MAKING EQUITY FLOW

PROPOSALS FOR ADVANCING RACIAL EQUITY IN WATER DEPARTMENT PRACTICES
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This report is submitted on behalf of The University of Texas at Austin Department of Community and Regional Planning’s fall 2019 685D practicum.

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EXECUTIVE SUMMARY

This report provides our partners at Austin Water analysis and recommendations on how to advance racial equity through its departmental policies and programs. In cities across the country, communities of color are disproportionately impacted by increasing costs of living and they more acutely experience the consequences of climate change. Programming and policy changes can help mitigate these trends. Austin Water recently released an integrated water resources plan called Water Forward, which uses the conceptual framework of integrated water resource management (IWRM) to enhance ecological sustainability, economic efficiency, and social equity. The utility has a stated commitment to equity and is well-positioned to advance it in three program and policy areas.

EMPLOYEE TRAINING PROGRAMS FOR RETURNING CITIZENS

Four of the participating city departments and one state government agency have reentry programs that may provide useful insight as Austin Water designs and implements its own program to help people who are formerly or currently incarcerated—a disproportionate number of whom are people of color—find employment and other services. Common features include: management by one lead agency; dedicated staff; partnerships between government, nonprofit, and/or private sector agencies; offering a variety of services including job placement, technical skills training, and social emotional skills training; and using language strategically to help overcome stigma facing their participants. We recommend that Austin Water identify jobs and career pathways suitable for returning citizens, set programmatic goals and evaluate performance, consult returning citizen employees in designing and managing their program, dedicate staff time to the program, and engage partners to assist with program design and management.

ADVANCED METERING INFRASTRUCTURE

Austin Water will launch a pilot of its advanced metering infrastructure (AMI) transition in 2020, installing digital water meters and an associated wireless communication network, in preparation for a city-wide rollout. While the greater precision and accuracy the new meters will offer have advantages, readings could increase up to 15%, causing water bills to rise. This is expected to place a burden on low-income customers, many of whom are people of color. This project examines the implications of the AMI transition on racial equity and provides recommendations on how Austin Water’s communication and outreach plan regarding the AMI pilot can best serve Austin’s most vulnerable residents. Findings include using a wide range of communication mediums, coupling AMI rollout with additional CAP eligibility, and allowing an option for biweekly bill payment.

CUSTOMER ASSISTANCE PROGRAM

Many water utilities in cities across the U.S. have developed a customer assistance program (CAP) to help low-income households afford rising water bills. This paper examines Austin Water’s CAP using quantitative and qualitative research methods and identifies ways it can further increase affordability and advance racial equity. Findings indicate a majority of CAP participants live in areas that are predominantly Latinx and/or Black. We also identified several census tracts with low enrollment despite the high number of eligible single-family dwellings. Based on these findings this report offers options for program design, discount type, and program coordination that Austin Water can use to extend the CAP to multifamily customers and increase racial equity.
CHAPTER 1
INTRODUCTION, CONTEXT, AND APPROACH

This report provides analysis and recommendations on how to advance racial equity through water department policies and programs. In cities across the country, communities of color are disproportionately impacted by increasing costs of living and they more acutely experience the consequences of climate change. Programming and policy changes can help mitigate these trends. Austin Water recently released an integrated water resources plan called Water Forward, which uses the conceptual framework of integrated water resource management (IWRM) to enhance ecological sustainability, economic efficiency, and social equity. The utility has a stated commitment to equity and is well-positioned to advance it in three program and policy areas.

This chapter begins by discussing historical and ongoing racial inequities in Austin. It then discusses the relationship between racial equity and the water sector, as well as Austin Water’s leadership in seeking to advance racial equity goals. The chapter concludes by describing the report’s approach. The remaining chapters are broken down into sections that correspond with three Austin Water policies and program: Customer Assistance Program (CAP), Advanced Metering Infrastructure (AMI), and Employee Development. Each of the policy and programs chapters conclude with recommendations on how Austin Water can advance racial equity. The recommendations may also be helpful to other water utilities seeking to mitigate legacies of racism and contribute to building cities in which race does not determine socioeconomic outcomes.

