

Toilet Rebate and Direct Installation Programs: Best Practices and Lessons Learned

Introduction

WaterNow Alliance (WaterNow) partnered with the City of Charlottesville (Charlottesville) to review and analyze the current state of the City's WaterSense Labeled Toilet Rebate Program (Toilet Rebate Program), determining improvement options for the program, and creating a deployment or implementation plan for these updated program elements.

As part of this work, WaterNow conducted research to identify best practices in creating toilet rebate and direct installation programs, focusing on: the eligibility criteria related to the age and water use of eligible toilets; approaches for engaging commercial, industrial, and institutional customers; and examples of effective outreach and messaging. The project team assessed a total of 111 communities for the presence or absence of toilet rebate programs, and reviewed 40 existing programs in greater detail, conducting informational interviews with three of these programs. This memo shares key findings from how these programs were developed and implemented, highlighting best practices and lessons learned in their implementation.

Summary of Program Research

WaterNow reviewed a total of 111 communities for the presence or absence of toilet rebate programs, and then researched 40 existing programs in greater detail (see *Appendix A* for additional details). The following information was gathered for each of these 40 programs:

- Program description (e.g., what is the financial assistance/rebate/direct install?)
- An overview of eligibility for the program, by:
 - Customer type (e.g., SFR, MFR, and/or CII; homeowners and/or renters)
 - Age and water use of toilets
- Application process
- Low-income and hard-to-reach customer engagement

- Outreach / Communications (e.g., any bilingual materials, strategies for engaging hard-to-reach customers, or outreach collateral?)
- Measurable Outcomes (e.g., qualitative data, metrics, or success stories)
- Community and/or nonprofit partners
- Any available budget and funding information

Across these programs, some key trends emerged:

- In terms of *participant eligibility*, in addition to supporting SFR homeowners:
 - 22% (9) of the programs included renters.
 - 67% (27) of the programs included MFR and/or CII customers.
 - With the exception of Scottsdale, Arizona, which recently ended its residential toilet rebate program (but still maintains a MFR/CII rebate), the other programs include SRF homeowners as eligible participants.
- Twenty percent (8) of the programs offered direct installation services.
 - The direct installation programs include:
 - Pasadena Water and Power (PWP): ["Under One Roof" & WeDIP](#)
 - Aurora Water: [Low-Income Water Efficiency Programs \(LIWEP\)](#)
 - Seattle Public Utilities (SPU): [Low Income Toilet Offer & Toilet Rebate Program](#)
 - Tucson Water: [Free Toilet Replacement for Low-Income Homeowners & High-Efficiency Toilet \(HET\) Rebate, & Water Conservation Kits](#)
 - Madison Water Utility (MWU): [Home Water Conservation Program & HET Rebate Program](#)
 - Dallas, TX: [New Throne for Your Home Residential Program](#)
 - San Francisco, CA: [Free Toilet Program or Plumbing Fixture Replacement Program](#)
 - Westminster, CO: [Toilet Rebate Program](#)
 - While most of the direct installation programs we reviewed focus on residential (SFR and/or MFR) customers, the City of Pasadena, California, also has a Water & Energy Direct Install Program ([WeDIP](#)) that provides select commercial customers in disadvantaged communities with free assessments and installation of up to \$7,500 in energy- and water-saving equipment, such as toilets, faucet aerators, showerheads, and clothes washers. "Small commercial" entities that are customer of the utility and uses less than 50 kilowatts (kW) of electricity per year qualify to participate.¹
 - Of the programs above, Dallas, TX; San Francisco, CA; and Westminster, CO support renters. In Westminster, SRF renters go through their SRF program; MFR renters would

¹ EPA WaterSense. (July 2021). Assistance that Saves: How WaterSense Partners Incorporate Water Efficiency Into Affordability Programs. Available: <https://www.epa.gov/system/files/documents/2021-07/ws-assistance-that-saves-efficiency-and-affordability.pdf>.

only be covered by the program if they reside in a participating County Housing Authority building.

