their utility partnership options.

The questions in Figure 1 provide the organizational framework for the Resource Guide. Workbooks are included at the end of this Guide to provide a place for partnership review teams to record answers to these questions.

Figure 1 Questions for Practitioners Considering Utility Partnerships

1. Who should be included in this analysis of partnership options?
2. What are the objectives for a partnership? What key value(s) could serve as drivers for a partnership?
3. What are my partnership options?
4. What are the legal structures under which system partnerships can be formed?
5. How do I make the business case for a partnership?
6. What are the common concerns encountered in forming partnerships?
7. What are the legal issues I need to be thinking about?
8. How do I communicate about partnerships?
9. Do partnerships (and partnership options) differ between clean water and drinking water agencies?
Utility Partnerships Framework and Resource Guide

This Resource Guide provides a conceptual framework to guide utilities through the partnership decision process, and ensure the success of any partnerships that may be formed. Figure 2 illustrates how the framework provides a basic conceptual approach to the process of developing and maintaining effective utility partnerships.

The overall objectives of this conceptual partnership development framework are to:

- develop a partnership team with a shared vision/inspiration of the potential benefits of forming a partnership
- identify and evaluate the partnership structures and legal agreements that maximize opportunities, and minimize and address anticipated future challenges
- create a partnership that brings value to all parties and the community, and addresses all critical concerns

*Figure 2 Conceptual Framework for Utility Partnerships*
Our recommended partnership decision framework includes taking the following actions:

**PHASE 1: RESEARCH**

1. Start by identifying the group of decision makers that need to be involved to successfully develop a partnership, and enlisting staff members that will be part of a partnership opportunity review team.

2. Work with the partnership opportunity review team to identify the objectives and drivers of potential water system partnerships. As part of identifying objectives it is also important to identify the “values” that will be created by the partnership. Run these by the decision makers to make sure you gather their words and identify their needs and concerns.

3. Use the list of objectives, drivers and values added to identify the partnership agreement options that are most likely to meet program objectives.

4. Consider the legal structures under which those partnership options might be formed. Allowable legal structures are state specific.

**PHASE 2: EVALUATION**

5. Use a business case approach to identify the potential benefits, beneficiaries, and other values anticipated for each potential partnership agreement option of interest.

6. Identify the issues and concerns associated with each partnership agreement option.

**PHASE 3: FINALIZATION**

7. Once the opportunities, benefits, issues, and barriers are clearly articulated, the appropriate partnership agreement type can be identified (and may or may not indicate that a partnership is your best option). Remaining issues can usually be settled or minimized through negotiation, if they are clearly articulated. The negotiated critical arrangements and terms can then be articulated in writing, providing protection to all parties.

This Resource Guide identifies and addresses a series steps with corresponding questions that need to be addressed by organizations considering forming partnerships. These questions are organized using the conceptual framework flow. Each question is followed by a discussion of the topic, with key strategies, action items, and tips for engagement with key audiences. The action items should be completed by members of the partnership review team you have assembled. A list of related resources and case studies are also provided to increase the user’s ability to dive deeper and create a fuller understanding where needed.
Step 1: Identify the People and Organizations Needed to Create a Successful Partnership

Who should be included in this analysis of partnership options?

Creating a partnership is a group activity by definition. The successful development of a partnership requires a team of people that can identify the full range of potential partnership opportunities and barriers from every perspective. The people involved in deciding if a partnership opportunity should move forward need to be involved from the beginning. Use your partnership team members to help brainstorm who else needs to be part of the go / no-go decision process.

In most instances, important people to bring into the process include utility management and governing boards, local elected officials (e.g., mayor, city council, city planner), and community thought leaders (e.g., respected voices from the community). If an effective, impartial and widely-trusted champion can be identified, they can be a highly valuable ingredient for success. A champion is defined as a leader within the utility or agency making the decision who can help partners navigate bureaucracy and gain necessary approvals for funding or regulatory compliance. Partnerships can also be aided by identifying advocates in the community. Advocates are leaders in the community, often with non-governmental organizations or community groups, who can help form alliances among key stakeholders, lobby interest groups, measure public opinion, and assemble public support (Gartner et al. 2017). These advocates can help communicate the need for a partnership and help gage support for potential options.

Partnership teams should include utility staff with expertise to address the specific technical issues to be addressed by the partnership. For example, make sure to involve water system operators and water quality experts when adding or switching to a new water source. They can help make sure to address potential corrosion control issues in the distribution system from switching water sources, and to assess water age and potential disinfection by-product issues in the distribution system. Operators can help analyze the potential effect of a partnership on the wastewater treatment effectiveness rate for compliance with effluent quality standards.
State agencies can be helpful partners to consult with during the process of considering partnership options. State drinking water agencies often provide capacity development resources in the form of capacity development staff that can advise on partnership considerations. Many states have statutes and regulations that encourage partnerships. States can be helpful in navigating water quality/regulatory hurdles a partnership project may bring. States can also provide funding options or coordinate a utility’s access to funding options such as low-interest loans and set-asides in the Drinking Water State Revolving Fund (DWSRF). Some states have loan funds available specifically for consolidating systems, while others award additional priority points for projects applying for DWSRF funding that include consolidation or regionalization.

**ACTION ITEMS**

- Identify and enlist key utility managers to engage in the process, and identify their key roles and responsibilities for evaluating partnership issues
- Identify and enlist local elected officials that can verify the need for a partnership and help support consideration of potential approaches
- Identify local community thought leaders who can be “advocates” for the partnership
- Identify potential “champion” that is a leader within the utility who can help navigate bureaucracy within the organization and help gain needed approvals.
- Identify key utility staff or resources that can provide technical expertise, including operators or water quality experts
- Consider involving state agencies for capacity development assistance and to understand potential financial resources

**Step 2: Identify Partnership Objectives, Values, and Drivers**

What are the objectives for a partnership? What are the key values or drivers?

Partnerships can bring value to the community as long as the right partnership types and partners are engaged, and suitable written agreements are forged. The first step in developing an effective partnership is to identify the full range of potential partnership objectives for your utility and community. The objectives you identify will serve as your drivers for potentially creating a partnership. Potential objectives for water system partnerships include (but are not limited to):

- Controlling costs—gaining purchasing power, achieving greater economies of scale, matching stranded assets to needs
• Gaining revenue stability
• Gaining (or providing) managerial, financial and technical capacity
• Obtaining greater emergency response capabilities and improved resiliency
• Achieving public health goals and complying with regulatory requirements
• Achieving better water quality (aesthetics)
• Improving risk management—such as enhancing the capability for:
  ◦ Balancing supply with water demand
  ◦ Increasing water supply reliability
  ◦ Providing improved source water protection

It is important to understand fully the value to the community associated with each potential partnership objective. There are several resources that provide more information on the potential objectives and how they serve as drivers for partnerships. Reviewing these resources will increase your ability to clearly articulate the objectives that drive your utility to consider a partnership.

**ACTION ITEMS**

✓ Assess the needs of the utility(ies) strategically. Sometimes those needs may be obvious, but for others, an assessment may take some effort.

✓ Document the needs. Sometimes the process of writing out the needs and objectives can help clarify them.

**Engagement Tips**

Bring those involved along for the entire journey!

• Work with partners and decision makers early in the process to identify a broad range of potential values, objectives, and drivers.

• Bring those involved together from the beginning to significantly increase buy-in and the potential for a smooth partnership creation process. Talking about objectives, drivers and values is the most exciting part of the process—use this excitement to build engagement.
Raucher et al. 2008. *Regional Solutions to Water Supply Provision*. This report has a tool to help practitioners assess the needs of the utility and explore the types of partnerships that may be beneficial. [https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision](https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision)

Bielefeldt et al. 2012. *National Inventory of Regional Collaboration Among Water and Wastewater Utilities*. This report includes a section discussing drivers found from surveys of water and wastewater system partnerships. Top drivers included water supply concerns, legislative/regulatory issues, and potential cost reductions. [https://www.awwa.org/Portals/0/AWWA/ETS/Resources/awwauilitycollaborationreport.pdf](https://www.awwa.org/Portals/0/AWWA/ETS/Resources/awwauilitycollaborationreport.pdf)

Markus 2002. *Consolidation of Utilities or Utility Services: How to Evaluate the Pros and Cons*. This paper lists opportunities associated with two basic types of utility consolidation partnerships—operational consolidation and structural consolidation. [https://www.accesswater.org/?id=-289485](https://www.accesswater.org/?id=-289485)

### Step 3: Explore Options for Utility Partnerships

#### Question 3: What are my partnership options?

Once you have identified a broad range of potential partnership values, objectives, and drivers, the next step is to identify the type of partnership structure that is most likely to support your objectives. There are a variety of conceptual partnership models, which each support different objectives and values. There are also different legal structures (such as intergovernmental agreements, or special districts) under which partnerships might be organized. We consider the partnership type separately from the legal structure under which the partnership type might be executed.

Partnership model options range from relatively simple mutual aid agreements, to more complex consolidations of systems, or regional planning collaborations. Water Research Foundation project 2950 (Raucher et al. 2008) presents one construct for defining the different types of potential water system partnerships. The project considered partnership types broadly, referring to any form of cooperation across water systems to improve service and efficiencies (including reducing costs). This can embrace everything from complete physical system consolidation and interconnection, at one end of the spectrum (i.e., two or more systems joining to become one single physical and management entity); to simple cooperative planning and management activities arranged by wholly independent systems (e.g., joint purchasing agreements to realize quantity discounts, or a simple “good neighbor” policy of providing mutual assistance when special needs arise) at the other end of the spectrum. The report also examines the range of physical and nonphysical approaches that reside between these extremes.
Another example of a typology of water system partnership types (shown in Figure 4) is from the U.S. Environmental Protection Agency (EPA). There have been several versions over time (EPA 2002, 2009), but this graphic depicts four main partnership types: Informal cooperation, contractual assistance, joint powers agency, and ownership transfer (EPA 2017).

The AWWA Technical and Education Council (TEC) also produced a report that contained a summary of institutional arrangements for system partnerships (Bielefeldt et al. 2012). This list reflects a mix of legal structures (such as special districts or joint powers authorities) and partnership types, but the range of options is similar to WRF project 2950 and the EPA typology. The range of institution types presented by the AWWA TEC report includes: informal cooperation, contractual assistance, intergovernmental agreement, special district, joint powers authority, and transfer of ownership. As mentioned above, this guide treats partnership types such as informal cooperation or transfer of ownership separate from legal structures such as intergovernmental agreement, special district, or joint powers authority.

*Figure 4 Partnership Typology from EPA*

Source: Adapted from EPA 2017.
Potential Forms of Regional Partnerships

WRF project 2950 notes that the many forms of potential regional partnerships can be classified in terms of the **degree of physical interconnection or integration**, or they can be classified in terms of the **degree of organizational change** (i.e., the degree of change in ownership of resources or assets involved). This broad range of possibilities and ways of classifying them can make the process of considering partnership options in a balanced way very difficult.

To address that challenge, project 2950 presented a more concise **typology** of regional solutions that condenses the categorization down to six generic categories of regional partnership agreements. These six types of regional partnership agreements are distinguished from each other along a gradient extending from sharing and collaboration at one end of the spectrum, to consolidated ownership and operations at the other extreme. The typology of regional solutions are:

- Mutual Aid Arrangements
- Sharing Arrangements
- Water Purchase Arrangements
- Collaborative Water Resource Development
- Contract Services Arrangements
- Consolidation

Each of these partnership types carries their advantages and disadvantages. Below are some examples.

**Mutual aid arrangements.** Mutual aid arrangements allow utilities to provide assistance to each other during emergencies. This could involve temporary provision of treated water through water supply trucks or bottled water, or lending of repair crews and specialized equipment. This could also include providing technical assistance on treatment issues, or helping to diagnose contamination events.

One specific form of mutual assistance is the Water and Wastewater Agency Response Network (WARN), which are networks of local utilities that agree to help each other respond to and recover from emergencies. Statewide WARNs have been formed across the United States. You can find contact information for your local WARN representatives on AWWA’s WARN webpage (AWWA, n.d.). AWWA published an analysis of the economic benefits of forming and participating in a WARN, which is an excellent resource for considering the business case for utilities of WARN participation (Blankenship and Sweeney 2008).
WARN agreements can provide significant benefits to a participating utility, like reducing the cost to purchase and maintain a back-up potable supply, reducing the loss of water/wastewater revenue while recovering from an emergency, and reducing the cost from not having to store all of the supplies needed for emergency response. There may also be reduced insurance costs, improved bond ratings and other intangible factors.

There are some increased costs for utilities that join mutual aid agreements, including staff time to coordinate utility participation in the WARN, increased communication costs, legal and planning costs to maintain the agreement, or staff and travel time associated with certifications. However, most utilities consider these costs to be low (Blankenship and Sweeney 2008). Liability protection and reimbursement for costs of providing aid can be potential concerns for mutual aid agreements, but state WARNs establish agreements ahead of time that cover liability protection and reimbursement procedures.

**Sharing arrangements.** Sharing arrangements include joint purchasing of supplies and materials, or sharing specialized staff and equipment. Specialized staff might include operations staff, skilled treatment plant operations, laboratory staff, and bookkeeping or billing staff.

Sharing arrangements allow utilities to reach greater economies of scale, which can reduce costs. Utilities that purchase equipment, treatment chemicals, or other products together can achieve greater buying power with larger order volumes. By sharing the costs with other utilities, they can also access products or staff that on their own, they might not have been able to afford.

Sharing arrangements can be challenging because they require joint decision making about the trade-offs between price, quality and other factors. This can sometimes be a barrier, particularly for utilities who are concerned about the perception of maintaining local control.

The Southern Maine Regional Water Council (SMRWC) is an example of a utility partnership that uses cooperative purchasing. Both SMRWC members and non-members can join the purchasing group, which negotiates pricing, product quality, price protection intervals, and administrative costs. The SMRWC reports that bulk purchasing of chemicals has resulted in significant savings for the group, especially for the smaller utilities (SMRWC 2019).
**Water purchase agreements.** Water purchase agreements can be one-on-one arrangements between two systems or broader regional collaborations. On the drinking water side, they offer multiple jurisdictions the opportunity to purchase wholesale drinking water from centralized facilities. On the clean water side, they could include contracts to purchase wastewater (treated or untreated), or recycled water.

Collaborative water purchase agreements can enable source development at a larger scale and at cheaper cost. In addition to allowing greater regional access to supplies, these types of agreements can add redundancy and reliability to overall service.

**Collaborative resource development.** For a collaborative resource development, an entity is created to coordinate the planning, development and operation of supply and/or treatment facilities at a regional level. The organization could simply coordinate planning among the partners, or it could operate a new or existing water supply or water/wastewater treatment system.

This type of partnership enables planning at a higher level to evaluate opportunities at the watershed scale, which can lead to a more adaptive regional system. A common barrier with this type of approach is the perception of loss of local control. However, this kind of partnership can help participating communities work together to strategically manage local growth and water resources. Depending on the community and their local drivers and values, this benefit may outweigh the concern over local control.

The San Francisco Bay area has examples of long-term planning partnerships for drinking water and clean water. The Bay Area Water Supply and Conservation Agency (BASCWA) provides coordinated drinking water planning with 26 member water supply agencies to provide reliable, high quality water supplies at a fair price. The Bay Area Clean Water Agencies (BACWA) is a joint powers agency that allows members to collaborate for long-term stewardship of the San Francisco Bay estuary.