RACIAL INEQUITY IN AUSTIN

Racial inequity in Austin is deeply rooted in institutional policymaking and planning. In the first half of the 20th century, the city had racially exclusionary zoning that restricted where non-White (primarily Black and Latinx) residents could live (Tretter 2012). In 1917 the U.S. Supreme Court prohibited racially exclusive zoning, but did so by ruling it is impermissible to alienate private property rights by limiting to whom private landowners could sell their property, rather than using a civil rights-based argument (Tretter 2012). This left racially restrictive covenants as a legal option for developers to segregate the subdivisions they built, and developers in Austin liberally utilized this tool (Tretter 2012). As well, Austin’s leadership openly sought a way to legally segregate the city after the ruling, and it found one in the 1928 Master Plan for Austin. The plan established a “Negro District” in East Austin and used utilities as well as other public amenities to enforce it, refusing such services to Black people unless they lived in this district (Tretter 2012). It also zoned East Austin as the location for industrial land uses, effectively forcing Black people to live alongside noxious land uses—a clear environmental injustice (Tretter 2015). The selection of East Austin built on patterns of segregation in the city that had already been begun through private restrictive covenants, or deed restrictions, and the Federal Home Owner’s Loan Corporation (HOLC) redlining map for the city designated East Austin as ineligible for federally backed mortgages. Federal Housing Administration policy then further reinforced these segregation patterns by rating areas of town with high concentrations of non-White residents as high-risk investments (Tretter 2012). By 1940 the city was highly segregated (Tretter 2012).

While in the state of Texas, Latinx people (or “Mexicans”) were legally considered white, Eliot Tretter argues that race and segregation in Austin was defined in a “triracial” way (Tretter 2012). Thus Latinx people were treated as “something other than white,” facing de facto discrimination much like the city’s Black population, with the notable difference that they could live outside of East Austin. Nonetheless, courts twice upheld prohibitions of “Mexican” people swimming in “Whites only” swimming pools in the 20th century.
More recent policies with a disproportionate negative impact on communities of color have been less openly racist. However, SMART Growth and New Urbanist municipal plans have encouraged redevelopment of East Austin neighborhoods, exacerbating gentrification and displacement in Black and Latinx areas newly considered desirable because they are centrally located (Tretter and Mueller 2018). In the 1990s, Austin’s environmentalist and business communities struck a compromise under the leadership of Mayor Kirk Watson, embracing a SMART Growth strategy of encouraging business growth and redevelopment restricted to an area established as the Desired Development Zone, which was located in Austin’s Commercial Business District and in Central East Austin (Tretter and Mueller 2018). Environmentalists argued that protecting hilly West Austin, which exists over porous karst topography, from development was vital to protecting Austin’s drinking water supply and local endangered species (Tretter and Mueller 2018). However, no East Austin residents were part of the coalition that designated their neighborhood as the desired development zone (Tretter and Mueller 2018).
New Urbanist arguments in favor of dense development in Austin’s central business district and Desired Development Zone to prevent urban sprawl have also fueled efforts to redevelop working class and majority people of color neighborhoods, such as the Rainey Street neighborhood, where market rate high rise development have Latinx residents in spite of decades of grassroots efforts to ensure that any redevelopment plan included affordable housing (Tretter and Mueller 2018). Development pressures in historically segregated East Austin have caused a rapid rise in the appraised value of homes and consequent increases in taxes on properties owned by Black and Latinx residents, and this, in turn has resulted in high rates of foreclosures and displacement of these populations (Tretter 2015).

The spatial distribution of Austin residents today reflects both current and historical racial discrimination. The displacement of communities of color can be clearly visualized in Figure 3, below. A majority of people of color reside in neighborhoods to the east of I-35, or what has been referred to as the Eastern Crescent.