- In terms of the *toilets being installed and replaced*, while there was variation, the most common requirements were that: existing toilets needed to be either 1.6 gpf or higher (about 23%); or 3.5 gpf or higher (15%), and new toilets needed to be 1.28 gpf or lower (30%). (See Figures 1 and 2 below). It should be noted that several programs did not offer specific about the requirements for appliances in their public-facing content (e.g., only noting requirements for the new toilet, but not for the existing one). Additionally, some programs (e.g., Santa Fe), offered a tiered rebate for different toilet types, or noted different requirements for different customer types (e.g., Cobb County, Greeley). In those instances, we include each requirement (for example, if a city has a rebate for a 1.28 and 1.1 gpf toilet, both are counted in the figures below).

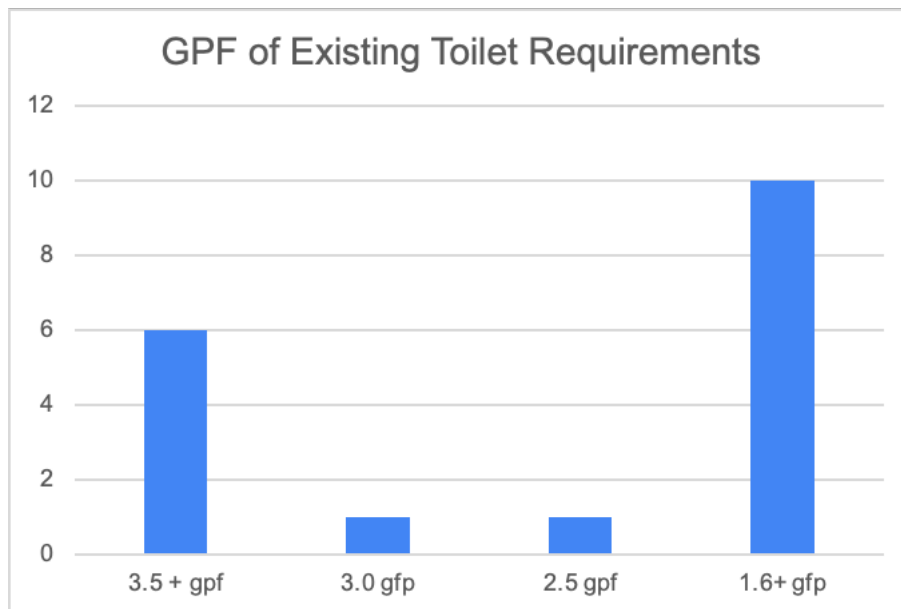


Figure 1. Gallon per flush (GPF) requirements for existing toilets across the reviewed programs.

