



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2022.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).


PROGRAM INFORMATION

County: Chesterfield County
Program Title: COVID-19 Water/Wastewater Assistance Program
Program Category: Information Technology

CONTACT INFORMATION

Name: Chris Coleman
Title: Lead Web Developer
Department: Information Systems Technology
Telephone: 803-565-1301 Website: chesterfield.gov
Email: colemanchris@chesterfield.gov

SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Dr. Joseph Casey
Title: County Administrator
Signature: 

COVID-19 Water/Wastewater Assistance Program

Executive Summary

At the onset of the COVID-19 pandemic, Chesterfield County leadership quickly recognized the need to provide financial assistance to residents and businesses impacted by record economic downturn and unemployment. As part of a similar response, the county's department of Information Systems Technology took steps in maintaining continuity of services and promoting safer interactions and transactions by moving many in-person services online and investing in our digital engagement capabilities with new interactive forms technology. Using these newer advanced forms, we developed solutions to enhance the economic support programs in the form of financial relief applications for water and wastewater customers who had fallen behind on utility bill payments.

This COVID-19 Water/Wastewater Assistance Program was a model for a positive citizen experience, leveraging many technologies that supported and connected to each other to drive automation and efficiency and deliver impactful benefits to citizens when they needed it most. Nearly 4,800 households in Chesterfield County applied for the program since launch. Of those applications, 4,000 met the criteria for utility bill relief, bringing those families and businesses completely out of arrearage. In total, Chesterfield County administered over \$1.4 million in relief through the COVID-19 Water/Wastewater Assistance Program.

The Problem or Need for the Program

In the uncertain early months of the pandemic, Chesterfield County, like much of the country, grappled with significant and impending economic challenges. As many local businesses temporarily or permanently closed their doors and residents were out of work, the county's Department of Social Services launched a program called the Chesterfield CARES Water Assistance Program to offer relief to

residents who had fallen behind on utility bill payments after a loss or decrease in income due to the COVID-19 pandemic.

In partnership with Social Services, the Chesterfield County department of Information Systems Technology developed the technological framework for residents and business-owners to apply for relief through our website platform. A solution was designed to create efficiencies and automate many of the administrative processes involved in bill forgiveness, while also prioritizing a digital experience that was inclusive and accessible to as many of our citizens as possible.

As the nature of the pandemic shifted, so too did the framework in which the county reacted to the economic fallout. Additional funding was granted from the state and administration of the relief funding moved to our Utilities Department, where scoping expanded and application criteria relaxed, allowing households to apply for relief multiple times through what eventually became the COVID-19 Water/Wastewater Assistance Program.

Description of the Program

At the onset of the COVID-19 pandemic, Chesterfield County leadership quickly recognized the need to provide financial assistance to residents and businesses impacted by record economic downturn and unemployment. As part of a similar response, the county's department of Information Systems Technology took steps to maintain continuity of services and promote safer interactions and transactions by moving many in-person services online and investing in our digital engagement capabilities with new interactive forms technology. Using these newer advanced forms, we developed solutions to enhance the economic support programs in the form of financial relief applications for water and wastewater customers who had fallen behind on utility bill payments.

This COVID-19 Water/Wastewater Assistance Program was conceptualized, developed and deployed entirely by internal staff by leveraging the recently procured Cognito Forms platform, our Chesterfield.gov website (hosted by our existing CivicPlus content management system (CSM)) and innovation of recently adopted enterprise tools within our Microsoft 365 ecosystem. The program application is seamlessly embedded into our website for citizens to interact with, and was optimized to work from any size device, whether applying on a desktop computer or on-the-go from a mobile phone—in total, 68% of all web traffic to this program was from a mobile device or tablet, reflecting growing mobile trends and the importance of developing an accessible and responsive solution.

A major priority when architecting the application was to ensure that the experience was inclusive to as many of our citizens as possible. Early on, we prioritized the development of a Spanish version of the form, which we had manually translated through our Office of Multicultural Services (instead of relying on Google Translate) by building an integrated conditional Spanish track into the form—notably, the Spanish version of the form was not a separate form, as we used as simple conditional logic switch at the onset to change the language in which field names were displayed; this meant that fields in the Spanish track of the form could take advantage of the same automations as the English version, without additional development or separate processes.

It was also important for older residents who may not have been technology-savvy to be able to call our Utilities Office and apply for this program over the phone, which we also integrated into the same application by having it switch to a “helper mode” when staff completes on behalf of a customer, slightly altering certain field criteria. For example, a version of the form opened internally in “helper mode” does not require a digital signature from the applicant, but a box to check as a verbal certification of the application’s accuracy in addition to other internal-only fields to be completed by staff to record who the phone “helper” was.