**Contract services arrangements.** Contract services arrangements involve outsourcing the operation and maintenance of water supplies or treatment facilities through a contract for specified periods of time.

A contract services arrangement can provide skilled labor for operations and maintenance that might not otherwise have been available. This can be an effective strategy for utilities that need more skilled operators to address water quality violations. Loss of control is a potential concern with this kind of arrangement, and that could include the perception that a utility is losing control over treatment operations, service quality or their workforce.

**Consolidation.** Under a consolidation of water utilities, ownership and operation of supply sources and treatment facilities are merged into a single organization. Storage and distribution facilities of the constituent water systems may also be merged.
Successful consolidations of utilities can carry numerous advantages, due primarily to the fact that consolidations essentially create larger utilities with more resources. The new larger entity may have increased access to personnel and equipment, and they can take advantage of economies of scale with a larger customer base helping to finance utility operations and investments.

Consolidations also carry a wide range of potential concerns. When systems are merged, there can be concerns over loss of local identity and local control. When consolidation includes physical interconnection of two or more systems and water or wastewater needs to be transported over larger distances, that can increase distribution or collection costs.

**Achieving “Success”**

Partnership analysis teams should keep in mind that forming a partnership is not necessarily the goal. A successful analysis may conclude that a partnership is not the best available alternative because of feasibility, cost, or any number of other considerations. Neighboring systems might be too far away or may not provide the type of value that you are seeking from a partnership. No matter the outcome, the process of discussing the underlying challenges can be beneficial.

In general, the use of terms such as “success” or “failure” should not be applied in referring to the presence or absence of a regional partnership approach. Moving forward with a utility partnership is not necessarily a “success” for all systems or circumstances, and one should enter the process of considering partnership options by advocating either for or against partnership approaches. Rather, success or failure applies to whether a utility or community:

1. actively considers the applicable utility partnership approaches,
2. makes a prudent and informed decision about whether a partnership approach would be advantageous and, if so, then,
3. moves forward and forges an appropriate working legal agreement and governance structure with its new partners.

**ACTION ITEMS**

- Match the type of partnership with the objectives identified in Step 2. Create a table that matches objective/driver that your utility would like to address with relevant partnership types (perhaps using a similar format to the one shown in Table 1) as a way to easily convey the ability of each partnership type to meet each objective.

- Preliminarily investigate all partnership options that might meet your objectives, before starting to narrow down the options. Keep in mind that you may find that there is no partnership option that suitably meets your needs or objectives, or there may not be the right partner for the type of partnership you are seeking.
Engagement Tips

Understand the values of your community. Our values influence our perceptions and choices. Understanding the values of the participating communities and decision-makers will help point to which types of partnerships are the most acceptable to a community. This can be done through focus groups, stakeholder interviews, or customer surveys (See Kotsantonis et al. 2019).

Work with potential partnership decision makers early-on to understand their views of potential partnership options. Understanding their views can help inform your analysis, and it enable you to address the critical needs and concerns of decision makers or opinion influencers in the community.

Table 1 shows an example of matching potential partnership objectives with partnership structure options.

Table 1 Matching Partnership Objectives with Partnership Types

<table>
<thead>
<tr>
<th>Example Objective</th>
<th>Type of Partnership</th>
<th>Example Match for Objective and Partnership Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlling Costs</td>
<td>Mutual Aid Arrangements</td>
<td>Potential backup supply at lower cost than other alternatives</td>
</tr>
<tr>
<td></td>
<td>Sharing Arrangements</td>
<td>Cooperative purchasing of chemicals or supplies can lower overall costs</td>
</tr>
<tr>
<td></td>
<td>Water Purchase Arrangements</td>
<td>Potential to purchase at lower cost than for the utility to develop a supply on its own</td>
</tr>
<tr>
<td></td>
<td>Collaborative Water Resource Development</td>
<td>Collaborative water resource development and treatment can be cheaper due to economies of scale</td>
</tr>
<tr>
<td></td>
<td>Contract Services Arrangements</td>
<td>Contracting for services can reduce costs</td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td>Potential economies of scale in supply source, treatment, and operations &amp; maintenance</td>
</tr>
<tr>
<td>Gaining Water Supply Reliability</td>
<td>Mutual Aid Arrangements</td>
<td>An emergency interconnection could provide emergency supply reliability (for drought or other interruption)</td>
</tr>
<tr>
<td></td>
<td>Sharing Arrangements</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Water Purchase Arrangements</td>
<td>A direct contract could allow utility to avoid developing supply on its own</td>
</tr>
<tr>
<td></td>
<td>Collaborative Water Resource Development</td>
<td>Optimizing use of a supply source between utilities can increase reliability (e.g., a shared surface water source)</td>
</tr>
<tr>
<td></td>
<td>Contract Services Arrangements</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td>Could provide additional sources of water to spread reliability risk</td>
</tr>
</tbody>
</table>
Step 4: Review Common Legal Structures for Partnerships

What are the common legal structures for the organizations under which water utility partnerships can be formed?

The most common legal structure for many partnership options is a contract (i.e., a binding written agreement) between water utilities. A legally binding written agreement is recommended for any type of utility partnership to protect the interests of each party.

Well-structured contracts can readily cover simpler types of partnership options—especially whole-sale water provision or contract management of a utility by another utility, or by a private company. More complex partnership options can involve a range of legal structures and related legal agreements. This can include intergovernmental agreements between existing agencies or the formation of new entities.

There is a wide range of types of legal structures that can be considered when forming new entities. These can vary by state and may be limited by state law. Several common legal structure types for new entities include:

- **Memorandum of understanding/memorandum of agreement** - A memorandum of understanding is a written agreement between entities that documents how they wish to cooperate. A memorandum of understanding is generally not legally binding, but it is designed to be more formal than a handshake or verbal agreement.

- **Wholesale water agreement** - Wholesale water agreements establish a commitment with another utility to provide water supply. These agreements can vary significantly depending on local laws, and on the circumstances in which the utilities are operating.

- **Special districts** - Special districts are independent governmental subdivisions of the state that are formed to meet a specific purpose. Special districts often focus on providing a service that was not adequately provided before.

- **Water or wastewater authorities** - Water or wastewater authorities are very similar to special districts in that they are formed with a specific service area boundary to meet a specific purpose. Water or wastewater authorities can have some requirements specific to water or wastewater provision that may not be specified for special districts.

- **Joint powers authority** - In most states, the allowable scope of a joint powers authority (JPA) is limited to allowing governmental entities to enter joint purchasing agreements. However, in some states, their potential scope can be much broader. In those states, local government entities under a JPA can agree to jointly exercise any powers held by those agencies. Unlike special districts, a JPA is usually formed without creating a new underlying governmental structure.

- **Cooperatives** - Cooperatives are non-profit, private sector entities formed to accomplish a single purpose. All customers of the cooperative are required to be members, and each member agency has voting power in the cooperative.
A memorandum of understanding or memorandum of agreement provide a relatively simple method for existing entities to agree to cooperate with each other. However, a memorandum of understanding is generally not legally binding, so a partner can leave or stop honoring the agreement without legal recourse.

Wholesale water agreements are also relatively simpler legal structures. These agreements are contracts that specifically define the responsibilities of the parties. Contract agreements can be a significant step in cooperation between utilities. Successful implementation in some instances may pave the way to considering more complex levels of cooperation in the future.

Special districts and water authorities have several advantages over governmental alternatives (e.g., a city or county), particularly because a special district or water authority is focused on providing a specific service (e.g., drinking water or wastewater service). Most states allow special districts or water authorities to levy taxes, charge fees, or issue revenue bonds.

Special districts and water authorities usually allow multiple types of governmental organizations to combine powers to accomplish shared goals, like building and operating a new water treatment plant. This can be a powerful tool, especially when those entities are allowed to levy fees or issue bonds. In addition, utilities have found the benefits of joint operations and the ability to apply to federal or state funding sources help make the collaboration worthwhile.

Joint powers authorities are specifically authorized in some other states to allow multiple governmental entities to jointly exercise the powers held in common by those entities. Many states only allow JPAs for joint purchasing. JPAs have been used for water and wastewater in California. Other states such as Colorado have accomplished the same ends as JPAs using special districts to the extent that special districts allow existing entities to combine or combine powers and obtain loans or issue bonds. One major difference is that with JPAs, utilities can combine to exercise existing powers, whereas new powers are granted by the state through special districts.

Cooperatives and mutual water companies can serve as a useful legal structure for provision of water or wastewater service in rural areas. These legal structures have been used to provide services in suburban areas, often by a developer that establishes water service as a mechanism to pay for the infrastructure. A concern with mutual or cooperatives is that there might be difficulty in attracting board members to help continue to run these organizations over time, but this concern is not unique to cooperatives. In some states, cooperatives can become part of larger organizations including special districts.
Acquisitions are another potential form a partnership may take, such as when a public or private utility acquires the assets and management of another utility. This would be different than “forming new entities” and represents one end of the broad spectrum of partnership options.

Table 2 shows an example of matching possible partnership types with potential legal structures. Actual matching of partnership types to legal structure will depend on the potential partnership being considered and legal structures that are authorized in your state.

**Table 2 Matching Partnership Type with Legal Structures**

<table>
<thead>
<tr>
<th>Partnership Type</th>
<th>Legal Structure Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutual Aid Arrangements</td>
<td>Informal agreement</td>
<td>Less permanent approach</td>
</tr>
<tr>
<td></td>
<td>Memorandum of Understanding/ Memorandum of Agreement</td>
<td>More formal approach</td>
</tr>
<tr>
<td></td>
<td>Contract (state or local level)</td>
<td>e.g., joining a state WARN</td>
</tr>
<tr>
<td>Sharing Arrangements</td>
<td>Informal agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Memorandum of Understanding/ Memorandum of Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Water Purchase Arrangements</td>
<td>Memorandum of Understanding/ Memorandum of Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wholesale/Direct Contract</td>
<td>This is the most common form</td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Contract Services Arrangements</td>
<td>Direct Contract</td>
<td></td>
</tr>
<tr>
<td>Collaborative Resource Development</td>
<td>Informal agreement</td>
<td>Usually not applicable</td>
</tr>
<tr>
<td></td>
<td>Memorandum of Understanding/ Memorandum of Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wholesale/Direct Contract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Consolidation</td>
<td>Memorandum of Understanding/ Memorandum of Agreement</td>
<td>Usually not applicable</td>
</tr>
<tr>
<td></td>
<td>Direct Contract</td>
<td>Usually not applicable</td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
</tbody>
</table>
The complexity of the legal structure should match the complexity of the task. If the objective is relatively simpler—such as sharing of personnel, or an emergency interconnection—then use simpler legal structures. A direct contract between utilities may best serve the purpose. If the objective of the relationship is more complex, then more complex structures may be more appropriate.

With more complex goals, consider whether it is better to form a new entity or make use of the powers of existing agencies. If it is better to combine powers of existing agencies rather than to form a new one, then intergovernmental agreements, or if allowable, joint powers authorities, may be potentially useful options.

The types of legal structures allowed for water sector utilities varies from state to state. See the white paper provided in Appendix A of this Resource Guide, on legal structures for utility partnerships, for more information about how authorized legal structures vary between states. The white paper also offers examples from selected states.

### Action Items

- Match the potential legal structure with the possible partnership types. This can be done by adding possible legal structure options to the partnership options you selected in Step 3.
- Consider matching the complexity of the partnership option and legal structure option to the complexity of the task.

### Engagement Tips

Seek input from decision makers on legal structures with which they are familiar. This can help you understand their perspective when later talking through potential legal structures for possible partnership types.

Seeking early advice on legal structures from legal experts can help. However, some practitioners have found its best to more fully form the concept of the partnership options before engaging outside legal counsel and getting into deliberations and discussions on detailed legal clauses with legal professionals (See Step 7).
Step 5: Identify Potential Benefits: The Business Case

What are the benefits of our partnership options? How can I make the business case for a partnership?

The benefits to be derived from a potential partnership depend on the unique circumstances at play for the relevant utility or utilities contemplating their options. Some examples of potential benefits from utility partnerships were described previously (under Step 1), and several are listed again below.

- Cost savings—for the utility and for customers
- Improved financing opportunities
- Improved governance
- Higher level of service
- Improved water quality (public health, etc.)
- Environmental benefits—e.g., improved streamflow or avoided groundwater decline
- Enhanced risk management
- Enhanced emergency response and resiliency
- Greater internal financial controls
- Better workforce education, training, and capacity
- Access to IT solutions for utility functions including Customer Service Billing and Notification Systems, GIS, Asset Management, Monitoring, and Smart Metering
- Greater Customer Engagement through marketing/communication
- Enhanced planning
Proper management of residual brines is expensive for small rural water systems applying ion exchange for nitrate maximum contaminant level (MCL) compliance. A pilot project exploring the opportunities to reduce utility nitrate compliance costs analyzed a potential consolidated management (CM) partnership for salt delivery and brine concentrate residuals management among small rural systems in California’s Central Valley. The study indicates that the CM utility partnership will provide significant cost savings for the partnering utilities.

The project, funded by the State of California through a Proposition 50 grant to the University of California-Davis, obtained cost estimates for numerous service vendors for 3 small communities, with service area populations ranging between 500 and 2000 people. Cost estimates were developed for brine management for each utility going it alone, and for a CM approach to collectively manage the brine wastes. The O&M cost estimates include salt, disposal, media, labor, and pumping electricity (and exclude nitrate resin replacement, and other component replacement).

Based on current estimates, implementing consolidated management has the potential to reduce O&M treatment costs by as much as 55%. The partnership option would thus save households in these communities an estimated $22 to $84 per month on their water bills (with the greater cost savings in the smaller sized communities).

Source: Data from Corona Environmental Consulting 2019.

Figure 6 describes a University of California-Davis project on “consolidated management” of nitrate treatment residuals. This provides an example of significant cost savings attainable with a simple agreement to coordinate the timing and handling of salt deliveries and brine disposal.

A well-developed business case evaluation (BCE) can help analyze and communicate the benefits and costs of a potential partnership option. A BCE shows the financial and any other benefits from a partnership, and can be a compelling way to show the anticipated cost savings to the utilities and their customers.

It is important that the BCE provide a credible and transparent analysis of the fiscal and other benefits and costs associated with a potential partnership. Key features of a BCE include:

- Defining an appropriate baseline (examining the future without the partnership)
- Acknowledging applicable costs and disadvantages as well as the benefits
- Describing important intangible benefits and costs qualitatively where they are not amenable to quantitative or monetary estimates (see Appendix B for additional details and guidance).
Accounting only for the change in utility costs and customer water bills resulting from a partnership provides a narrow view of its potential impact. A BCE provides a valuable opportunity to convey a more complete story. Partnerships can provide a wide range of benefits and involve considerations beyond the direct costs (or anticipated cost savings) for the utilities involved. These additional benefits may involve values such as regional economic impacts and jobs, the change in reliability of water supplies for the region, or other factors.

To tell a more complete story, the BCE should ask:

- Why and how is the proposed utility partnership beneficial for all the impacted parties, including the broader region?
- What are the risks and other potential downside implications of the partnership?
- How can these issues of concern be addressed?

The business case approach also needs to tell a compelling story that extends beyond developing credible monetary cost and benefit estimates. It should openly acknowledge any drawbacks or risks, and effectively address concerns that may be weighing on the impacted communities. A business case limited to estimated “dollars and cents” may be inadequate for making a comprehensive, objective, and compelling case for a potentially beneficial partnership.