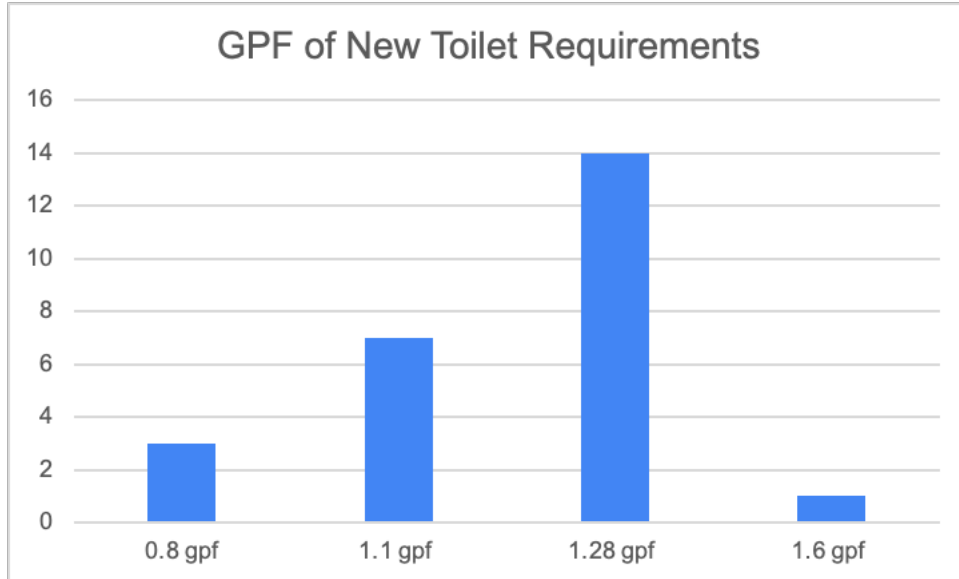


Figure 2. Gallon per flush (GPF) requirements for new toilets across the reviewed programs.

Programs in Virginia and the Southeastern United States

Of the 47 Virginia communities the project team reviewed, three communities had toilet rebate programs: Albemarle County Service Authority (which currently mirrors the City of Charlottesville’s program), City of Virginia Beach, and James City Service Authority. These programs rebated between \$40 and \$100 per toilet, required new toilets to be WaterSense high-efficiency toilets, and covered service populations considerably larger than Charlottesville’s. Many communities in Georgia and Florida participated in two overarching programs: the Broward Water Partnership in Florida (18 municipalities), and the Metropolitan North Georgia Water Planning District in Georgia (15 counties and 95 cities). While the total number of toilet rebate programs in these states is smaller, in part this reflects widespread participation in these larger umbrella programs and speaks to the feasibility and prevalence of toilet rebate programs in the Southeastern U.S.

Additionally, [energy-efficiency focused programs](#) in Virginia may hold lessons for any direct installation programs for water efficiency appliances. For instance, the [Dominion Energy Residential Income and Age Qualifying Home Improvement Program](#) provides income- and age-qualifying residential customers with energy assessments and direct install measures at no cost to the customer in Richmond and Virginia Beach, among others.² Program measures include LED light bulbs, energy-saving showerheads, high-efficiency faucet aerators, pipe wrap insulation for hot water pipes, and attic insulation. In 2019, the program saved 1,163 MWh, while spending \$4,050,714 and serving 5,897 low-income households.

² The 2020 Virginia House Bill 2789 requires that Dominion offer two new programs, offering incentives for the installation of measures that reduce residential heating and cooling costs and enhance health and safety of residents, and including repairs and improvements to home heating and cooling systems, insulation, and air sealing. Dominion partners with local weatherization service providers to complete energy assessments and install measures.

Key Findings

WaterNow conducted three informational interviews to better understand the nuances involved in designing and implementing toilet rebate and direct installation programs. This and the following sections summarize the key take-aways from these conversations, and from additional desk research around these topics.

- In terms of making the case for toilet rebates, **incentives and benefits varied according to the audience**. For instance, a utility’s benefits include reduced energy costs, and improved water conservation; for the homeowner or building owner, free repairs and improvements; and for the rate-payer, reduced water bills.
- Across the programs, **key outreach approaches included**: cross-promotion with other local programs and other government departments, outreach to local plumbers and contractors, outreach to toilet retail outlets, the creation of bilingual materials and partnerships with local community organizations, and traditional outreach methods (e.g., bill inserts and direct mail, advertising across TV, streaming, Spotify, and social media platforms, and sharing information on community websites, e-newsletters, and social media). For MFR and CII customers, partnerships with industry associations, outreach based on industry databases, and simply showing up on site were common engagement strategies.
- **Hard-to-reach demographics** included older residents and non-English speakers facing language and cultural barriers to accessing information. Landlords, property managers and wealthier customers could also prove challenging to engage.
- Broadly, we heard that many programs are **seeking to find the right balance** between incentivizing the largest water savings, while still supporting and providing flexibility to customers, and particularly to low-income customers who may face other constraints, such as long wait times and higher costs for some higher-efficiency models or volume need considerations for older pipes and properties. Programs have crafted or are considering adjusting eligibility in a variety of ways to reflect their program goals:
 - Focusing or limiting the program or aspects of the program to low-income residents. For instance, Westminster specifically focuses its multifamily efforts on county housing authorities offering affordable housing, to ensure water savings are passed onto residents. However, it has also worked to ensure that SRF renters are able to participate, specifically in instances where they are responsible for the water bill but may have limited authority or resources to make larger repairs. Westminster also noted that its outdoor water conservation program offers tiered rebates aimed at directing the greatest support to the lowest-income customers.
 - Durham is considering a tiered rebate aimed at offering greater incentives to toilet replacements that generate the largest water savings (an approach that has also been used by the Metropolitan Water District of Southern California and by Santa Fe, NM, among others).