Using this translation and helper mode tracking logic, we also developed a residential and non-residential track for each language, as program criteria changes depending on the type of utility account that was receiving financial relief. A residential applicant applying for relief must indicate their cause of economic hardship (for example, they've been laid off or must stay home to care for children due to closure of schools), while a non-residential track asks for a more open-ended explanation of the business' COVID-19-related economic hardship.

When a given track is completed and the final application is submitted, it triggers a series of automations, starting with compiling the citizen's or business owner's form data and moving it through PowerAutomate, a process automation tool within our Microsoft 365 toolset. PowerAutomate maps the entry data from this form submission into a row within a protected Excel Spreadsheet, which is stored internally in a SharePoint site, where Utilities staff with access can review and update statuses for each application as they come in. A conditional formatting formula in Excel then automatically color-codes each application by status (Submitted - Yellow, Pending - Yellow, Declined - Red, Approved - Green), making it easier for Utilities staff to filter and identify applications. As applications are reviewed and approved, notifications are automatically triggered back to the citizen using the email provided in the application, instantly informing them of their program status and amount of eligible financial relief.

The email addresses provided as part of the application process were also used to trigger program updates and generic notifications to residents and business owners who had applied to this program.

When program criteria expanded to allow for additional submissions and when the max limits per household were increased, we were able to target email notifications back to the users who already applied informing them of these updates, encouraging them to apply again if needed.

Additional logic is leveraged in this form to provide a series of time-saving automations for county staff.

For example, the program requires that the resident or business owner provides their Utilities Account-

Customer Number, which in many older forms can be skipped or often entered incorrectly, creating a significant administrative burden of verifying and correcting. Simple logic was added for a field validation to check Account-Customer Numbers using a regular expression to automatically verify that the number entered was valid before allowing the user to submit the form, ensuring that their number matches the pattern of an existing account. Before the program was expanded to allow for multiple submissions, we also added quantity-limiting logic to this field, so that the Account-Customer Number must be a unique value that has not already applied for the program and prevented duplicate submissions (again, saving staff time in verifying this information). Once the criteria for the program changed, we simply removed the quantity-limit rule so that applicants could apply for additional relief, and instead started counting how many times the user applied for record-keeping purposes.

Altogether, the COVID-19 Water/Wastewater Assistance Program became a model for a positive citizen experience, executed through the use of many technologies that supported each other to drive automation and efficiency and deliver impactful benefits to citizens when they needed it most. The program was so successful that it has become a template for dozens of new forms, workflows and online processes developed since the start of COVID-19. Our team has gone on to create dozens of other forms and online workflows in the past year, working with departments throughout our organization to process services ranging from virtual public comments to vaccine scheduling and administration. The efficiencies that we are able to accomplish with these technologies are also empowering our citizens to engage with us from home, increasing safety by keeping lines in our offices short or non-existent.

Responding to Economic Downturn (Optional)

The COVID-19 Water/Wastewater Assistance Program was designed as a direct response to the economic downturn caused by the pandemic. The program was designed to provide financial assistance to households and businesses directly impacted, whether the result of an employer going out of

business, or a parent staying home to care for children who were no longer able to attend school in-person.

To be eligible for the program, applicants were required to meet specific criteria set forth by our Department of Social Services (criteria included county residency status, participation in residential water/wastewater account, having a past due bill on that account and having an adult in the household directly financially impacted by COVID-19). If an applicant did not meet these criteria, a logic sequence was triggered in the form to display an ineligibility message and prevent the applicant from proceeding with or submitting the application. This ensured that most applications received met preliminary minimum qualifications (even as some processes like this were automated, there was still a manual human element to verify and approve claims of economic hardship).

In this earlier version of the form administered by Social Services, applicants were also required to indicate their monthly household income, as well as their income prior to the pandemic, again confirming that the economic hardship was a direct result of COVID-19. In the final iteration of the application, program criteria were relaxed and many of these questions were eliminated in favor of a more concise checklist, requiring applicants to simply answer "Yes" to any economic hardship on the list was enough to preliminarily certify the applicant as eligible and allow them to pass the initial eligibility logic barrier.

As the pandemic lasted into its first year, criteria were expanded again to allow for applicants to apply for relief multiple times. The logic of the form was once again modified to allow for multiple submissions from previously recorded addresses and account-customer numbers, providing several cycles of relief to those impacted hardest by COVID-19.