**ACTION ITEMS**

- With each feasible partnership option (from Step 4), evaluate the business case to fully articulate the potential benefits. List benefits, either with quantitative or qualitative evaluation, to the table of partnership alternatives created in previous steps.
- Evaluate the key economic benefits to each of the entities involved, as quantitatively as possible.
- Evaluate the benefits for the region as a whole, not just the benefits to the key agencies. This could involve adding the benefits of improved water supply reliability, or reduced treatment costs at the point of use that may apply to customers or the broader region.

**Engagement Tips**

Some benefit types can be hard to quantity or qualitatively describe. Having discussions with key decision makers about the value of potential benefits can be helpful, whether you end up with suggestions on how to quantify the benefits, or a better understanding of how to characterize the benefits qualitatively.

For more information on business case evaluation for utility partnerships, see the white paper included as Appendix B of this Resource Guide, and the additional resources noted in Figure 7.
Raucher et al. 2008. *Regional Solutions to Water Supply Provision*. This study examines the benefits and issues associated with each major type of utility partnership. This is a good place to start in understanding the relevant benefits that could be applicable in a partnership. See in particular the discussion of advantages and disadvantages of regional solutions—with advantages discussed on pages 18–20 and disadvantages discussed on pages 20–21. This report also includes a decision tool that provides information for understanding the type of partnership that may be appropriate to help address utility needs. It provides a matrix of utility partnership type by utility business function (Supply & Treatment; Distribution System Operations and Maintenance; Management and Administration) that leads to an associated PowerPoint slide that provides a discussion of benefits, common forms, and potential issues and a suitability checklist. [https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision](https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision)

Cromwell and Rubin. 2008. *Estimating Benefits of Regional Solutions for Water and Wastewater Service*. The study was designed to demonstrate a cost model used to quantify the benefits of regional collaboration between utilities. It looked at several options in the Lehigh Valley of Pennsylvania to address potential capital cost increases and management risks for the utilities in the region associated with costs of treatment costs, infrastructure replacement, and costs related to human capital. The estimates of the cost per household under different scenarios forms the basis of a business case evaluation. See in particular the results section on pages 31–42. [https://www.waterrf.org/research/projects/estimating-benefits-regional-solutions-water-and-wastewater-service](https://www.waterrf.org/research/projects/estimating-benefits-regional-solutions-water-and-wastewater-service)

Blankenship and Sweeney 2008. *Economic Benefits of Forming and Participating in WARN*. This project discusses the economic benefits water and wastewater agency resource networks (WARNs). It discussed business case evaluation in the WARN context, applies it to one medium sized utility and one large utility hypothetical example, and provides WARN activation case studies for several locations. [https://www.awwa.org/Portals/0/AWWA/ETS/Resources/WARN_Economic_Benefits_of.pdf](https://www.awwa.org/Portals/0/AWWA/ETS/Resources/WARN_Economic_Benefits_of.pdf)


Markus 2002. *Consolidation of Utilities or Utility Services: How to Evaluate the Pros and Cons*. This conference paper reviews issues to consider in deciding whether mergers or consolidations of water and/or wastewater utilities may be appropriate. The paper includes benefit-cost analysis accounting of costs for services with and without consolidation. [https://www.accesswater.org/?id=-289485](https://www.accesswater.org/?id=-289485)
Step 6: Review Potential Partnership Issues and Concerns

What are the common concerns encountered in forming partnerships?

There are a variety of common concerns about utility partnerships, particularly for partnerships that require combining functions of more than one utility or consolidating utilities into a single entity.

Important concerns associated with options that involve consolidation can include:

- Loss of local control (perceived or actual)
- Lack of long view
  - Skepticism about projections
  - Decision makers worried about the next election
- Rate shock (especially where the system has failed to raise rates in the past)
- Ties to general funds
- Unequal shares between participants of cost savings and other benefits
- Water system debt (in the case of consolidation)

This section discusses several of these common concerns in more detail.

How can I address concerns about local control?

Local control—and concern from the public and elected officials about the potential loss of local control in a partnership—is often one of the key issues that can be a deciding factor in whether a partnership will be able to proceed. Local communities may have a strong interest in maintaining their autonomy and control over their water and wastewater systems. Water system partnerships, especially those that involve consolidation, can create the perception that local power and control will be lost.

It is important to note that maintaining local control may be a concern for elected officials and governing boards, but less of a concern for customers and rate payers. Focus groups and interviews conducted by EJ Water Cooperative, Inc. found that customers were more concerned about rates and reliability, and less about ownership and governance. For example, when EJ Water Cooperative merged with a smaller utility in 2013, they found that customers of that smaller utility were supportive of the move because it would avoid a pending rate increase. (EJ Water Cooperative, Inc. 2013). It is important to know whether this is the case in your community. Knowing that customers will support a partnership if it will bring rate stability or a higher level of service may help decision-makers feel more comfortable.
In Genesee County, New York, several water plants needed replacement or significant renovations. Water shortages and water-related health warnings prompted the county legislature to create the Genesee County Regional Water Agency (GCWRA), which included a wide range of partners including local business owners, farms, local officials and residents. The GCWRA performed a coordinated assessment of water resources in the county to identify problems and solutions. A key solution based on this assessment was to extend existing systems into Genesee County, and creating a unified county water system rather than building a new treatment plant.

One major concern regarding this approach was potential loss of local control for the individual communities, so the partners agreed that each municipality would contribute local supplies to the overall supply of the newly created GCWRA.

Some of the municipalities were not struggling with the same infrastructure and water quality challenges, and part of the assessment included how this project could also benefit them. The solution was to fund or pay off outstanding water system debt (or incorporate it into the project) to insure equity for all the participating communities. This helped ensure that everyone involved with the project received some benefit.

The communities were also concerned that water supply development would affect growth throughout the county, which would in turn require more services. The GCWRA communities were directed to conduct comprehensive planning consistent with smart growth principles.

This included designating areas where new developments could hook up with the water system, as well as identifying agricultural lands in the area for preservation.

The project involved significant costs—$37 million for Phase I and an estimated $25 million for Phase II. However, the project team was able to find funding from outside sources: more than $14 million in grants from a combination of a “Pipeline for Jobs” program from the state, EPA, New York Department of Environmental Conservation, Genesee County and the New York Thruway. Monroe County Water Authority also invested $20 million into the project, which they planned to recoup through a fee charged to water users.

By the time the plan was finalized, the GCWRA included 32 inter-municipal agreements, a 40-year sales tax revenue-sharing agreement between Batavia Water Treatment Plant and Genesee County, and state legislation extending Monroe County’s authority to operate in Genesee County. The GCWRA served as a good example of cooperation between local governments and public agencies to bring affordable water service to more areas of the county and in the process enhance quality of life and economic development opportunities.

Making sure that everyone is a winner and understanding the community sociology of the communities involved in the project are key lessons from this project. This allowed the project team to understand the context for concerns or resistance about the project in each community, and how to help alleviate those concerns.

Source: Data from Kemp-Rye 2004.
There are many different issues that can contribute to concerns over maintaining local control, and it is important to find out which specific issues are important to decision-makers and stakeholders and understand the extent to which they can be addressed. These issues could include maintaining control over growth, maintaining the town’s local identity, answering to a powerful out-of-town authority, access to equipment (e.g., back hoes), or maintaining local jobs.

WRF project 2950 found that partnerships where loss of local control is a concern could be structured to allow local communities to retain control over key assets and responsibilities. A partnership can be structured to assure continued local autonomy over key issues—especially related to rates, type and location of growth, and local jobs. For example, partners could retain local ownership of equipment and their local distribution system.

Well written legal agreements and contracts between neighboring communities can address issues of local control and provide assurance to partners. They can delineate how each partner maintains ownership and/or a measure of control over key elements or assets. Such agreements can help maintain local independence and forestall annexation or other pressures. If assets will be transferred to an outside party, then the agreement may provide for local representation on the Board so that some measure of engagement, information flow and control is retained.

If consolidation is the partnership option being seriously considered, assuring that all parties involved are represented on the final governing board for the consolidated entity can help address concerns about local control. For example, the new governing board could have an equal number of members from each of the systems that were merged together (Manning et al. 2005).

Utilities also should identify the opportunity costs from maintaining local control. If concerns about local control end up eliminating viable partnership options from consideration, it’s important to make sure that the foregone partnership-related cost savings, enhanced levels of service, reliability enhancements, regulatory compliance, or other applicable benefits are recognized.

**How do I address future rates?**

The purpose of this step is to evaluate and compare the costs for each utility’s customers under each of the partnership scenarios being considered, including the cost of maintaining the status-quo. The status-quo cost estimate will be the baseline for comparing estimated future water rates (or projected typical household monthly water bills) with each partnership option. This analysis needs to include future expenses and long-term cash-flow projections to show projected operating expenses and operating revenues, as well as planned and necessary system capital investment expenditures for each local jurisdiction. This allows a comparison of utility costs to be covered by rates between utility partnership options for each of the utility partners. Analyses such as these have been undertaken for many partnership analyses—including an analysis of partnership options in Lehigh Valley—see Figure 9.
In Lehigh Valley of Pennsylvania, an analysis compared the cost per household of each system “going it alone” to the cost of various regional options. Under the status quo scenario the total water and wastewater bill for the average household was projected to nearly double from $550 per year in 2005 to $990 per year in 2020. At the extremes, some small communities were expected to see a tripling or quadrupling of the household cost by the year 2020 with combined water and wastewater bills approaching $1,800 per year or more in some communities. Results for the sub-regional approach to consolidation that would create three large water and wastewater supply entities in the Lehigh Valley (surrounding Allentown, Bethlehem, and Easton) would provide an average household savings of $170 per year. The total consolidation scenario would result in an average household savings of $260 per year.

Source: Data from Cromwell and Rubin 2008.

What about affordability?

One of the common rationales for utility partnerships is that increased efficiencies due to economies of scale will reduce the costs of operating the utility, resulting in lower water bills for the system’s customers. Reducing household water bills is a frequently stated benefit offered by a utility partnership. On the whole, as utilities increase in size, rates are more affordable (Teodoro 2019). However, not all partnerships will immediately result in lower customer water bills.

For example, if a water system is entering a partnership after years of deferred system maintenance and infrastructure renewal, and/or persistent regulatory noncompliance issues, then considerable investment may be required to bring the system up to suitable levels of service. As a result, customer water bills will probably increase compared to the pre-partnership era. However, it’s important to acknowledge that the previous lower water rates reflected chronic underinvestment and provide a misleading baseline for rate comparisons. Critically, the customers are now receiving a higher quality product or more reliable and sustainable levels of service.

If the new partnership results in higher household water costs, some households may struggle to afford the new rates. As a larger entity, the partnership may be better able to help address affordability issues by implementing rate structures that have low fixed rates for essential water use or establishing customer assistance programs. The new entity may also have enhanced access to grants and low interest loans to help offset costs.

How can I address potential unequal shares of cost savings or other benefits?

Utilities have undertaken alternative approaches to address unequal shares of cost savings or other benefits across the partnering utilities. For example, the Hampton Roads Sanitation District’s (HRSD) analysis of potential regional approaches showed that a full merger option would mean lower costs for all local jurisdictions when viewed as a whole, but that it would leave some potential partners with no cost savings or with greater costs to ratepayers for a few local jurisdictions than under a go-it-alone scenario. In this case, the utilities proposed a hybrid model that would leave ownership of all existing assets with utility partners that currently owned their assets, but that gave responsibility for system improvements to HRSD. These improvements would be funded by an equal charge to the local jurisdictions.
ACTION ITEMS

- For the partnership options being considered, identify and list the concerns by agency or decision-maker.
- Determine concerns and issues of the customers and stakeholders.
- Ensure that written legal agreements and contracts between neighboring communities address issues identified, including local control.
- Analyze future rates in terms of the effect on average household water bill and identify possible affordability issues and corresponding solutions.
- Analyze and address concerns over uneven distribution of benefits or costs.

Engagement Tips

Discuss concerns about partnership options with key decision makers. Understanding the specific concerns well can lead to strategies to address them, and language that could be included in the legal agreement.

Figure 10 Additional Resources for Understanding Common Partnership Concerns


Manning et al. 2005. Consolidations Issues: Pros, Cons, Options and Perceptions. This report considers advantages, disadvantages, common forms, and common perceptions of water system consolidations. Some disadvantages are listed on page 5.

Raucher et al. 2008. Regional Solutions to Water Supply Provision. This report includes a decision tool that provides information for understanding the type of partnership that may be appropriate to help address utility needs. The decision tool leads to PowerPoint presentations on each type of partnership structure. Those presentations provide a list “issues” as one of the sections for each partnership type. https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision

Teodoro 2019. Water and Sewer Affordability in the United States. This report is a nationwide analysis of affordability using two affordability measures. It shows that all things being equal, larger utilities have better affordability outcomes.
Step 7: Think Conceptually about Legal Provisions to Include in a Contract

What are the legal issues I need to be considering?

Written agreements are essential to establish and set basic terms for any partnership. There are many legal issues to be considered in such agreements, and they often depend on the type of legal structure used to form the partnership. Having precise and specific provisions in the agreement can ensure that you have protections you need, that the partnership works for your utility and the other partners, and that the partnership can adapt to changes in circumstances over time.

Once the type of partnership and the legal structure have been selected, the process of developing the agreement is an opportunity to ensure that the benefits and concerns that each party may have about the partnership are sufficiently addressed. For instance, a utility may be very interested in the potential gain in water supply reliability from a partnership, but they are concerned about costs and the impact on their rates. The contact should specify the cost sharing formula that was identified during the steps before the contract stage that addresses this concern.

To make sure that the benefits of the partnership are achieved, and that major concerns are addressed, the contract should set performance standards for the partnership. This might include goals for the cost of services provided, or the quality of water or wastewater delivered. The contract should specify how those performance standards will be monitored over time, and provide a timeframe for periodic review and evaluation.

The following items are common to legal agreements:

**Identify the parties.** In addition to identifying the parties to the agreement, this also can include identifying the authorizing legislation under which the entity was formed.

**Establish the need and purpose for the agreement.** The agreement should describe the basic motivation and objectives for the agreement. This can include a statement of the driving factors, such as the need for increased water supply or increased wastewater treatment capacity.

**Identify the type of partnership.** This includes identifying the agreement type or the contracting instrument, and the law that will govern the contract.
**Define the roles and responsibilities of the contracting parties.** Clearly describe the obligations of the partners. This can include any contribution of resources that are expected (and if applicable, the cost sharing formula for any investments) and any financial responsibilities.

**Set performance standards.** Clearly state how the partnership will be monitored over time. Options for monitoring might include volume of water to be delivered, water quality to be achieved, the reliability of deliveries, or the cost of deliveries or services. This should clearly be described in terms of a measurable indicator and a target level to be achieved by a certain time.

**Determine how the partnership will be monitored over time.** Specify a regular interval for the performance of the partnership be discussed (e.g., quarterly, yearly)? The legal agreement should specify what will happen if performance standards are not being met.

**Specify the mechanism for dispute resolution.** The contract can specify that all questions regarding the rights and obligations of the parties should be subject to arbitration, and the contract also should specify an organization to provide the rules for dispute resolution (e.g., the American Arbitration Association).

**Provide for methods of amending or voiding the agreement.** Specify the circumstances under which the parties can amend or void the agreement. This should include specifying how changes will be made to accommodate potential future circumstances (e.g., unanticipated new regulatory requirements and associated costs). For instance, cost allocation can be adjusted if needed by an amendment.