- **Streamlining the application process** – for instance, through automatic eligibility with external energy assistance programs such as LEAP/LIHEAP or other internal water conservation or assistance programs – can reduce barriers to entry and enable customers to apply for all relevant programs in a single step.
- **Determining market saturation** around high-efficiency toilets and the true additional water-saving impact of rebate programs remains a challenging and murky area for many utilities. Some are focusing specifically on low-income households, who may not otherwise have the resources to replace their toilets. Others note that while they expect to keep their programs operational to provide support to large populations, they view them as capital investments that may taper off over time. That being said, toilet replacement programs remain a key source of water savings that can have a meaningful effect on lowering customer bills.
- **Tightening the eligibility of toilets** (e.g., restricting rebates to only HET+ toilets) can in some cases create challenges. It's important to ensure that these models are readily available at local stores (particularly in the wake of supply chain delays), are aligned with the cost of the rebate, and are suited for the unique plumbing and usage needs of the property. At the same time, another utility has found that expanding eligibility to replace 1.6 gpf toilets with 0.8 gpf toilets in MFR properties has generated savings beyond what they would expect from a simple comparison of gpf models, suggesting that there may be leaks or flapper issues that were contributing to higher water use in the 1.6 gpf models.³ One benefit of supporting the 0.8 gpf Niagara Stealth model used in these conversions is that these models do not include a flapper, eliminating a common challenge and potential source of leaks. This program saw a 56% and 68% reduction in annual water use in two of the participating locations.

Eligibility Criteria

Eligibility: Participants

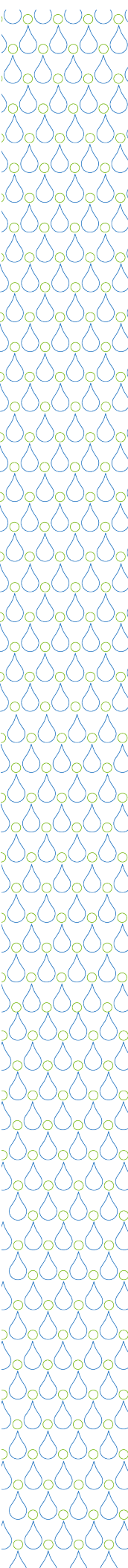
Key findings across the approaches to defining eligibility for participation in toilet rebate and/or direct installation programs are summarized below.

- Programs have crafted or are considering adjusting eligibility in a variety of ways to reflect their program goals:
 - Some have limited the program or aspects of it to low-income residents. For instance, since Colorado state law mandates the use of WaterSense appliances, Westminster's program focuses on reaching low-income residents who might not otherwise be able to replace or repair their appliances.
 - Some interviewees have worked to ensure that renters are able to participate, specifically in instances where they are responsible for the water bill but may have limited authority or resources to make larger repairs.

³ As shared during a presentation at the 2023 AWE Water Efficiency and Conservation Symposium.