**Figure 3.** Racial/Ethnic Distribution within Austin Water Service Area
Figure 4, which visualizes the spatial distribution of median household income, shows that the neighborhoods with the highest household income are largely located to the far west of Austin, essentially the opposite of where most people of color reside.

Figure 4. Median Household Income within Austin Water Service Area

Racial inequities in Austin have not emerged through happenstance—they are in large part the result of decades of institutional racism carried out through polices and plans enacted at the local government level. Austin Water has a strong obligation to enact polices that help correct this pattern.
THE IMPACT OF RISING COSTS OF LIVING
Affordability concerns within Austin have been increasing, and water costs play a role. Water is essential, and thus water service is a non-negotiable aspect of the cost of living. The impact of AMI and the need to expand CAP interacts with affordability trends in Austin. The anticipated increase in water bills after AMI is implemented may add stress for residents already negotiating the threat of gentrification and displacement. Similarly, the gap in CAP service for customers who live in multifamily units housing constitutes a cost burden for customers facing the threat of displacement.

The Austin City Council commissioned report, “Uprooted,” informs the discussion of gentrification in this report. The authors, a team of researchers from the University of Texas at Austin, defined gentrification in a neighborhood as having three components: displacement of low-income residents, change in the urban form, and a change in neighborhood cultural character. They aimed to first identify areas that were either gentrifying or vulnerable to gentrification, then to provide a suite of policy solutions that the City of Austin could implement. The study found that the tracts most vulnerable to displacement follow Austin’s Eastern Crescent, in Austin’s historically Black and Latinx neighborhoods. Rundberg, Daffin Gin Park, Rosewood, Montopolis, and Franklin Park had particularly high concentrations of vulnerability as defined in the study. Notably, the report indicates that even intensely gentrified areas still have vulnerable populations (Way, Heather, Mueller, Elizabeth, and Wegmann, Jake 2018). These areas include the same populations who make up a majority of Austin Water’s CAP. This means that in pursuing expansion of its CAP program, Austin Water can decrease the burden on residents who face displacement.

The “Uprooted” report advises readers seeking to implement anti-displacement efforts to focus on the specific neighborhoods experiencing most pressure, rather than evenly distributing efforts across the city. The choice to allocate more resources to higher-need areas is known as vertical equity, in contrast to horizontal equity, which would call for an even geographical distribution (Delbosc and Currie 2011). Concerned parties must decide on which approach results in the most-just outcomes under particular conditions. Austin Water can take an approach that centers the voices of communities most affected by considering the Uprooted report’s specific policy recommendations alongside those of local Austinites who are vulnerable to displacement themselves. “Austin Water could consult the local activists who authored “The People’s Plan,” which offers proposals to combat displacement (Almanza, McGhee, and Rivera, n.d.).” Similarly, our report cannot be the sole source of ideas for solutions regarding Austin Water’s role in affordability. While we are confident in the recommendations we put forward in this report, it will be important for Austin Water to seek input from those community members who are struggling with affordability and water payment to find truly workable solutions.

PLANNING FOR CHANGE
To a historically unprecedented degree, Austin’s City government is engaged in conversations and goal-making about our city’s history of racial inequality and the urgent importance of working to achieve a more racially equitable city. Examples of this ongoing conversation include Mayor Steve Adler’s convening in 2016 of a taskforce of experts on education, immigration, and housing from the local community to combat institutional racism (McGlinchy 2016) and the City’s investment of $23,800 to allow City Council members and members of City staff to attend a training to equip them to discuss race (McGlinchy 2018). The City government has also placed a strong priority on racial equity in Austin’s current strategic plan, Austin Strategic Direction 2023 (City of Austin n.d.). Equity is one of this plan’s “Strategic Anchors,” values that carry across the plan’s six Strategic Outcomes, and is explained in the plan as follows:
To advance equitable outcomes, the City of Austin is leading with a lens of racial equity and healing. Race is the primary predictor of outcomes and it is time to recognize, understand, and address racism at its various levels: personal, institutional, structural, and systemic. Equity is the condition when every member of the community has a fair opportunity to live a long, healthy, and meaningful life. Equity embedded into Austin’s values system means changing hearts and minds, transforming local government from the inside out, eradicating disparities, and ensuring all Austin community members share in the benefits of community progress. (City of Austin n.d.)