Attorneys will ultimately need to be engaged to formalize legal agreements. Some attorneys have experience in the water and wastewater utility sector and can be instrumental in facilitating the legal processes along the way. However, some outside attorneys may have little experience with the realities of water and wastewater utilities. If that is the case, it may be better to develop the basic framework and general terms for a partnership agreement among the relevant partners and stakeholders first, and then engage outside counsel to formalize the legal language that will actuate the basic terms and agreements.

Two examples demonstrate different perspectives on when to involve attorneys in the process. Six entities in Colorado collaborated in the City of Pueblo Flow Program and formed an intergovernmental agreement to address several shared goals, including allowing a rafting course on a stretch of the Arkansas River that ran through the middle of town. The program reported that a critical success factor was not involving the attorneys until it was time to write up the agreement and after details of the agreement had been worked out by the technical experts and relevant stakeholders (Bielefeldt et al. 2012).

The Detroit Water and Sewer Department (DWSD) formed regional water technical advisory committee (TAC) to increase customer involvement in forming their 50-year Water Master Plan, and to address ongoing legal disputes. The TAC said that developing solid relationships with the lawyers was one of their key factors for
success. In this case, the lawyers were already well-informed about the issues—they knew about the existing settlement agreements and legal reasoning behind them. Those settlements drove a lot of the rate methodology and oversight of the wastewater treatment process (Bielefeldt et al. 2012). DWSD has continued to take a regional, collaborative approach to address financial and customer relations issues and has since entered a memorandum of understanding with nearby municipalities to form the Great Lakes Water Authority.

Figure 11 lists additional resources that can provide more information on specific legal issues to consider in crafting agreements between water or wastewater utility partners.

Figure 11 Additional Resources for Considering Legal Issues Related to Partnerships

Raucher et al. 2008. *Regional Solutions to Water Supply Provision*. This report includes a section (Appendix C) on elements of wholesale water supply agreements. This includes sections such as system connection requirements and costs, metering, billing, water quality and quantity requirements, water cost, and provisions for water use restrictions. [https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision](https://www.waterrf.org/research/projects/regional-solutions-water-supply-provision)

University of North Carolina Environmental Finance Center 2009. *Crafting Inter-local Water Agreements - Tips relating to issues you may not have thought of or that you were hoping to avoid*... This document presents questions to consider when considering inter-local agreements for water system partnerships. The document addresses issues including water quality, meter maintenance, modifying commodity charges over time, water pressure, non-revenue water, and other issues that should be explicitly addressed in an intergovernmental agreement or contract between utilities. [https://efc.sog.unc.edu/sites/default/files/water_parternship_tips.pdf](https://efc.sog.unc.edu/sites/default/files/water_parternship_tips.pdf)

**ACTION ITEMS**

- Record the key issues to be addressed in the written agreement. These issues may stem from the benefits identified in Step 5, and potential issues to address from Step 6.
- Develop an outline of the provisions of the contract. In the outline, make note of the issues that each party wants to address.
- Review at the conceptual level the partnership option(s) with a legal representative. Find out if there are any legal issues under a partnership option that have not been considered and which should be discussed.

**Engagement Tips**

Consider when and at what level to involve attorneys before the legal agreements are finalized. If attorneys have no existing knowledge of the circumstances, it may be best to have them provide a feasibility check to the partnership ideas you develop. However, they can be a very valuable part of the partnership idea development process if they have specialized knowledge—e.g., previous legal decisions or agreements between the parties.
Step 8: Communicate about Partnerships to Build Support

How do I build support for a partnership? What audiences should I consider and how do I approach them?

If you have been following the conceptual framework shared in this Resource Guide, then you have been building support for the partnership agreement from the beginning and throughout each step of the process. You have identified critical audiences and their specific objectives and concerns, and you have worked together to identify benefits, concerns, and legal barriers. Effective communication is an important element of each part of the framework. This section provides communication best practices that can be used at any point in the partnership development process to share information with specific audiences in a way that builds support.

Here are key strategies for sharing information with utility leaders, public officials (e.g., utility board members, city council members, mayors), and interested members of the community.

1. Focus on the top three values added by the partnership based on your audience. What are the most important values to individual households, businesses, and the community as a whole? What are the most important values to decision-makers, utility employees, or public officials?

2. How do the anticipated outcomes of the partnership align with those values? Make sure to address impacts on rates, system reliability, regulatory compliance, economic growth, and so forth, in terms of the values that are important to the audience. When a utility’s actions are connected to community values, community members are more likely to feel...
personally connected to the utility. This can lead to a better customer relationship overall and engender trust and buy-in. (Kotstantonis et al. 2019).

3. Understand and address key audience concerns. Acknowledging and addressing concerns in a straight-forward, non-defensive manner is essential for building trust. Even when a partnership is the best alternative, there will probably still be impacts to rates or other community and stakeholder concerns. Being open about those concerns and transparent in how you will address each one through the evaluation process is critical.

4. Good communication requires transparency, clarity, context, and good faith. Whether you are outlining the key attributes of the agreement or addressing concerns about rates, be transparent and provide context. If rates are a concern, for example, do not just provide the numbers. Show the rates from comparable utilities in the region, and always bring back the reason for the investment.

There are several methods available to help focus on the key strategies listed above. These are key communication strategies that are designed to be simple to help overcome the fact that most people have trouble processing new information, especially in emotionally charged or stressful environments. Those strategies include:

- **Surveys, interviews, focus groups, and informal discussions** are all effective strategies to identify and map stakeholder values, questions, and concerns. Gather feedback from initial discussions and outreach tools to map out what each audience identifies as critical partnership attributes, and attributes and bring those considerations to future discussions.

- **Message Mapping** is a science-based technique used in many public health and emergency response agencies. The goal is to communicate information, increase trust, and create informed decisions and attitudes by delivering effective key messages. Key messages employ the 27-9-3 Rule: using no more than 27 words that can be spoken in 9 seconds or fewer and contain 3 or fewer concepts (Covello 2006). Use your articulated list of objectives, values and drivers to identify the three most important points to share with every audience. There are templates available online to guide you through the Message Mapping Process.

- Whenever possible, **use photos or visual tools** to make a key point. For example, providing a picture of a “Do Not Drink the Water” sign in a flood setting, is a powerful means of sharing why a partnership to provide water supplies during an extreme event is important.
• **Emotionally connect** through your communication. All communication is processed through emotional receptors in the brain, and effective communication can build personal connections between partners, utility customers, and stakeholder groups. It sometimes feels uncomfortable for utility staff and decision-makers to employ emotionally-based communication, but research demonstrates that connecting emotionally with customers through value-based decision-making and communication can lead to better customer relations, trust, and buy-in (Kotstantonis et al. 2019). An example of a powerful emotional connector for water and clean water providers can be as simple as: “Our mission to provide our community with safe, reliable water, and a healthy environment.”

**Figure 12 Additional Resources for Communicating About Partnerships**

Mastracchio et al. 2016. *Rate Approval Process Communication Strategy and Toolkit*. This project identifies communication approaches, messages, and tools for water utilities to use in communicating water rate changes more effectively to utility board members. The project provides a toolkit to help utility staff effectively communicate and garner support for rate adjustments. [https://www.waterrf.org/research/projects/rate-approval-process-communication-strategy-and-toolkit](https://www.waterrf.org/research/projects/rate-approval-process-communication-strategy-and-toolkit)

Lin, I. and D. Peterson, 2007. *Risk Communication in Action: The Tools of Message Mapping*. This report covers some of the best research about communication under high-stress, high-concern or emotionally charged situations. The report discusses message mapping to help focus your message, and concepts such as noise theory, which says that people under stress can only process small amounts of clearly stated information—no more than 27 words, lasting 9 seconds, and covering 3 main topics.

**ACTION ITEMS**

- ✓ Find out the key issue that each specific audience group wants to know about this partnership.
- ✓ Understand the values important to each audience.
- ✓ Use your articulated list of objectives, values and drivers to identify the three most important points to share with each audience.
- ✓ Create a key message for each audience that you refer to often that employs the 27-9-3 rule: 27 words that can be spoken in 9 seconds or fewer and contain 3 or fewer concepts.
Differences between Drinking Water and Clean Water Partnerships

Do partnerships (and partnership options) differ between clean water and drinking water agencies? If so, what are the unique considerations for involving each type of water sector agency?

Overall, partnership options between clean water and drinking water agencies are similar. However, there are several unique considerations for clean water agencies. Many clean water agencies were formed to serve a region, or they have already consolidated with smaller entities in their region. Many clean water agencies or major treatment facilities were established with the Construction Grants Program developed in the 1970s, under the Clean Water Act. The Act authorized $18 billion in construction grants over 9 years to local governments through the Title II grant program and the newly created State Water Pollution Control Revolving Funds (SRF) program. The grant program was entirely replaced by the SRF program by 1991 (Congressional Research Service 2018).

The federal government covered a large share of these investments, leading to significant investment in capital facilities. At the same time, many agencies did not plan for future operations and maintenance expenditures (Pollack 1991).

Given the greater degree of consolidation already in place for clean water agencies and the fact that there are fewer clean water utilities than drinking water utilities across the United States, there may be fewer opportunities for partnerships. Nonetheless, important benefits from future additional partnerships exist.
The design and construction of wastewater systems in growing areas are often dictated by the pattern of development in the region. In rapidly growing areas, new suburban communities are sometimes planned outside existing wastewater system boundaries. Developers of these communities often choose to install small package plants or individual septic systems. While connecting these outer lying suburban communities together to form a larger regional wastewater system would seem advantageous, there are often serious barriers. For example, the communities themselves may not be geographically contiguous and the cost of retrofitting areas with septic systems is high.

However, there are creative solutions. State and local policies or regulations can be developed to incentivize new developments to join with existing centralized clean water systems. When physical connection isn’t feasible, managerial partnerships between the smaller package plants can help capture some of the economies of scale that have been detailed in this guide. Despite the challenges, communities facing groundwater contamination from septic systems should seriously consider the benefits of joining up with a regional clean water agency.

Another partnership approach is for drinking water and wastewater systems to combine or work more closely together. An integrated water and wastewater approach can capture efficiencies and help meet community goals. For instance, the Louisville Water Company and Louisville MSD entered into a Comprehensive Interlocal Agreement in 2014 to save money and provide better services. Under the agreement, employees provide services to either organization under a work order, but they remain either Louisville Water or Louisville MSD employees. The two utilities so far have joined their information technology, fleet services, and purchasing teams and are evaluating how to share human resources, customer service, and energy functions. The ultimate vision is for the utilities to operate as an integrated “One Water” utility of the future (Louisville Water 2018).

Stormwater authorities are another potential partner. The type of organization responsible for stormwater compliance varies greatly across communities with Municipal Separate Storm Sewer...
Stormwater programs and controls are often owned and operated by city public works departments. Sometimes stormwater authorities are housed in separate stormwater utilities, combined with water and wastewater utilities, or housed under environmental services departments, planning departments or agencies, flood control or drainage districts, or other types of entities. Stormwater programs commonly partner with outside organizations to meet the “public education and outreach” and “public involvement and participation” minimum control measures in their MS4 permits. As a result, they can be a willing and effective partner with a clean water agency. Stormwater programs are increasingly partnering with other organizations with land or water management responsibilities in the watershed (WEF 2015).

The City of Colorado Springs Colorado is an MS4 permit holder and is a member of the Fountain Creek Watershed Regional Stormwater Education and Outreach Group that includes the City of Colorado Springs, Colorado Springs Utilities, City of Pueblo, El Paso County, the City of Fountain and the City of Manitou Springs. This working group promotes public education about stormwater issues through regional advertising to help meet MS4 requirements for public education and outreach. The City of Colorado Springs also partners with Colorado Springs Utilities to manage stormwater in the Fountain Creek Watershed through creating stormwater projects or rehabilitating wastewater pipe other infrastructure in the CSU service area.

Conclusion

Through this guide you have been presented with a series of questions to help you move through the partnership evaluation process. It is the goal of every water and wastewater utility to provide high quality services for their customers and protect public health and the environment. Partnerships can be a powerful tool in helping utilities reach that goal. As you evaluate possible partnership options for your utility or region, you can refer to the resources referred to in this guide and use the workbooks provided in the appendices.
Appendix A
Legal Structures for Utility Partnerships

This white paper describes some common legal structures for utility partnerships. Legal structures set the parameters under which a utility partnership can operate, like the governing structure and financial capabilities (e.g., ability to issue debt). Legal structures are usually authorized by state statutes, and they can vary significantly between states. The goal of this white paper is to identify and classify legal structures that may apply to partnerships so that utilities and other practitioners can understand the options in their state. The white paper is also designed to allow state agencies to review their options to make sure they provide the appropriate level of flexibility and incentives for partnerships.

Utility partnerships can describe a wide range of possible approaches for utilities to work together to their mutual benefit. On one end of the spectrum, partnerships can be simple mutual assistance agreements. At the other end of the spectrum, two or more utilities can fully consolidate into a single entity that owns and manages all the combined assets and accounts. There is a wide array of options for cooperation, mutual support, shared services, or regional planning that may be found in between these endpoints of the spectrum.1

A.1 Legal Structure Definition

Legal structures set the parameters under which utility partnerships can function and are authorized under state law. Those parameters include:

- The services that can be provided
- The territory that can be served
- The internal governing organization of the entity, and any voting structures
- The powers granted to the entity
- The tax status of the entity
- Financial capabilities—including the ability to borrow money through a loan, to issue bonds, charge fees for services, levy taxes

The types of legal arrangements that can be used for partnerships are authorized by each state, and there is considerable variation across states. However, there are structures that many states have in common. For instance, many states allow some form of “special district” designation for water and wastewater utilities. It’s worth bearing in mind, though, that legal agreements with the same name can have different powers in different states, depending on the legislative authority

---

1. The term “utility partnerships” may also be stated as “regional solutions” and typically refers to potential partnerships between utilities located in proximity to one another, for the purpose of addressing the challenges (or tapping opportunities) facing utilities in the region. These opportunities or challenges include finding ways for improving efficiencies, reducing costs, improving water supply reliability and/or water quality, or in other ways enhancing the level of service provided by the organizations. The partnerships need to be mutually advantageous to all parties, and they may take on any of a number of forms (Raucher et al. 2008).
language in each state. For example, a joint powers authority has a different potential scope depending on the state.

Some examples of common legal structures that have been applied to utility partnerships include:²

- Memorandum of Understanding/Memorandum of Agreement
- Wholesale/Direct Contract
- Special District
- Water/Sewer Authority
- Joint Powers Authority
- Cooperative

A.1.1 Memorandum of Understanding/Memorandum of Agreement

A memorandum of understanding is a written agreement between entities that documents the understanding for how the parties wish to cooperate. A memorandum of understanding is generally not legally binding, but it is designed to be more formal than a handshake or verbal agreement.

A.1.2 Wholesale Water Agreement

Wholesale water agreements establish a commitment with another utility to provide water supply. These agreements can vary significantly depending on local laws, and on the circumstances in which the utilities are operating.

A.1.3 Special Districts

Special districts are independent governmental subdivisions of the state that are formed to meet a specific purpose and are granted powers by the state to fulfill those purposes, usually providing a service or a suite of related services. Special districts must comply with local government budget, audit and reporting requirements. Districts may be able to levy property taxes, issue general obligation bonds and revenue bonds, and assess fees and charges for services, programs and indebtedness. In 2012, the Census Bureau reported there were 38,266 special districts in the United States. Of the single-purpose special districts, water special districts totaled approximately 3,522, sewerage special districts totaled 1,909, and drainage and flood control districts totaled 3,428 (U.S. Census Bureau 2012).