- One program specifically focuses its multifamily efforts on county housing authorities offering affordable housing, to ensure savings are passed onto residents.
- Programs are taking a variety of approaches to engaging and supporting renters. One interviewee noted that while there was initially some reluctance about whether to include SFR renters in the program, but they decided to include them, to address circumstances where renters face high bills over many months due to leaks their landlord will not fix. (They have found that typically the toilet is the issue and cause of the leaks). This program supports MFR customers through its work with County housing authorities, since this partnership ensures that it's focusing MFR support on affordable housing locations.
- Some programs note that it can be difficult to evaluate the additionality of rebates for market-rate MFR customers in particular. One organization sunsetted its commercial program⁴ in 2015, although the City may revive it, depending on the results of a current water conservation analysis and the significant water savings that can be achieved by large water users. Another program noted that in recent years, MFR rebates are in some cases being pursued by recent purchasers or developers, who have hired workers to search for rebates, raising some questions as to whether these toilets would have been installed regardless of the rebate. One community has decided to focus on supporting renters in SFR dwellings (who are often directly responsible for the water bill), or to support MFR renters through partnerships with housing authorities, in part out of a concern that cost savings resulting from rebates may not reach renters in large market-based locations.
- In other cases, it's often difficult for rebate programs to connect directly with building owners, who are often based out of state or working with property managers who may have many competing priorities, and limited bandwidth or awareness of rebates. Approaches to engaging this demographic may include targeting commercial properties which have recently changed hands and which may be primed for renovation. However, out-of-state owners may present an ongoing challenge to toilet rebate program participation. Targeting property manager associations or professional associations can sometimes be helpful, in reaching or partnering with a manager who may be in charge of many locations.
- For low-income customers, it's important to consider the overall time and additional costs associated with replacing their toilets. One community noted that particularly for customers without the know-how or capacity to do the replacements themselves, plumbers are often necessary, and can increase costs to a total of anywhere from \$200-\$600, well over the cost of the rebates. As with many rebate programs, finding the time and up-front capital can prove to be a barrier, even though there is a strong return on investment over the long term. That being said, toilet replacements generate real savings for participants, saving on the order of hundreds of dollars a year, a significant source of income for people on tight or fixed budgets.
- Similarly, there is a strong business case to be made to engaging large water users; water savings at a Housing Authority property in Westminster amounted to 300,000 gallons of water

⁴ This sunsetting applied to commercial businesses; multi-family residential customers remain eligible for toilet rebates.



per month following upgrades in 72 units—a 48 percent decrease in water use that translated to an annual savings of \$65,000 after the investment of \$30,000 in the direct installation of efficient toilets. The City is hoping to explore ways to make the business case for toilet replacement to customers and large water users who have the resources to replace toilets themselves.

Eligibility: Toilets

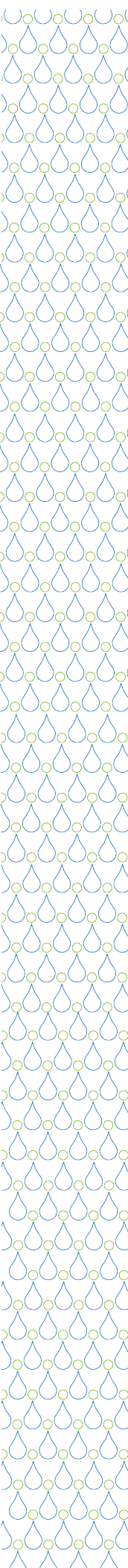
Key findings about the toilets included in rebate and direct installation programs are summarized below.