Our partnership with Austin Water rides this building momentum of equity considerations within Austin’s government.

THE AUSTIN EQUITY OFFICE

In recent years, the Austin Equity Office has been a driving force in centering and operationalizing racial equity within city departments. The City Manager founded this office in 2016 after 2015’s Resolution No. 20150507-027 directed him to develop an Equity Assessment Tool to help evaluate racial equity impacts of city policy (“History of the Equity Office” n.d.). As such, the Equity Office works within the power of the City Manager. Its budget has expanded since its creation, growing from $1,231,463 in Austin’s 2018-2019 Amended Budget to $1,426,908 million proposed for 2019-2020 (Ed V. Eenoo and Cronk 2019). This affords seven staff positions, including Chief Equity Officer Brion Oaks heading the office.

Two organizations, Racial Equity Here and the Government Alliance on Race and Equity (GARE), collaborated on the framework the Austin Equity Office uses to approach issues of racial equity (“Equity Office” n.d.). GARE has worked with 170 local and regional government jurisdictions across the county (“Jurisdictions” n.d.), including the Dallas Independent School District, the City of San Antonio, and the Waco government (“Waco City Council Special Meeting Draft Minutes” 2019).

For the departmental Equity Assessment process, the Equity Office developed racial equity training for all of the City’s departments using materials from the People’s Institute for Survival and Beyond’s “Undoing Racism” training (“Operationalizing Racial Equity” n.d.). The assessment tool itself was created with collaboration from the Equity Action Team, a community group consisting of city staff and community members (“Equity Action Team” n.d.). It assesses departmental culture as well equity within budget planning, community engagement, and future opportunities. Deliverables from this process include the Assessment Response, a Strengths, Weaknesses, Opportunities, and Threats Report, and an Action Plan that relies on data gathered by the Center for Place-Based Initiatives, which is part of UT Austin’s Dell Medical School (“Community-Driven Initiatives” n.d.). Figure 5 shows the organizational chart of departments under the mayor and city manager, with numbers denoting the phase in which each office will undergo training and assessment.

Other work of the Austin Equity office has included reports on CodeNEXT, the first group of assessed departments, bond projects, and confederate assets. Most recently, the equity office was approved for a $75,000 “Equity Mini Grant Fund” for fiscal year 2018-2019, and proposed increase to $250,000 for fiscal year 2019-2020 (Ed V. Eenoo and Cronk 2019). This grant is awarded to community-based organizations whose projects align with one of the six outcome priorities from the Austin City Council’s Strategic Direction 2023 Report (“Operationalizing Racial Equity” n.d.). Our collaboration with Austin Water will seek to add to this impressive body of work developed as the Equity Office continues to operationalize equity in Austin government.
The water sector has yet to be fully equitable, even as most U.S. residents have access to basic drinking water and sanitation services. More than two million Americans live without running water and basic indoor plumbing in counties along Rio Grande, Appalachia, Eastern Kentucky, Western Virginia, and Alabama ("Closing the Water Access Gap in the United States: A National Action Plan" 2019). A lack of investment has led to inadequate infrastructures systems that create water and sanitation crises in vulnerable communities, low-income communities, and communities of color. Toxic water supplies threaten health and well-being. Because of the disproportionate impacts on communities of color, inequity in the water sector ties closely to racism. Peter Hammer (2019) coined the term “strategic-structural racism” to describe the events that unfolded in the town of Flint, Michigan, in which intentional racism and structural racism combined to lead to a public health crisis that benefitted an elite few.