A.1.4 Drinking Water/Wastewater Authority

A drinking water or wastewater authority is a publicly owned corporation that is chartered by the state to provide drinking water or wastewater services in the state. Authorities typically involve

² Note that we do not fully address in this Guide full consolidation through acquisition. Note that whether it is a public utility purchasing another public or a private utility, or an investor-owned utility acquiring a municipal or private system, it is not creating a new authority. In such cases, suitable purchase agreements need to be negotiated.
the combination of existing public entities that are already authorized to provide water service in the state, and are typically governed by a governing board.

**A.1.5 Joint Powers Authority**

There are joint powers authority (JPA) statutes in almost every state. A majority of joint powers authority statutes are focused on governmental purchasing, and allow local governments to cooperatively purchase goods, materials and services. However, approximately 15 states also allow local government entities to sign a contract under which they agree to jointly exercise any existing powers common to those agencies.³ California’s JPA statute is perhaps most widely applied. JPAs there can be formed as a separate entity, but a separate entity is not required. In California, JPAs have covered a wide range of functions including water supply, wastewater management, transportation, open space, recreation, fire protection and others.

**A.1.6 Cooperative**

Cooperatives are incorporated under state statutes as cooperatives, mutual associations, or nonprofit corporations. Cooperatives can serve a number of purposes including water, electric, or insurance provision. They are classified as non-profit corporations and are granted tax exempt status under section 501 (c) (12) of the U.S. Internal Revenue Code. All customers of the cooperative are required to be members. Membership for cooperatives can be households or businesses, and membership is generally open to any property owner within the designated service area. Each member is a member-owner of the cooperative, and each member has voting power on a one member-one vote basis. Cooperatives are required to derive at least 85% of their income from their membership for the sole purpose of covering expenses each year. All excess operating revenues (revenues after subtracting out expenses) must be divided among members.

Water cooperatives are typically formed in suburban and rural areas and serve fewer than 3,300 customers. A University of Wisconsin survey from 2009 identified approximately 3,350 public water systems that are cooperatives or mutual associations (University of Wisconsin Center for Cooperatives 2009).

**A.2 Review of Legal Structures Available in Selected States**

This section discusses what structures are authorized in selected states, along with the allowable objectives, and a discussion of the most relevant characteristics.

**A.2.1 Colorado**

There are several different types of organizations that can own public water utilities in Colorado, including municipally owned public utilities, regional systems, special districts, or private water companies. And there are variety of legal structures that can apply to partnerships in Colorado. Those legal structures include:

**A.2.1.1 Intergovernmental Agreements (IGAs)**

Colorado encourages all local governmental entities “to make the most efficient and effective use of their powers and responsibilities by cooperating with and contracting with” other local gov-

---

³ States with statutes that allow public agencies to jointly exercise any power jointly held by two or more of them include CA, FL, GA, IA, KS, MI, NE, NH, OK, RI, UT, WA, WV, WI and WV. The applicable statutory language by state related to governmental joint purchasing was compiled by Sourcewell and can be viewed at https://www.sourcwell-mn.gov/compliance-legal
ernmental entities (Colorado Intergovernmental Relationships Statute 2016). This applies to any authorized service or function, including water service. These IGAs can assess ad valorem taxes, issue revenue bonds, and assess fees or charges.

An example of an intergovernmental agreement regarding water service provision is the agreement to coordinate water service between Clifton Water District and Mesa County in Colorado. In another example, the City of Colorado Springs, Colorado Springs Utilities and Pueblo County signed an intergovernmental agreement to spend money on stormwater infrastructure, maintenance and education programs (City of Colorado Springs 2019). Stormwater and municipal return flows return to Pueblo County from Colorado Springs through Fountain Creek.

A.2.1.2 Special Districts

Quasi-governmental corporations or subdivisions of the state that may be formed, including water, sewer, and drainage service. Special districts are governed by elected boards of directors. In Colorado, special districts can assess ad valorem taxes, issue general obligation or revenue bonds, and assess rates, fees or charges for services, facilities, programs, and indebtedness. Special districts can also establish special improvement districts and levy special assessments (Colorado Special Districts Act 2016). The Fort Collins-Loveland Water District and the South Fort Collins Sanitation District are examples of special districts in Colorado (Fort Collins Loveland Water District & South Fort Collins Sanitation District 2019).

A.2.1.3 Water or Drainage Authority

State statutes allow any combination of municipalities, special districts, or other political subdivisions of the state that are authorized to own and operate water systems or facilities or drainage facilities to establish a separate governmental entity, known as a water or drainage authority. This water or drainage authority would be established by contract between the entities, and can be used to develop water resources, systems, or facilities, or drainage facilities for the residents of the entities. An Authority is allowed to borrow money and issue bonds (Colorado Local Government Budget Law 2016).

The South Metro Water Supply Authority is an example of this type of entity. Formed in 2004, the Authority has 13 water provider members and executes a plan to provide a secure and sustainable water future for the region. The Authority has increased negotiating power and provides collaborative support for new projects. South Metro Water has created partnerships with other utilities such as Denver Water and Aurora Water to provide backup supplies to Denver Water and provide a cost share to Aurora’s Prairie Waters project. The Authority is also cooperatively studying aquifer storage and recovery, reallocation of regional reservoir storage from flood control to municipal and agricultural use, and cooperative pipeline development to take unappropriated water in Flaming Gorge Reservoir and deliver it to Wyoming and Colorado entities (South Metro Water Supply Authority 2019).

A.2.2 California

There are several basic types of organizations by which water service may be administered in California. Those include: cities, counties, special districts, privately owned public utilities, and mutual water companies. Several of these organizations can be especially important in forming water
system partnerships. Those particular types, and any ways in which they may be combined (e.g., joint powers authorities), are highlighted below.

A.2.2.1 Special Districts

There are many different types of special districts related to water in California. These districts have been formed with a variety of governance structures and authorized financing mechanisms. Districts can be formed either under the general special districts statute, or as a special act of the state legislature. A special act’s provisions only apply to the special district created—essentially making them one-off entities.

Of the 1,286 special districts identified as of 2001, the most numerous type was a community services district, with 196 in total. A report by the Legislature reported 17 specific types of water-related special districts, plus a catch-all category that included 57 other districts that did not fit into the 17 special district types listed (which presumably were created by a special act of the state legislature). Almost 100 of the special districts were reported to be multi-county districts (Legislative Analyst’s Office 2002).

The governing bodies of special districts in California can be either “dependent” on a city or county, or they can be independent. A city council or county board of supervisors acts as the district’s ruling body for dependent districts, or they appoint individuals to serve for the city or county. Independent special districts have their governing body either directly elected by the voters or appointed for a fixed term of service (often by a board of supervisors). Nearly 75% of the state’s water districts were independent as of 2001 (Legislative Analyst’s Office 2002).

The main types of special districts in California have the same financial powers as special districts in other states. They can borrow money, issue bonds, collect charges, and levy property taxes.

A.2.2.2 Joint Powers Authority

A joint powers authority (JPA) is established when two or more governmental entities sign a voluntary agreement to jointly exercise any power held by those agencies. JPAs can be formed as a separate entity, but a separate entity is not required. JPAs have covered a wide range of functions including water supply, wastewater management, habitat conservation, transportation, open space, recreation, fire protection and others.

JPAs are flexible and easy to form—members negotiate their levels of commitment and structure their own governing boards. The terms of the JPA agreement determines its size, structure, membership and decision-making authority. JPAs can save taxpayers money by combining resources and services of the agencies involved (Cypher and Grinnell 2007).

JPAs can issue revenue bonds without holding an election provided that each of the JPAs member agencies adopts a local ordinance (cities, counties and special districts must hold elections). However, JPAs cannot levy new taxes or assessments—revenues would come from new or existing fees collected by the member agencies, and those funds could be made available to the JPA. Some non-governmental organizations can participate in JPAs even though they are not public agencies (such as mutual water companies or tribal governments). JPAs are not bound by the requirement under Proposition 218 for municipalities to get 2/3 approval from a public citizen vote to incur debt (Legislative Analyst’s Office 1996).
The potential for conflict between member agencies of a JPA is one potential challenge for JPAs over time. JPAs can be hard to keep together because member agencies are joined only by a voluntary agreement (Cypher and Grinnell 2007).

**A.2.2.3 Mutual Water Companies**

Mutual Water Companies are private, not-for-profit organizations authorized under the California Corporations Code to serve water to their members (California Corporations Code 1947). Mutuals are governed by boards that are elected by the members. Mutuals may levy assessments on its shares. Mutuals that are operated as public water suppliers are overseen in California by Local Agency Formation Commissions (LAFCOs). There are approximately 1,200 mutual water companies in California. Most are small organizations located in rural areas, and they often are created to deliver water for agricultural use. There are also mutuals for domestic use that serve some pockets of suburban areas, often created when the subdivision was created to provide water service. There are some mutual water companies that are owned by several cities that share responsibility for maintaining the water system. AB 656 passed in 2015 to allow mutual water companies to enter into JPAs for the purpose of insurance and risk pooling.

**A.2.3 New Mexico**

Public utilities in New Mexico can be created in a variety of different forms, including towns and municipalities, special districts, public improvement districts, water authorities, and water and sanitation districts. These forms are discussed below.

**A.2.3.1 Special Districts**

In New Mexico, special districts can be created to construct and furnish any urban-oriented service which another political subdivision of the state is authorized to perform, including providing water for domestic, commercial or industrial uses, and sewage collection. Special districts are entities approved by a county special district commission. Special districts can include a variety of specific types in New Mexico, including Water and Sanitation Districts, Irrigation Districts, Metropolitan Water Boards and Soil and Water Conservation Districts. Most special district types can assess ad valorem taxes or fees, and issue bonds.

The Lower Rio Grande Public Water Works Authority is an example of a special district used for regionalization of small water systems in New Mexico. It originally merged 5 mutual domestic water or sewer works associations. These mergers were driven by duplication of services between the associations as well as the need for collaborative efforts to address regulatory requirements (Lower Rio Grande Public Works Authority 2019).

**A.2.3.2 Public Improvement Districts (PIDs)**

A public improvement district in New Mexico is formed by a municipality or by a county in an unincorporated area or in an incorporated area with a municipality’s consent. Water systems, drainage and flood control, and clean water systems are authorized, along with other public services including highways and streets, and electric generation. Public improvement districts can levy taxes and assessments, can place liens on property, and are allowed to issue bonds (general obligation or revenue bonds). They can also make use of money the municipality or county contributes to the district, and they can accept private contributions.
PIDs often allow developers to sell bonds backed by a tax assessed on property owners to pay for infrastructure. The New Mexico state law allowing PIDs was passed in 2001. Approximately 10 PIDs were created through 2012 in New Mexico (Rayburn 2012). In 2013, the PID legislation was modified to limit the dollar amount for general obligation bonds that can be issued by PIDs, and to add other procedural requirements.

A.2.3.3 Water Authority

A water authority in New Mexico is an entity of the state created through legislative action to provide water service. It is governed by an appointed board. It does not have the authority to levy taxes or assessments, nor place liens on a property. It cannot issue general obligation bonds but can issue system revenue bonds. The statute authorizing Water Authorities in New Mexico was used to create the Albuquerque Bernalillo County Water Utility Authority (New Mexico Water Utility Authority Statutes 2006).

A.2.3.4 Water and Sanitation Districts

A water and sanitation district is formed by a county or the state to provide water and sewer services, as well as other possible services including street improvements, lighting and bridges. It is governed by a board of elected members. It may levy taxes and place liens on property, as well as issue revenue bonds.

A.2.3.5 Mutual Domestic Water Consumer Associations

These associations are authorized under the Sanitary Projects Act to construct and improve water supply, reuse, storm drainage, and wastewater facilities (New Mexico Sanitary Projects Act 2011). As of 2013 there were approximately 200 MDWCAs in New Mexico (Utton Transboundary Resource Center 2013). Each association is governed by an elected board of directors. They cannot issue bonds or tax members, but they can apply for funding from federal and state financing sources including USDA rural development.

A.2.3.6 Water Cooperatives

Water Cooperatives can be formed under the Cooperative Association Act as water or wastewater co-ops (New Mexico Cooperative Association Act 2006). As with cooperatives in other states, New Mexico cooperatives serve their members as customers rather than providing service to the public. Net savings must be apportioned to members each year.

A.2.3.7 Municipal and County Utilities

Municipal and county utilities are overseen by the governing body of the relevant municipal or county government. They are allowed to levy taxes or assessments and can place liens on properties. They are permitted to issue general obligation bonds by special election, and they also are permitted to issue revenue bonds. They are eligible for all federal and state funding sources including Water Trust Board funding.

A.2.3.8 Private Utilities

Private utilities in New Mexico are regulated by the Public Regulatory Commission (PRC). Private utilities are not eligible for Water Trust Board or other state funding. There are some larger private utilities as well as many smaller private utilities serving rural developments or mobile home parks.
A.2.4 Pennsylvania

There are four types of organizations in Pennsylvania through which nearly all water, wastewater, and storm water (W/WW/SW) services are provided. Briefly, they are described as follows:

- **Private businesses that provide W/WW/SW service to the public.** These usually are organized as corporations or limited liability companies. When a private business provides W/WW/SW service to the public, the rates and terms of service are regulated by the Pennsylvania Public Utility Commission (Pa. PUC) (Pennsylvania Public Utilities Code, n.d.).

- **Municipalities that provide W/WW/SW service to the public.** Pennsylvania municipalities—cities, boroughs, and townships—are permitted to provide W/WW/SW services within their municipal boundaries, and this service is not regulated by the Pa. PUC. If a municipality provides service outside of its boundaries, however, the rates and terms of service for customers outside the municipality are regulated by the Pa. PUC (Pennsylvania Public Utilities Code, n.d.).

- **Municipal authorities that provide W/WW/SW service to the public.** Pennsylvania law permits one or more municipalities or counties to form a municipal authority (Pennsylvania Municipal Authorities Act 2001). In essence, a municipal authority is a publicly owned corporation that is chartered by the state and can provide services (with certain restrictions) anywhere in the state (and, in some circumstances, in adjoining states). Authorities may issue bonds and other forms of debt, and are eligible to receive government grants, but they do not have any taxing power. All loans must be repaid through user fees, including developer contributions.

- **Private businesses that provide W/WW/SW services to municipalities or municipal authorities.** Municipalities and municipal authorities have the ability to contract for various types of services with private businesses. As a practical matter, businesses that are regulated by the Pa. PUC contract with municipalities or municipal authorities only for certain discrete services, such as the sale of water or wastewater treatment services at wholesale, or the provision of water meter readings to a wastewater service provider. When these private companies want to provide more robust services (such as operations or maintenance services) to publicly owned enterprises, they tend to form separate subsidiaries, or use a sister company formed by a holding company, to provide such services without Pa. PUC regulation or oversight.4

The following is a list of possible arrangements between entities in Pennsylvania:

A.2.4.1 Public-Public Arrangements

Generally, municipalities and municipal authorities in Pennsylvania have the legal authority to enter into contracts with other publicly owned enterprises.5 These types of agreements are com-

---

4 For example, the Pa. PUC regulates contracts between public utilities and municipalities or municipal authorities, except for the provision of water or wastewater services at tariffed rates. 66 Pa. Cons. Stat. § 507. There is no such regulation of contracts between non-utility enterprises and municipalities or authorities.