- Tightening the eligibility of toilets can in some cases create challenges. It's important to ensure that these models are available at local stores, are aligned with the cost of the rebate, and are suited for the unique plumbing and usage needs of the property. For instance, one community noted that the more stringent 1.1 gallon per flush requirement for residential rebates is a product of its participation in a larger regional program, which tightened eligibility requirements to this standard. The stricter requirements on the have caused a dramatic drop in participation, due to lack of availability of 1.1 gallons per flush toilets at local distributors (a product of supply chain disruptions from COVID) and the greater cost of these toilets (the 1.28 gallons per flush toilets typically cost approximately \$99, making them a wash with the support of the \$100 rebate, while the 1.1 gallons per flush toilets cost closer to \$150, resulting in a net cost to the customer). Additionally, for older homes and systems, there may be a need to ensure there is sufficient water volume to enable waste to travel through the system.
- Some utilities are exploring tiered systems, to provide flexibility while still encouraging and rewarding the highest returns in terms of water savings.

Toilet Rebate Program Structures

Key findings across the overall structure and design of toilet rebate and direct installation programs are summarized below.

- Streamlining the application process – for instance, through automatic eligibility with external energy assistance programs, such as the [Low-Income Home Energy Assistance Program \(LIHEAP\)](#) or through a single application form for internal water conservation or assistance programs, can reduce barriers to entry and enable customers to apply for all relevant programs in a single step.
- It seems most valuable to have both an online application and a hard copy option. For many, an online application streamlines the process and removes barriers to entry. Increasingly, there's a sense that many customers expect and are accustomed to online processes and quick turnaround times, and that the absence of these may lower participation. However, some customers still feel most comfortable with paper applications, and this is often especially true for elderly and low-income populations that may have limited access to technology or Internet connectivity.
- Determining market saturation around high-efficiency toilets remains an area of continuing evaluation for many utilities. Approaches to adjusting programs in the face of greater market



saturation of water efficient toilets vary. Some programs are focusing specifically on low-income households, who could otherwise not afford to replace or repair their toilets. One program noted that while they expect to keep their programs operational, since they anticipate that their population is large enough that support will still be needed, they view it as capital investment that may taper off and operate with a lower level of participation over time. That being said, toilet replacements remain a key source of water savings that can have a strong positive impact on both utility and customer's bottom lines. One community's analysis has found that there remains a strong return on investment for conducting these programs, though some questions about their additionality remain.

Direct Installation Programs

Several findings specific to direct installation programs also emerged from these conversations. Detailed resources are summarized in *Appendix B*, and key take-aways follow below:

- In designing the program, engaging key stakeholders – from plumbers to housing providers to community-based organizations – up front makes it easier to share input, flag likely issues, such as local plumbing challenges or cultural sensitivities, and to streamline processes where possible.
- It's helpful to consider how the nuances of different funding and regulatory requirements may play out. For instance, North Carolina state law requires cities to use licensed plumbers for any work they conduct. Some funding sources, like Community Block grants, can have strict eligibility requirements for participants – Evans, Colorado was able to use in-kind donations of appliances from Northern Water to supplement this funding, and support a wider range of low-income residents.
- Many best practices related to implementation focused on avoiding, at all costs, situations where an applicant might be left without a toilet. Strategies for this included:
 - Conducting preliminary site visits to ensure a replacement would be feasible and appropriate.
 - Carrying multiple types of equipment, including ADA-compliant models.
 - Having a clear line to a plumber to support any non-standard installations, and having budget allocated (10-15% recommended) to support this.
- Across the process, it's also vital to ensure that customers feel they have a voice. Working closely with community-based organization and providing translation support, for instance, can help people feel comfortable engaging with the programs.

Outreach Approaches and Methods

Across the programs, key or especially innovative outreach approaches included:

- *Cross-promotion with other local programs.* For instance, communities have instituted a single application process, automatically qualified participants for multiple programs, or aligned with LEAP or other existing income verification processes.