Water equity is the condition where all communities have access to safe, clean, affordable drinking water and wastewater services and all residents of a community have a role in decision-making processes pertaining to water in their communities (“An Equitable Water Future | US Water Alliance” n.d.). Austin Water created the framework IWRM and its vision for the next 100 years, in the City of Austin through its Water Forward Plan. The plan was developed with support from the Water Forward Task Force, a consultation group, and input from the Austin community. However, equity is often not addressed in the plan and when it is, it is addressed with vagueness, with little clarification of its scope and contents.
Austin Water has committed to advancing the equity paradigm of distributive justice, which contrasts with the egalitarian model. That is, it seeks to acknowledge that individuals and communities differ from each other and to focus on helping those most in need, rather than treating all people as equals (Peña 2011). These two models vary greatly and can produce dramatically different results. If water officials focus on equality rather than equity, conditions for disadvantaged populations are unlikely to improve. Achieving equity also requires the recognition of the benefits and costs associated with water management as well as understanding the effects of management on different groups of people, be they positive or negative (Peña 2011). If the goal is to improve access and service to groups that are being adversely affected, understanding the negative effects is particularly important from an equity perspective.

The message from Austin Water CEO Greg Meszaros on the City of Austin’s online official open data portal describes Austin Water “a leader in [its] industry” (Meszaros n.d). Indeed, it showed leadership in affordability in 2019 by maintaining rates without any increase, defying the national trend of rising water rates, and its CAP is among the most robust measures to help low-income customers pay for service (Chanslor, n.d.). In an environment where many of its counterparts have committed acts of gross mismanagement and racism, blatant or otherwise, Austin Water has the opportunity to become a national leader in water equity by enhancing its policies and programs.

REPORT APPROACH
The analysis provided herein is a product of the students of the University of Texas at Austin’s Community and Regional Planning fall 2019 practicum “Racial Equity in Austin’s Water Ways.” Planning practicums form part of the Master of Science Community and Regional Planning curriculum. They are intensive, project-based course where students apply the skills they have learned to real world planning problems, typically in partnership with a client. Ten graduate students participated in this collaboration, meeting as a group six hours per week. Student also held several meetings with Austin Water officials, including members of the Equity Office, to get feedback on fulfilling the scope and goals of the project. Project deliverables consisted of a final presentation to the Austin Water Executive Team, as well as a detailed report outlining best practices for advancing racial equity through Austin Water policies and programs. The School of Architecture and Austin Water entered into a contract at no cost to Austin Water.

Two bodies of scholarly work orient the report’s approach and analysis. The first is critical race theory (CRT). Racial equity, as defined by Austin’s Equity Office, means race no longer predicts a person’s quality of life outcomes in our community (Oaks 2018). Race is a strong predictor of life outcomes, and racism is prevalent, persistent, and systemic (Zamudio and Rios 2006). This report draws on CRT to examine the barriers to racial equity in the water sector. We thus reject abstract liberalism, what Eduardo Bonilla Silva defined as “using ideas associated with political and economic liberalism in an abstract manner to explain racial matters” (Bonilla-Silva 2013). Such ideas include equal opportunity, equal access, choice, individualism, color blindness, and meritocracy (Crowley 2013). They do not address structural racism, the institutional practices that have historically created and continue to create negative consequences for communities of color. Rather they are based on an erroneous view that people begin with the same advantages.

This study also relies on notions of urban and policy comparison, which have been essential to research in the social sciences and urban studies. Comparative urban studies has tried to make sense of similarities and differences between two or more cities’ governance, processes, events, and other practices (Ward 2010). Ward advances a relational comparative approach that “recognizes both the territorial and the relational
relational histories and geographies that are behind [cities'] production and reproduction” (Ward 2010). By drawing on Austin's context and the insights of other cities, this report draws on relational comparative ideas to understand water utility practices across American cities.

The travel or transfer of policies is when variations of a policy in one place are implemented elsewhere. Conventional policy transfer has been criticized for assuming, erroneously, that “actors who engage in the process of the travel of ideas act rationally, that the meanings of policy ideas are unaltered in the process of travel, and that this process is linear and stage-based” (Mukhtarov 2014). Farhad Mukhtarov proposes an alternative approach he calls “policy translation.” Policy translation places a focus on policy actors and considers how they engage in transforming ideas, how geographical scale influences their actions, and how contingencies of politics and context affect their intentions (Mukhtarov 2014). The study approach presumes the potential for policy translation of the proposed recommendations.