5 For example, the Municipality Authorities Act provides for the creation of joint authorities by two or more municipalities; gives authorities the ability to enter into contracts with any municipality, enter into leases and other transactions with any municipality; and acquire property from other municipalities or authorities by purchase, lease, or other arrangement. See 53 Pa. Cons. Stat. § 5607.
monly used to provide emergency or routine interconnections of drinking water supplies; and to provide wastewater treatment services from a large regional treatment plant to municipalities or municipal authorities that have their own wastewater collection systems. Joint purchasing arrangements and the provision of management and operations services also are permitted. For example, in 2013, Lehigh County Authority and the City of Allentown entered into a long-term lease agreement under which the authority would operate, maintain, and upgrade (as required) the city’s water and wastewater systems (Petty 2013). It also is not uncommon for a municipal authority to purchase outright a W/WW/SW system of a municipality or smaller municipal authority.

As a practical matter, more complex inter-municipal arrangements usually result in the formation of a joint authority (a municipal authority formed by more than one municipality). A joint authority is governed by all municipal members (through appointments to the authority’s board) and provides each municipality with some control over the authority’s operations (Pennsylvania Municipal Authorities Act 2001). Further, because an authority is a separate legal entity, using a joint authority can protect the member municipalities from utility-related liability and financial strains that may come from funding a utility’s capital needs.

A.2.4.2 Private-Private Arrangements

Just like any other business, private businesses organized as public utilities may contract with other private businesses (including other public utilities) for the provision of various types of goods and services. There are certain restrictions, however, on a public utility’s contracting practices. Perhaps most importantly, the Pa. PUC has the power to “vary, reform, or revise” any contract between a public utility and any person or business, when the Pa. PUC finds that the contract is “contrary or adverse to the public interest.”


In Pennsylvania, transactions between two Pa. PUC-regulated utilities are uncommon. In most instances, when a privately-owned business regulated as a public utility seeks to obtain services from another public utility business, the resulting transaction typically will be a purchase of the smaller utility by the larger utility. While other types of arrangements are legally permissible, they tend not to be used, probably because of a combination of liability concerns and limited opportunities for return on investment.

A.2.4.3 Public-Private Arrangements

Municipal authorities in Pennsylvania have broad powers to contract with private companies. Of course, most suppliers to a W/WW/SW system are private companies (e.g., selling water treatment chemicals). Municipal authorities also have contracted with private companies to operate and maintain an entire utility system. For example, in 2014, the Middletown Authority entered into a 50-year lease with United Water (now Suez) to operate and maintain the authority’s water and wastewater system (Mattera 2014).

It also is common for privately owned utilities regulated by the Pa. PUC to acquire the assets of municipal and municipal authority water and wastewater systems. Indeed, a statute enacted in 2016 seeks to encourage such acquisitions by allowing the acquiring utility to include the full pur-
chase price (but no more than fair market value) of the acquired assets in the value of property, plant, and equipment used to determine the return on investment that the utility is allowed to earn (Pennsylvania Act 12, 2016). Before the new statute was enacted, the Pa. PUC-regulated utility would have been limited to including the depreciated original cost of the assets in its profit calculations. A recent court decision, however, may limit the use of this “fair value” statute because of concerns about significant increases in customers’ rates (McCloskey vs. Pa. PUC 2018).

A.2.4.4 Limitations on Public-Private Arrangements

There are some limits, however, on the scope of transactions between municipalities and municipal authorities and private companies. Pennsylvania does not have a law that specifically authorizes public-private partnerships (PPP) in the W/WW/SW sector. While the state does have a law authorizing PPP for transportation projects, efforts to expand PPP to include W/WW/SW so far have been unsuccessful in the state legislature (Pennsylvania Transportation Infrastructure Statute 2012).7

PPP can encompass a broader range of arrangements, such as design-build-operate arrangements where private companies can provide certain types of facilities and infrastructure for municipalities or municipal authorities. (The PPP legislation in Pennsylvania for transportation projects requires the use of a municipal authority; municipalities cannot enter into a PPP without first creating an authority.) Public-private partnerships raise significant legal issues, such as governmental immunity from certain types of law suits, the availability of eminent domain, prevailing wage requirements, grant eligibility, and others (Delmon 20178). Consequently, in the absence of specific legislation to address these types of issues, more complex PPP opportunities are not available for W/WW/SW projects in Pennsylvania.

A.2.5 North Carolina

As with most states, there are a variety of institutional and governance models for providing water and wastewater services throughout North Carolina. In many situations a unit of government such as a city (municipality) or county provides service primarily to the residents in its jurisdictions; however, there has been an increasing trend in the development of regional utilities in which multiple existing utilities join together or merge to provide services to a larger geographic area, or one utility expands and begins providing services well beyond its traditional border. North Carolina law provides a number of different legal pathways for the creation of these regional utilities. While there are many similarities in how these different types of regional utilities operate, there are important differences depending on what type of enabling legislation created them. The most common models are described below.

A.2.5.1 Single Municipality Operating as a Regional Utility

Multiple cities in North Carolina manage utilities that serve some customers outside their boundary. It is a very common practice for a municipal utility to extend their lines slightly outside their boundary and to charge “outside customers” higher rates. Although less common, some cities have followed a more regional strategy that has involved expanding their service area to take

---

7 House Bill 2113 in the 2015–16 legislative session was reported out of committee in the Pa. House of Representatives, but the bill did not receive a vote on the House floor. A similar bill was introduced in the current (2017–18) session in October 2017 as House Bill 1891. As of April 15, 2018, no action had been taken on the bill.
8 See particularly pages 46–52 discussing various PPP legal issues.
over service areas of entire neighboring cities and to set up policies and rates where all customers are treated relatively equally. For example, the City of Charlotte water utility provides water and wastewater services throughout the entire Mecklenburg county metro area, which includes six other towns. While Charlotte owns the water and wastewater assets and the Charlotte city council maintains ultimate legal responsibility and authority for the utility, a series of interlocal agreements stipulates a number of consensus supported governance conditions relative to service expansion and rates that have led to a unified regional utility. As another example, the City of Raleigh maintains a similar utility that has grown substantially over the last 15 years as it has absorbed the water and wastewater assets and customers of six neighboring towns that previously were operated by city utilities. North Carolina also has several utilities such as Fayetteville Public Works Commission which are linked to municipalities, but governed by special legislation that carries some unique requirements not shared by other municipal utilities.

A.2.5.2 Single County Government Operating as a Regional Utility

While cities have historically played a bigger role in water and wastewater provision in the state than county governments, in a number of areas, County Government owned utilities have evolved into the dominant regional providers serving customers that live in multiple incorporated cities as well as other counties. For example, Harnett Regional Water (formerly Harnett County) provides service to 125,000 people in multiple counties and cities, most of whom pay the same rates and operate under the same policies. County systems are governed by elected County Commissioners, but through interlocal agreements, other local governments have the opportunity to provide nominal governance input similar to what can be done for regional city utilities.

Counties, and to a lesser extent cities, can organize themselves using special districts and special water and wastewater districts (North Carolina County Service District Act 1973). This authority allows cities and counties to take out debt backed by a subset of their population and to apply different rates and taxes to subsets of their service area. There are no state laws that require any special procedures for cities or counties that serve customers outside their boundaries. Under NC law, it is at the complete discretion of a city or county as to whether they want to provide service to other communities and they have discretion about rate setting and policies.

A.2.5.3 Water and Sewer Authorities

Existing utilities that want to join together to form a new utility have the possibility of creating a water and sewer authority under NC law (North Carolina Water and Sewer Authorities Act 1955). The statutes are very specific about some aspects of authorities such as allowing them to set user fees and issue revenue bonds, and prohibiting them from setting property taxes or issuing general obligation debt. The statutes provide broad discretion on governing board creation, and allow the initial establishing entities to set the number of board seats, the number of seats allocated to each member unit, and the criteria or qualifications for board member appointment. The authority structure has been used to create utilities such as Orange Water and Sewer Authority or Onslow Water and Sewer Authority where multiple governments came together to create a large area retail utility that is responsible for all aspects of treatment, distribution and customer service. There have also been authorities created to provide one aspect of water service such as raw water distribution (Lower Cape Fear Water and Sewer Authority) or wholesale wastewater treatment (Water and Sewer Authority of Cabarrus County).
The state also has specific statutes authorizing metropolitan water districts (North Carolina Metropolitan Water Districts Act 1971) and metropolitan sewerage districts (North Carolina Metropolitan Sewerage Districts Act 1961) that have some similarities to Authorities, but which have been used less frequently.

A.2.5.4 Sanitary Districts

While the enabling powers and resulting current NC water and wastewater authorities and districts are relatively recent since the 1970s, some other regional utilities rely on governable authority that has existed much longer (North Carolina Sanitary Districts Statute 1927). North Carolina allows for the creation of “Sanitary Districts” that, while similar in name to metropolitan sewerage districts, have very different make-up and powers. Sanitary districts were originally seen as a method of providing a range of public health services to areas of the state without other governmental capacity. Some sanitary districts provide service to very small geographic areas, but some such as Cleveland County Water have evolved into a more regional provider. Sanitary Districts are the only special purpose local government unit where the governing board members are directly elected as is done with city council and county commissioners. Sanitary Districts also have far reaching taxing authority and can issue revenue bonds.

There are several important non-governmental regional utility models operating in the state. Water cooperatives/ non-profit water corporations are similar in form and function to those in other states and operate throughout the state. Davidson Water is one of the largest non-profit water corporations in the country, serving over 50,000 connections through a large geographic area in the state.

A.2.5.5 Investor Owned Utilities

For profit water companies provide service to many suburban and large subdivision customers throughout the state, but provide relatively little service to customers within incorporated areas. Aqua North Carolina is the largest private provider in the state. Aqua owns and manages the assets of approximately 700 community water systems in the state that provide water and to a much lesser extent, sewer services to approximately 250,000 residents. All of Aqua’s regulated water operations are under the oversight of the NC Utilities Commission. Under North Carolina Utility Commission Regulations, investor owned utilities such as Aqua are permitted to use single tariff pricing such that all their costs are pooled across all their systems and almost all of their customers pay the same rates regardless of where they are in the state.

North Carolina has other tools for promoting partnerships including a far reaching interlocal agreement authority that governs dozens if not hundreds of interconnections, wholesale, and shared service provision arrangements among utilities. The interlocal agreement authority also permits the establishment of joint management agencies however this authority has been rarely used in the water sector in the state (North Carolina Interlocal Cooperation Act, n.d.). Public Private Partnerships with joint ownership of assets or significant shared public private sector financial risk exist but are relatively rare and have not resulted in any large regional utilities. These P3 efforts have been carried out creatively though existing procurement or regional authority statutes. The state procurement rules allow for general public private partnerships (P3s) as a potential procurement option, but the statutes are not specific to the water and wastewater sector and have not been widely used.
A.3 Conclusions

The states reviewed have a significant amount of commonality with regard to the types of legal structures authorized for water and wastewater service. All of the states reviewed allow formation of a water or wastewater utility. These states allow contracts between public entities for wholesale water agreements or other services. Intergovernmental agreements are also typically allowed—Colorado encourages all governmental entities to consider intergovernmental agreements to most efficiently accomplish shared governmental goals. Utilities and other practitioners should investigate these legal options including intergovernmental agreements in their state first when considering partnerships.

Each of the states reviewed authorize some form of special district or water authority, or both. The advantage of a special district or water authority is that it is focused on providing a specific service (e.g., drinking water or wastewater service) in a better fashion than the governmental alternative (e.g., a city or a county). Most states allow special districts or water authorities to levy taxes, charge fees, or issue revenue bonds.

Special districts and water authorities usually allow multiple types of governmental organizations to combine, or combine powers, to accomplish goals such as building and operating a new water treatment plant. Especially when those entities are allowed to levy fees or issue bonds, this can be a powerful tool. In addition, utilities have found the benefits of joint operations and the ability to apply to federal or state funding sources help make the collaboration worthwhile.

Joint powers authorities are specifically authorized in California and some other states to allow multiple governmental entities to jointly exercise the powers held in common by those entities. Many states only allow JPAs for joint purchasing. JPAs have been used for water and wastewater in California. It appears that other states such as Colorado have accomplished the same ends as JPAs using Special Districts to the extent that Special Districts allow existing entities to combine or combine powers, and obtain loans or issue bonds. One major difference is that with JPAs, utilities can combine to exercise existing powers, whereas new powers are granted by the state through special districts.

Cooperatives and mutual water companies can serve as a useful legal structure for provision of water or wastewater service in rural areas. These legal structures have been used to provide services in suburban areas, often by a developer that establishes water service as a mechanism to pay for the infrastructure. A concern with mutual or cooperatives in these situations is that there is often difficulty in attracting board members to help continue to run these organizations over time. In some states, cooperatives can become part of larger organizations including special districts.

While some states have legal structures that allow partnerships that include private entities such as cooperatives or mutual water companies, many states are lacking legislation that specifically authorizes public-private partnerships that involve water or wastewater provision.

Additional research on available legal structures by state would be helpful to let utilities and other practitioners in those states know the options available to them and to help states assess the authorities currently available to encourage partnership formation.
Appendix B
Making a Business Case for Utility Partnerships—Telling a Better Story

This white paper describes issues to be addressed through potential future research exploring what information and approaches are needed to develop a more complete and compelling business case (and associated feasibility study) for partnerships between drinking water utilities and amongst clean water utilities. The business case approach needs to extend beyond developing credible estimates of dollars and cents benefits and costs—it also needs to communicate a more complete and effectively compelling story in support of utility partnerships, openly acknowledge any drawbacks or risks, and effectively address concerns that may be weighing on the impacted communities.

The term “Utility Partnerships” as used here applies to a broad range of possible approaches where utilities within a region work together to their mutual benefit. The partnership options may span, at one end of the spectrum, simple mutual assistance agreements wherein each utility remains a separate entity. At the other end of the spectrum, a partnership may embody situations in which two or more utilities are fully consolidated into a single entity that owns and manages all the combined assets and accounts. There also is a wide array of possible options for cooperation, mutual support, shared services, or regionalization that may be found in between these endpoints of the spectrum.9

The focus of this effort is on mid-sized and large drinking water and clean water utilities, although the insights and materials developed also will be applicable to small systems.

B.1 Background

There often are significant benefits to be derived from a range of potential partnerships between water sector utilities, such as regional collaborations between drinking water agencies or clean water utilities. However, making changes to local utility institutions often is difficult, and the people and entities impacted by a potential partnership between their local utility and an outside entity typically have several critical concerns (e.g., a worry about loss of local control). To move forward with constructive deliberations about possible utility partnerships, it is important to objectively and effectively convey all the potential benefits for all affected parties, as well as acknowledge and address the costs and critical issues that are of concern to the impacted people, organizations, and communities.

A key part of the process for evaluating utility partnerships entails developing the business case for why the potential partnership option(s) will yield benefits to the participating utilities, their

9 The term “utility partnerships” may also be stated as “regional solutions” and typically refers to potential partnerships between utilities located in proximity to one another, for the purpose of addressing the challenges (or tapping opportunities) facing utilities in the region. These opportunities or challenges typically include finding ways for improving efficiencies, reducing costs, improving water supply reliability and/or water quality, or in other ways enhancing the level of service provided by the organizations. The partnerships need to be mutually advantageous to all parties, and they may take on any of a number of forms (Raucher et al. 2008).
customers, and the impacted communities as a whole. Making the business case often is viewed as an accounting exercise through which cost savings and other benefits from the partnership are estimated, and then translated into savings in household water or wastewater bills over a future period.