- *Cross-promotion with other government departments.* For instance, one community trains volunteers to perform water-related activities and support community outreach across a wide variety of water related issues and hosts monthly “Lunch and Learns” to share information across departments.
- *Outreach to local plumbers and contractors* (e.g., through attending industry events).
- *Outreach to toilet retail outlets* (particularly big box stores, such as Home Depot and Lowe’s).
- *Bridging linguistic and cultural barriers by creating bilingual materials and partnering with local community organizations.*
- *Traditional outreach methods, including:*
 - Bill inserts and direct mail. Mining customer data can reach customers who have been disconnected or at risk of service disconnection.
 - Advertising across TV, streaming, Spotify, and social media.
 - Sharing information on community websites, e-newsletters, and social media.

While each community varies, interviewees did identify some common *hard-to-reach demographics*, including older residents (who may be home-bound, have less internet access, and where trust can be an issue as well), and participants who have limited English fluency, and may face language and cultural barriers to accessing information. In addition to the outreach strategies described above, communities are working to reach these residents in a variety of ways. Drawing on an idea developed in Tacoma, Washington, the City of Westminster has begun taking a van to hard-to-reach neighborhoods and signing people up for City programs on the spot. Partnerships with community organizations can increase awareness and support customers with the application process. Cobb County has begun working with local elected officials and community leaders in harder-to-reach neighborhoods and offering free items in addition to the rebate (i.e., low-flow showerheads, faucet aerators, etc.) to incentivize participation.

Approaches to engaging CII and MFR property managers ranged; a MFR program conducted by Tampa Bay Water found that the most effective approach was to schedule or simply show up to CII and MFR locations with a plumber to talk through the program, with a goal of leaving the site with a time for a future meeting on the calendar. The organization utilized the [CoStar Database](#), which includes information about property management contact info, as a source for phone and email outreach, but noted that this database access was expensive, contacts often shift over time, and that since their staff lacked a sales background, they found this to be a less effective approach. Being discoverable through web searches and partnering with local industry associations (through webinars and email blasts) were also helpful in increasing awareness of the rebate for MFR and CII audiences.⁵

⁵ As shared during a presentation at the 2023 AWE Water Efficiency and Conservation Symposium.

Appendix A: Summary of Toilet Rebate Research and Review

The list of reviewed programs was created by drawing from the following sources of information:

- Searching the EPA WaterSense PartnerFinder (list of WaterSense partners) and Rebate List (<https://lookforwatersense.epa.gov/rebates/>) for applicable programs in Virginia, North Carolina, Tennessee, South Carolina, Georgia, and Florida.
- Reviewing past EPA WaterSense Awardees (<https://www.epa.gov/watersense/watersense-awards>) in 2023, 2022, and 2021.
- Reviewing past WaterNow research on Direct Install programs.
- Identifying any Virginia cities or counties within +/- 20,000 of Charlottesville’s population and reviewing these websites for any toilet rebate program offerings.

The statewide breakdown across the long list (communities reviewed) and short list (rebate programs identified) follows below:

Research Overview			
State		Long List	Short List
AZ		3	3
CA		6	6
CO		5	4
FL		17	9
GA		14	4
KS		2	1
MI		1	0
NC		6	2
NM		1	1
OR		1	1
SC		1	0
TX		2	2
UT		1	1
VA		47	3
WA		3	2
WI		1	1
Total		111	40

Table A-1. Summary of the number of communities WaterNow examined to determine if they offer a toilet rebate program (in the long list), and the number of communities that offer rebate programs, which were then reviewed in greater detail, and summarized (in the short list).

Appendix B: Additional Resources on Direct Install Programs

Additional information about Direct Install programs is available at the following links:

- [Direct Installations of Localized Water Infrastructure: A How-to Guide for Local Water Leaders:](#) This short summary provides an overview of Direct Installation programs and some key best practices for their implementation.
- [Water Efficient Direct Installation and Indoor Water Audit Program Design:](#) This memo, from a past Accelerator project, includes examples of effective outreach messaging around Direct Install programs, specifically for hard-to-reach and Spanish-speaking community members.
- [Water Conservation and Outreach Metrics Tracking Sheet:](#) This template provides a starting place for tracking the implementation of a Direct Install program.