Advancing Diversity, Equity and Inclusion (Optional)

The technology components in the COVID-19 Water/Wastewater Assistance program were designed from the ground up to meet the criteria set forth by the Americans with Disabilities Act (ADA) and Section 508 compliance, ensuring a reliable and inclusive experience to users with visual or mobile disabilities. Our form solution, along with our website's content management system, were architected at their inception to provide accessibility options to users with assistive technology devices, in addition to desktop and mobile devices.

Additionally, we took steps to ensure that as much of our community could understand and apply for this program by building in a native manually translated version of the application for Spanish-speakers, which was also easily accessible. Outside of the Spanish track of the form, there were options to translate and submit in over 80 other languages using our web environment's global Google Translate function.

For potential applicants who were unable or uncomfortable using the technology, functions were integrated into the application process to provide over-the-phone participation options. This call-in "helper mode" version of the form allowed for Utilities call center staff to walk older residents through the application process by bypassing the website altogether. At every step of the process, we worked to build points of entry for as many citizens as possible.

The Cost of the Program

There were no new costs in developing or deploying the technological framework for this project. This project was achieved by innovating with our existing suite of software solutions and pushing those capabilities further than we've ever done before. To accomplish this, we leveraged our newly adopted Cognito Forms platform (\$1,200/year subscription) to develop the logic, notifications and application framework, our existing website (CivicPlus' Engage Central Content Management System) to host the application on our website interface (no new costs), and a combination of existing Office 365 functions

(PowerAutomate, Sharepoint and Excel) to move the data from the application into a protected shared dashboard for Utilities staff to review, update and approve independently (also no new costs, though other counties may need to consider licenses for premier Microsoft solutions like PowerAutomate if not already available in their tenant).

After deployment of the form, it is entirely owned by the department with no need to request bulk exports or updated lists; the automated nature of the technology kept the Excel spreadsheet data live as users submitted applications and was available in a shared environment where county staff could review and approve applications collaboratively. After launch, there was very little ongoing support by Information Systems Technology staff outside of minor and typical support issues.

The \$1.4 million in financial relief distributed through this program was funded by a combination of federal and state grants, including the CARES (Coronavirus Aid, Relief and Economic Security) Act.

This application, along with workflows and processes designed to automate review of each form submission, is entirely replicable as a low-code or no-code solution with little-to-no requirement of advanced technical knowledge, and we hope that the framework for this project can serve as a model for other interactive forms and workflows that government web professionals develop in their day-to-day work, especially as demand for government services are moving online faster than ever.

This process was designed by a small team—one form builder/developer and a handful of Social Services and Utilities staff trained to review and approve rows on the spreadsheet. While the technological innovations to administer this program were significant, it also required buy-in to the human element, and a culture willing to embrace new processes. County staff that was once hesitant and unfamiliar with these forms are now champions of the time-saving efficiencies and opportunities for greater engagement that these forms offer.

The Results/Success of the Program

This COVID-19 Water/Wastewater Assistance Program was a model for a positive citizen experience, leveraging many technologies that supported each other to drive automation and efficiency and deliver impactful benefits to citizens when they needed it most. Nearly 4,800 households in Chesterfield County applied for the program since launch. Of those applications, 4,000 met the criteria for utility bill relief, bringing those families and businesses completely out of arrearage. In total, Chesterfield County administered over \$1.4 million in relief through the COVID-19 Water/Wastewater Assistance Program.

The COVID-19 Water/Wastewater Assistance Program was so successful in the efficiencies that staff was able to achieve that it has become a template for dozens of new forms, workflows and online processes created since the start of COVID-19. Our team has gone on to develop dozens of other forms and online workflows in the past year, totaling over 100,000 submissions for services ranging from virtual public comments to vaccine scheduling and administration. The process automations that we are now able to accomplish with these technologies are empowering our citizens to engage with us from home, increasing safety by keeping lines in our office buildings short or non-existent, while empowering staff to have more ownership and access to their data and move services into more mobile and virtual experiences.

Worthiness of Award

The COVID-19 Water/Wastewater Assistance program is worthy of an Achievement Award because of the innovation and technology that improved citizen engagement at a moment when digital services were more critical to government operations than ever before while providing tangible financial relief at a moment when local economic outcomes were as uncertain as ever before. This program was deployed very quickly, offering an interface—a direct virtual line to the county—to request financial aid that was desperately needed in the form of forgiveness for late utility bills. And this was entirely accomplished

using the ingenuity of motivated county employees determined to solve a problem and make a difference using the tools available at the time. The innovation and discovery that occurred as a result of the COVID-19 Water/Wastewater Assistance Program was so impactful in the efficiencies that staff was able to achieve that it has become a template for dozens of new forms, workflows and online processes created since the start of the pandemic, empowering other departments to embrace this technology and strengthen Chesterfield County's overall digital engagement efforts.