However, a business case limited to estimated dollars and cents may be inadequate for making a comprehensive, objective, and compelling case for a potentially beneficial partnership. There is a need to tell a better story for: (1) why and how a utility partnership may be beneficial for the impacted parties, (2) what risks and other potential downside implications of the partnership might be, and (3) how and why the issues of concern to potentially impacted parties will be addressed. Hence, there is a need for guidance and illustrations for presenting a business case evaluation (BCE) and associated communication strategy that tells a more complete story that resonates with concerned parties.

B.2 Overview

This white paper describes the various elements and approaches that may be useful for developing the better story version of a business case for utility partnerships. The approach examines two key aspects of the challenge:

1. Developing credible, objective, and compelling empirical information about the benefits to be derived, and the costs incurred, from one or more potential partnership options (i.e., improving the quality and credibility of traditional business case evaluations and related feasibility studies); and

2. Telling a better and more complete story by moving beyond the dollars and cents analysis and more effectively communicating the broader array of anticipated advantages—and potential disadvantages, and by addressing the issues of concern in an accessible, trusted manner.

As such, there are two main themes to be addressed in future research:

1. One theme entails developing guidance and data to support developing the dollars and cents empirical results for the business case, and doing so in a manner that is transparent, technically correct, and meaningful for the target audiences.

2. The second theme is about how to communicate with affected individuals and organizations in a manner that builds trust and comprehension, and that extends beyond the mathematical accounting aspect of the business case to include the human and institutional dimensions of concern.

B.3 Developing Credible and Trusted Estimates for Partnership Benefits and Costs

B.3.1 Context

A critical component for exploring potential utility partnership options entails doing the math to assess how the dollars and cents are likely to pan out for all relevant parties. This is the business case evaluation (BCE) of the partnership options, and it is intended to reveal where there are likely cost savings or other benefits, as well as potential additional costs. The BCE should
also describe to whom the benefits and costs will accrue, often characterized through projected impacts on rates charged to customers and associated impacts on household and commercial customer water bills.

While the BCE often focusses and what outcomes can be monetized (i.e., cast in dollar values), the analysis should also account for important pros and cons that may not be readily quantified. Such valuable outcomes and impacts should be included in qualitative terms, in a manner that is effectively descriptive for target audiences. Important qualitative benefits (or costs) may include outcomes such as improved water quality, attaining regulatory compliance, improving resiliency, avoiding water supply shortages, and more effective risk management.

The BCE should also be based on a feasibility study that examines the technical aspects of whether and how well the water systems may mesh within the type of partnership being explored. For example, physical interconnection options need to consider the potential water quality impacts if different source waters will be used in lieu of (or mixed with) current sources, and the sizing and pressure gradients at system interconnection points may also need to be examined.

An important aspect of the challenge is that utilities considering partnership alternatives may not have the relevant expertise, funds, and/or other resources necessary to properly conduct the BCE analyses. A related challenge is that even if the feasibility and BCE work is done in a competent and objective manner, stakeholders may not trust the legitimacy or accuracy of the findings.

Accordingly, there is a need to provide research and resources to better support the development and communication of BCEs and related feasibility studies. This portion of the white paper focuses on the needs for supporting the technical soundness of developing a credible set of analyses and findings. A subsequent section focuses on the needs associated with enhancing the communication and trust aspects of the analyses.

**B.3.2 Technical Issues to Address**

This section of the white paper describes research, guidance, and related needs for supporting the technical accuracy and relevance of BCE and related feasibility studies.

**B.3.2.1 Defining the Baseline (Status Quo)**

One of the most critical aspects of developing a technically sound BCE entails defining the suitable baseline. The baseline is intended to reflect the anticipated set of future conditions (e.g., customer rates and bills) if there is no change from the present utility organization (i.e., if the status quo, non-partnership option is maintained). This baseline establishes, for example, what regulatory compliance, water supply enhancements, asset renewals, etc., would need to be implemented if the utility remains on its own, rather than proceed with a partnership option.

In other words, the baseline reflects the anticipated future without a partnership; and it serves as the point of comparison for assessing what outcomes are anticipated under the relevant partnership alternatives under consideration. For example, household water bill savings under a partnership option need to be estimated according to what household bills are projected to be under the partnership, minus what those bills are projected to be at the “no partnership” baseline. (Note that the projected baseline water bills may be greater than the current bills, because there likely
are costs that will need to be incurred by the utility if it continues to operate on its own and maintain its level of service and/or assure regulatory compliance).

Defining the appropriate baseline—or more specifically, estimating conditions in the future without the partnership—is challenging. Additional research and related materials that provide suitable guidance, data, and illustrative examples will be very useful.

Some existing resources that discuss approaches for establishing the baseline include materials found in AWWA’s most recent M50 Manual for Water Resources Planning (AWWA 2017; e.g., the alternatives analysis discussion in Chapter 9). Additional relevant material can be found in An Economic Framework for Evaluating the Benefits and Cost of Biosolids Management Options (Raucher et al. 2007), and a similar report developing an economic framework for evaluating water reuse projects (Raucher et al. 2006). Developing a version of this type of guidance that is better targeted for the issues arising in the context of drinking water and clean water utility partnerships will be a valuable part of future guidance.

B.3.2.2 Tailoring BCEs to Evaluate Utility Partnerships

There are several available guidance documents and many examples of BCEs that have been developed for water sector applications within a single utility, such as showing the value of a utility investing in pipe renewal, treatment upgrades, supply enhancements, or other capital improvement projects or operational changes. However, there does not appear to be guidance directed specifically at how to conduct a BCE relevant to evaluating potential utility partnerships, and there are a limited number of partnership-relevant BCEs available for review or compilation.

The notable exceptions that do delve into the business case for utility partnerships include:

- A WRF Tailored Collaboration research project for Lehigh County, PA, Development and Demonstration of Practical Methods for Examining Feasibility of Regional Solutions for Provision of Water and Wastewater Service (Cromwell and Rubin 2008). The key findings were:

  - Results for the total consolidation scenario where all water and wastewater suppliers would be owned and managed by a single regional entity indicate that 2020 water bills for the average household would be about $380 per year and wastewater bills would be about $350 per year. By comparison to the status quo (baseline) scenario, this represents an average household savings of $260 per year. Region-wide, this amounts to a total savings of $56 million every year, by 2020.

  - It was observed that the traditional approaches of weighing pros and cons provide an unbalanced view because potential benefits are not made more tangible. When the potential economic benefits are vaguely defined, there is not enough motivation to counter the inertia of the status quo; When everything seems fine in the short-term, there is a tendency to not fix what does not appear broken. Thus, the scales used in the comparison of the pros and cons are not balanced. The researchers suggest a new paradigm, called “benefits and issues.” The intent is to first quantify the potential benefits of regional collaboration and then convene a process to discuss the benefit estimates and to identify and discuss the issues that would need to be addressed in order to devise a means of capturing those benefits.
• An AWWA Technical and Education Council (TEC)-sponsored study, National Inventory of Regional Collaboration Among Water and Wastewater Utilities (Bielefeldt et al. 2012).

  ◦ The authors provide qualitative insights about the key benefits, and key pathways to success, from interviews and surveys of utility participants from 45 water and wastewater “collaborations.” The types of benefits most cited include cost savings, information sharing/improved communication, shared resources/water supply planning and reliability, and increased cooperation and leverage with regulators and legislators.

  ◦ The keys to success most broadly cited were developing trust, open communication, and leadership. The most commonly cited roadblocks and barriers noted were “politics, relationships, [un]willingness to compromise, funding, and [lack of] trust.”

A BCE for a utility partnership will have different aspects and areas of focus—and different relevant outcomes to derive and report—than a typical BCE for a capital investment project internal to a single utility. For example, a partnership-tailored BCE should reveal benefits to each utility’s customers (e.g., long-term savings in water bills, a more reliable supply) rather than an internal return on investment or a showing that a utility investment is expected to save the agency more money than it will cost.

A research need exists for compiling exemplary BCEs (and associated feasibility studies) that may exist for partnership evaluations. A related need is for developing critiques of where and how some examples may be good models for the analysis, and where and how other BCEs have fallen short. An accompanying Guidance package is also likely to be highly valuable by indicating best practices and offering some positive examples of what a partnership-relevant BCE would look like (i.e., what type of issues may arise in establishing a baseline, the kinds of study outputs would be most useful, how to develop those outputs, and how to best communicate those findings).

B.3.2.3 Data Availability

The technical quality and credibility of a BCE is only as sound as the data underlying the analysis. If the utilities under consideration do not have reliable data, then analysts will face significant challenges filling in blanks, auditing data values for their reliability, and making corrective adjustments. Guidance on various approaches for filling data gaps or relying on data on uncertain veracity (e.g., through the use of ranges for key parameters, and the use of sensitivity analysis) will be important. Providing case examples and illustrations that provide data from past partnership-related analyses—where those data were deemed to be accurate—may be useful as well.

B.3.2.4 Deploying Best Practices

There are several facets of developing a BCE that are considered “best practice” and standard approaches. Guidance and case studies should describe and illustrate these best practices, which include:

• Accounting for and portraying uncertainty about future conditions or events, and/or input data values.

• Promoting transparency and replicability, so that the data and analysis methods are clearly stated, no “black boxes” are included and, hence, the results may be viewed as credible.
and be readily used for sensitivity analyses to accommodate alternative perspectives or opinions on key input values.

- Clearly stating key caveats and assumptions, including any potential omissions, biases and uncertainties (e.g., indicating where a potential benefit or cost is likely to be over- or under-stated, or left out of the empirical findings because of a lack of suitable data or methods).

- Including qualitative descriptions for outcomes that cannot be readily quantified or converted to dollar values, but which may nonetheless reflect a cost of benefit of importance to a key stakeholder group.

**B.4 Telling a More Complete, Compelling and Balanced Story**

Having a balanced and compelling story in explaining the pros and cons of a potential utility partnership is critical in successfully moving forward, and the story needs to build upon and move well beyond the dollars and cents findings of the BCE. The story also should explicitly articulate both the benefits of the potential partnership, and also acknowledge and address the costs, potential risks, and other issues (e.g., local governance concerns) that are of primary concern to impacted customers and communities.

Future research and guidance should include examples of the general narrative, messages, communication techniques and channels, and other facets of building a compelling dialogue for why a utility partnership is worth open consideration (and possibly consummating) for the impacted customers and communities. Some of the key facets of storytelling are likely to include.

- Clearly articulating the motivations for (and benefits of) partnership (e.g., supply reliability, regulatory compliance, access to capital, improved resilience and robustness, supporting affordable rates), which helps place the BCE results into the broader context of advantages anticipated.

- Drawing on success stories and lessons learned, so community members can be assured that they are following a well-tested and successful pathway. Acknowledging less-than-successful partnerships, and why and how your approach will avoid the pitfalls, is also likely to be a useful part of the discussion.

- Describing the risks faced with and without the partnership (e.g., potential water shortages, infrastructure failure, regulatory noncompliance and public health implications), and how the prospective partnership may assist in mitigating those risks. This may be supported by creating a checklist of risks faced by water sector utilities, and using that checklist to develop a risk audit for the utilities with and without the partnership (or under alternative partnership arrangements).

- Providing both the local context as well as the broader regional perspectives, to help interested parties understand not just what the partnership may mean for their immediate community (utility service area), but also for the broader region as a whole.

- Coordinating with planning community, to ensure alignment with broader planning objectives and scenarios, and for potentially enlisting greater support and momentum. This
entails providing guidance for utility practitioners to support their working with regional planning entities when considering partnerships locally. It also will be important to establish more active engagement on the national level (e.g., AWWA establishing a closer working rapport with the American Planning Association) on how to better coordinate and support regional partnerships, and how to integrate relevant planning considerations into state-level policies.

- Including governance and related management issues, so that concerns about loss of local control, and other issues of critical concern on people’s minds, can be acknowledged and addressed. Specific guidance and useful examples of potential governance structures and policies (and related templates for how to formally establish those governance structures in written agreements) will be of very high value.

- Understanding the audiences with whom proponents need to engage, and then understanding and acknowledging their issues and addressing their concerns. Opponents, skeptics and the non-committed are unlikely to be open to any counter-arguments until they believe their questions of critical concern have been heard and have been answered in a satisfactory manner. Only then can these individuals become open to hearing and accepting other information.

- Communicating results (and throughout the process) drawing on the principles and practices of risk communication, including using an effective and trusted messenger to convey information (messages) designed and tested to resonate with the target audiences. Having a well-regarded champion who is perceived as an unbiased and respected neutral party, can be a valuable catalyst for success.

**B.5 Other Issues and Considerations**

All of the items discussed above, about how to improve BCEs and tell a more complete, objective, and compelling story, raise several general challenges. Perhaps most fundamental are:

1. the need to securing funding for developing accurate and credible feasibility studies and BCEs;

2. the need for providing suitable levels and types of technical expertise and data to conduct credible, valid analyses; and

3. having the skills, training, and supporting materials needed to communicate effectively with the interested parties.

It also is important to be clear about what may constitute success or failure in terms of forging and maintaining a partnership. As noted in Raucher et al. (2008) and Bielefeldt et al. (2012), the use of terms such as “success” or “failure” does not refer to the presence or absence of a regional partnership approach. Moving forward with a utility partnership is not necessarily a success for all systems or circumstances, and a BCE should not advocate either for or against regional approaches. Rather, success or failure applies to whether a utility or community:

4. actively considers regional partnership approaches,
5. makes a prudent and informed decision about whether a regional partnership approach would be advantageous and, if so, then

6. moves forward and forges an appropriate working legal agreement with its neighbors—where that agreement is written in a way that helps ensure that the community realizes the benefits, and manages the issues (e.g., establishes suitable governance and management systems) of the cooperative venture.

B.6 Conclusions

There typically are many important benefits and advantages to be gained from well-conceived and well-executed utility partnerships. At the same time, there are many impediments to actualizing those partnerships and realizing the benefits they offer. To successfully navigate a path to potentially valuable partnerships, the benefits and costs need to be properly estimated, and they need to be communicated in a manner that is trusted and that resonates. And, all the issues of critical concern to potentially impacted parties also need to be addressed in a manner that is trusted and effective. Guidance and examples will be valuable for utilities, regulators, and other entities that wish to address both aspects of telling a better story in support of utility partnerships.

Perhaps the most important perspective about what the business case can—and cannot—contribute to the successful development of a utility partnership is found in the conclusions provided by Bielefeldt et al. (2012):

Open communication, trust, and leadership (sometimes formal and based on an established structure, but more often informal as driven by key individuals) seem to be the key ingredients for success... The keys to success regardless of the collaboration type or mechanisms were to build trust among the collaborators, facilitated by transparent processes and open communication, which helped build relationships among the collaboratives that would persist across leadership changes.

**Ultimately, the development and communication of the business case, and of related story telling, need to be built around the human dimensions of trust and leadership.**
Appendix C
Project Approach and Summary

The materials developed for this Resource Guide were developed under WRF project 4750, and the project effort benefited considerably from the input from the Project Advisory Committee (PAC) and numerous additional experts drawn from across the water sector and who participated in project workshops and contributed in additional ways. This section of the report provides an overview of the research approach used to develop the materials presented here, and a list of the individuals whose participation and technical contributions were instrumental to the project’s success.

C.1 Initial Project Efforts

The research effort started with a literature search and review by the technical team at Corona Environmental Consulting, LLC., as summarized in a technical memorandum. This task entailed compiling and reviewing existing guidance, tools, case studies, templates, and other available materials that provide pragmatic information for utilities regarding (1) the potential range of available partnership options; (2) their respective advantages and disadvantages; (3) developing sound business case evaluations (BCEs) of potential partnerships; and (4) examples of legal agreements, and/or other written agreements that define ownership, tax ramifications, compliance responsibilities, and other relevant fiscal, legal, regulatory, or other issues that may arise in a partnership context.

The materials reviewed by the research team included EPA’s Partnership Information Network and web pages, WRF and AWWA reports, and other materials as discovered in the published and grey literature. WRF Report 2950 (Raucher et al. 2008), provided a relatively comprehensive exploration, and the associated WRF 4075, Development and Demonstration of Practical Methods for Examining Feasibility of Regional Solutions for Provision of Water and Wastewater Service (Cromwell and Rubin 2008), provided a comprehensive BCE for partnership options for the utilities in Lehigh County, PA.

Based on the compilation and review of the existing materials, the team developed an initial Framework for utilities to identify and assess their partnership opportunities. The Framework, as presented previously in this Guide, describes a step-by-step process to help utilities navigate the process from (1) identifying their needs and partnership options, (2) evaluating their partnership options based on key criteria developed by the research team, and (3) addressing the legal structures and other details necessary for consummating a successful and mutually advantageous partnership.

C.2 Expert Workshops

The project approach drew heavily on two workshops, both hosted by the American Water Works Association (AWWA), to help prioritize information needs and review the materials developed. The first workshop was designed to scope out priority needs for new or updated materials with the input of water utility experts and stakeholders. Participants in the initial workshop, held in January 2018, are listed in Table C.1, with PAC members and project co-sponsor representatives noted. The workshop helped develop a list of priority information gaps, and where existing
materials need to be updated or expanded to better address the most pressing partnership-related questions.

After the workshop, the research team provided a technical memorandum summarizing the workshop findings, and describing: (1) the overall prioritized list of future research and guidance needs, and clearly articulating what specific approaches and outcomes/work products would be most useful for each identified need/project; and (2) a well-defined work plan for the second portion of the research effort, in which the topmost priorities for our team’s next steps were clearly described, and the approaches and work products to be developed by our remaining efforts were defined. The prioritized list of needs identified two topics as points of focus for white paper development: business case evaluation and legal structures (presented in Appendices A and B of this report).

The second workshop was designed to gather feedback on new materials collected, or existing materials expanded, to better address some of the prioritized needs. The second workshop also was used to compile clear definitions of the remaining priority partnership-supporting needs and how they might be addressed in the future. Participants in the smaller, more focused second workshop, held in June 2018, are listed in Table C.2. In addition, the need for this Resource Guide was identified as a priority work product to be developed in lieu of a more traditional technical report for this project.

**C.3. Final Work Products**

This document reflects the culmination of this research effort. The primary portion of this document provides the guide to the key questions to be addressed as utilities contemplate potential partnerships and move towards possible implementation of one or more forms of utility collaborations and structures. This document also includes the supporting materials developed as part of this applied research effort, including two white papers. In addition (and not included in this document), a compilation of project descriptions was developed for potential future efforts to fill gaps that were identified and prioritized by the project participants.

**Table C.1 Scoping Workshop Attendee List**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christopher Crovo</td>
<td>Portland Water District</td>
<td>Director of Asset Management and Planning</td>
</tr>
<tr>
<td>Jeff Hughes</td>
<td>UNC Environmental Finance Center</td>
<td>Director</td>
</tr>
<tr>
<td>Michael Algranati</td>
<td>SUEZ</td>
<td>VP Contract Management</td>
</tr>
<tr>
<td>Michelle Frederick</td>
<td>California State Water Resources Control Board (SWRCB), Division of Drinking Water</td>
<td>Northern California Consolidation Coordinator</td>
</tr>
<tr>
<td>Catherine Wunderlich</td>
<td>WI Department of Natural Resources</td>
<td>Chief, Public Water Engineering Section</td>
</tr>
<tr>
<td>James LaPlant</td>
<td>Iowa Regional Utilities Association</td>
<td>CEO/Engineer</td>
</tr>
<tr>
<td>Verna Arnette</td>
<td>Greater Cincinnati Water Works</td>
<td>Deputy Director</td>
</tr>
<tr>
<td>Aurel Arndt</td>
<td>Retired</td>
<td>AWWA Treasurer</td>
</tr>
<tr>
<td>Ken Heigel</td>
<td>Ohio Water Development Authority</td>
<td>Assistant Executive Director</td>
</tr>
<tr>
<td>Bud Mason</td>
<td>Rural Community Assistance Program (RCAP)</td>
<td>Sr. Rural Development Specialist</td>
</tr>
<tr>
<td>Olga Morales</td>
<td>RCAC</td>
<td>Regional Manager</td>
</tr>
<tr>
<td>Name</td>
<td>Organization</td>
<td>Title</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>Cynthia Lane</td>
<td>Platte Canyon Water &amp; Sanitation District</td>
<td>Assistant Manager</td>
</tr>
<tr>
<td>John Rauch</td>
<td>Great Lakes RCAP</td>
<td>RCAP Coordinator</td>
</tr>
<tr>
<td>Janice Beecher</td>
<td>Michigan State University</td>
<td>Director, Institute of Public Utilities Policy Research &amp; Education (IPU); Professor</td>
</tr>
<tr>
<td>Carolyn Peterson</td>
<td>Association of Metropolitan Water Agencies</td>
<td>Director of Communications and Public Affairs</td>
</tr>
<tr>
<td>Robert Walters</td>
<td>Davidson Water Inc</td>
<td>Vice President Construction &amp; Engineering</td>
</tr>
<tr>
<td>Wendi Wilkes</td>
<td>American Water Works Association</td>
<td>Regulatory Analyst</td>
</tr>
<tr>
<td>Ellen Tarquinio</td>
<td>EPA</td>
<td>Environmental Protection Specialist</td>
</tr>
<tr>
<td>Bill Teichmiller</td>
<td>EJ Water Cooperative, Inc.</td>
<td>CEO</td>
</tr>
<tr>
<td>Michael Deane</td>
<td>Consultant (formerly with National Association of Water Companies)</td>
<td>Consultant</td>
</tr>
<tr>
<td>Nathan Gardner-Andrews</td>
<td>National Association of Clean Water Agencies</td>
<td>Chief Advocacy Officer</td>
</tr>
<tr>
<td>Jim Henderson</td>
<td>Corona Environmental Consulting</td>
<td>Senior Water Resource Economist</td>
</tr>
<tr>
<td>Bob Raucher</td>
<td>Corona Environmental Consulting</td>
<td>Director, Water Economics and Planning</td>
</tr>
<tr>
<td>Katie Henderson</td>
<td>Water Research Foundation</td>
<td>Research Manager</td>
</tr>
</tbody>
</table>

Table C.2 Second Workshop Attendee List

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff Hughes</td>
<td>University of North Carolina Environmental Finance Center</td>
<td>Director</td>
</tr>
<tr>
<td>Scott Rubin</td>
<td>Consultant</td>
<td>Public Utility Attorney and Consultant</td>
</tr>
<tr>
<td>Carolyn Peterson</td>
<td>Association of Metropolitan Water Agencies</td>
<td>Director of Communications and Public Affairs</td>
</tr>
<tr>
<td>Robert Walters</td>
<td>Davidson Water Inc</td>
<td>Vice President Construction &amp; Engineering</td>
</tr>
<tr>
<td>Wendi Wilkes</td>
<td>American Water Works Association</td>
<td>Policy Analyst</td>
</tr>
<tr>
<td>Ellen Tarquinio</td>
<td>EPA</td>
<td>Environmental Protection Specialist</td>
</tr>
<tr>
<td>Bill Teichmiller</td>
<td>EJ Water Cooperative, Inc.</td>
<td>CEO</td>
</tr>
<tr>
<td>Nathan Gardner-Andrews</td>
<td>National Association of Clean Water Agencies</td>
<td>Chief Advocacy Officer</td>
</tr>
<tr>
<td>Michael Deane</td>
<td>Consultant (formerly with National Association of Water Companies)</td>
<td>Consultant</td>
</tr>
<tr>
<td>Jim Henderson</td>
<td>Corona Environmental Consulting</td>
<td>Senior Water Resource Economist</td>
</tr>
<tr>
<td>Bob Raucher</td>
<td>Corona Environmental Consulting</td>
<td>Director, Water Economics and Planning</td>
</tr>
<tr>
<td>Katie Henderson</td>
<td>Water Research Foundation</td>
<td>Research Manager</td>
</tr>
</tbody>
</table>
References


California Corporations Code. 1947. Water Companies. Ch. 1038, Title 1, Division 3, Part 7, Chapter 1. (14300-14307).


Corona Environmental Consulting. 2019. Proposition 50 Chapter 6b, Consolidated Management of Nitrate Treatment: Affordability Assessment—DRAFT.


Partnership Toolbox
# Workbook 1: Identify the People and Organizations Needed to Create a Successful Partnership

Refer to Step 1 in the Resource Guide

1. Identify and invite key utility managers to engage in the process, and define their key roles and responsibilities for evaluating partnership issues

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Identify and enlist local elected officials that can verify the need for a partnership and help support consideration of potential approaches

<table>
<thead>
<tr>
<th>Name</th>
<th>Experience or Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Identify local community thought leaders who can be “advocates” for the partnership

<table>
<thead>
<tr>
<th>Name</th>
<th>Experience or Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Identify a champion that is a leader within the utility who can help navigate bureaucracy within the organization and help gain needed approvals.

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

5. Identify key utility staff or resources that can provide technical expertise, including operators or water quality experts

<table>
<thead>
<tr>
<th>Name</th>
<th>Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Consider involving state agencies for capacity development assistance and to understand potential financial resources

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Workbook 2: Identify Partnership Objectives, Values, and Drivers

Assess the needs of the utilities strategically. Sometimes those needs may be readily apparent, but for some other needs, an assessment may take some effort. Document and describe the needs. Focus groups, interviews, informal discussions, and surveys are all effective ways at determining the individual needs and values of each utility. Use these needs to develop the objective(s) of the partnership.

1 Needs assessment for Utility Partner 1

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 Needs assessment for Utility Partner 2

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3 Needs assessment for Utility Partner 3

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 Needs assessment for Utility Partner 4

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Partnership Objectives:

1
2
3
Workbook 3: Explore Options for Utility Partnerships

Match the type of partnership with the objectives identified in Workbook 2. Preliminarily investigate all partnership options that might meet your objectives, before starting to narrow down the options.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Type of Partnership (circle)</th>
<th>Explanation/Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
<td>Mutual Aid Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharing Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Purchase Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaborative Water Resource Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contract Services Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td></td>
</tr>
<tr>
<td>Objective 2</td>
<td>Mutual Aid Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharing Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Purchase Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaborative Water Resource Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contract Services Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td></td>
</tr>
<tr>
<td>Objective 3</td>
<td>Mutual Aid Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharing Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Purchase Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaborative Water Resource Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contract Services Arrangements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td></td>
</tr>
</tbody>
</table>
**Workbook 4: Review Common Legal Structures for Partnerships**

Match the potential legal structure with the possible partnership types from Workbook 3. The template below allows you to make notes on the applicability of potential legal structures to meet your objectives. Consider matching the complexity of the partnership option and legal structure option to the complexity of the task.

<table>
<thead>
<tr>
<th>Partnership Type</th>
<th>Legal Structure Type</th>
<th>Applicability/ Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutual Aid Arrangements</td>
<td>Informal Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOU/MOA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contract (state or local level)</td>
<td></td>
</tr>
<tr>
<td>Sharing Arrangements</td>
<td>Informal Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOU/MOA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Water Purchase Arrangements</td>
<td>MOU/MOA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wholesale/Direct Contract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Contract Services Arrangements</td>
<td>Direct Contract</td>
<td></td>
</tr>
<tr>
<td>Collaborative Resource Development</td>
<td>Informal Agreement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOU/MOA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wholesale/Direct Contract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
<tr>
<td>Consolidation</td>
<td>MOU/MOA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct Contract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special District</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water/Sewer Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint Powers Authority</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperative</td>
<td></td>
</tr>
</tbody>
</table>
Workbook 5: Identify Potential Benefits—The Business Case

With each feasible partnership option, evaluate the business case in order to fully articulate the potential benefits. List benefits, either with quantitative or qualitative evaluation, to the table of partnership alternatives created in previous workbooks.

Evaluate the key economic benefits to each of the entities involved, as quantitatively as possible.

Evaluate the benefits for the region as a whole, not just the benefits to the key agencies. This could, for example, involve adding the benefits of improved water supply reliability, or reduced treatment costs at the point of use that may apply to customers or the broader region.

1 Partnership Option 1

<table>
<thead>
<tr>
<th>Key Benefits</th>
<th>Key Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(For example: household water bill cost savings, attaining regulatory compliance, revenue stability gain)</td>
<td>(For example: change in annual operating costs, change in CIP for the relevant period)</td>
</tr>
</tbody>
</table>
## Partnership Option 2

<table>
<thead>
<tr>
<th>Key Benefits</th>
<th>Key Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(For example: household water bill cost savings, attaining regulatory compliance, revenue stability gain)</td>
<td>(For example: change in annual operating costs, change in CIP for the relevant period)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Workbook 6: Review Potential Partnership Issues or Concerns

For the partnership options being considered, identify and list the concerns by agency, decision-maker, or other individuals.

1. Partnership Option 1

<table>
<thead>
<tr>
<th>Agency, Decision-Maker, Other</th>
<th>Concerns or Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Partnership Option 2

<table>
<thead>
<tr>
<th>Agency, Decision-Maker, Other</th>
<th>Concerns or Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Identify the preferred partnership option. (describe)


Make a note of the concerns that you will make sure to address in the written legal agreements.


Analyze future water rates in terms of the effect on the average household water bill.

<table>
<thead>
<tr>
<th>Utility</th>
<th>Average Monthly Water Bill Pre-Partnership</th>
<th>Average Monthly Water Bill Post-Partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Workbook 7: Legal Provisions to Include in the Contract

Develop an outline of the provisions of the contract. In the outline, make note of the issues that each party wants to address. This is simply meant to be an outline of potential key provisions—this list is not exhaustive, and you will likely need to modify this list to fit the specific partnership option.

<table>
<thead>
<tr>
<th>Identify the Parties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Need and Purpose of the Agreement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Partnership</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Roles and Responsibilities of Contracting Parties</th>
<th>Party</th>
<th>Role/Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method for Performance Monitoring Over Time</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dispute Resolutions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methods for Amending the Agreement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Review the partnership option at a conceptual level with a legal representative.

- Find out if there are any legal issues under this partnership option that have not been considered and which should be discussed.
Workbook 8: Communicate about Partnerships to Build Support

Communication about partnership options is key to the analysis process, and communication about the partnership options should be undertaken throughout the steps in this process. Complete a new Workbook 8 for each specific audience group.

1. Audience __________________________________________

   Identify the key issues that this specific audience group wants to know about this partnership.

   ①
   ②
   ③

2. Audience __________________________________________

   Use your articulated list of objectives, values, and drivers to identify the three most important points to share with this audience.

   ①
   ②
   ③
Create a key message for this audience using the 27-9-3 Rule: 27 words that can be spoken in 9 seconds or fewer and contain 3 or fewer concepts.