The report aims to advance three Austin Water goals laid out in its Racial Equity Action Plan (“Austin Water Action Plan” 2018), developed in accordance with the Austin Equity Office departmental assessment process.

**Employee Development:** The Austin Water Action Plan includes creating a fair chance-hiring program and improving relationships with diverse communities for the purpose of improving recruiting strategies (“Austin Water Action Plan” 2018). These plans include what Austin Water has termed the employee development program, which will create job opportunities for formerly incarcerated people (who we refer to as returning citizens throughout this report). Their goal is to develop a job training or mentorship program specifically designed for returning citizens to provide them with employee skill sets and opportunities for professional growth, as well as promoting acceptance among the workforce (Avery 2019).

**Customer Assistance Program:** Austin Water is currently in the process of expanding its Customer Assistance Program, which provides discounts to some low-income households that experience high water bills. Current eligibility covers, customers whose water bill is in their own name, if they live in a residential unit that has its own water meter, and if they are enrolled in one or more of eight federal assistance programs. Currently, the CAP program does not offer provisions for renters and owners who live in multifamily units that do not have their own water meters as well as renters whose water bills are in their landlords' names have no access to CAP under current guidelines. Furthermore, plenty of households that are financially burdened may not meet the stringent qualifications for federal assistance programs. Recognizing these shortcomings, the Chief Administration Officer at Austin Water, Denise Avery, stated in Austin Water's Equity Assessment Tool that, along with increasing affordability generally, expanding access to its CAP is the department’s greatest equity priority (Avery 2017).

**Advanced Metering Infrastructure:** AMI will be implemented under Water Forward, converting the analog water meter system to digital meters. These new digital meters record water usage on an hourly basis (instead of monthly), and can provide detailed updates in real-time to customers about their water usage. This will allow Austin Water to detect and notify customers of leaks, and analyze usage by demographic and racial population sectors to craft specified conservation strategies (Kontokosta and Jain 2015; Monks et al. 2019; Tiger, Hughes, and Eskaf, n.d.). Giving customers more access to their usage data can allow them to target areas where they can be more conservative with their water use. However, accessing usage data generally requires a smartphone or internet access, and lower-income households may not have such access. Further, older analog water meters tend to under-record water usage (Bruno 2016), and Austin customers, like those in other cities where AMI has been implemented, are likely to receive higher bills as a result. While this will allow Austin Water capture revenue it had missed (Monks et al. 2019), increased bills can cause a hardship to consumers.
CHAPTER 2
EMPLOYEE TRAINING PROGRAM FOR RETURNING CITIZENS

Reentry programs help people who are formerly or currently incarcerated find employment and other services. They represent a hopeful piece of the larger system of criminal justice within the U.S. After all, a person’s status as a “returning citizen”—meaning a releasee from a prison or jail—only exists within the context of their experience with the U.S. criminal justice system. There were 65,114 returning citizens in Texas in fiscal year 2018, of which 3,050 had been convicted in the five Austin counties. On a typical day, over 111,000 citizens are on active parole, meaning they are in a liminal state following release and potentially eligible for a reentry program (“Texas Department of Criminal Justice FY 2018 Statistical Report” 2019).

Reentry programs can help advance racial equity because the U.S. criminal justice system is a racialized system, meaning that its functions and operations unfold differently across different racial and ethnic identities. Black and Latinx residents are more likely to be sentenced to prison than White people, and when sentenced experience longer and harsher sentences (“The Color of Justice: Racial and Ethnic Disparity in State Prisons” n.d.). In Texas, Black people comprise 12.8% of the total population and 33% of the incarcerated population (“Texas Prison Inmates” n.d.). They also comprised 28% of the returning citizen population (Figure 1). Such disparities will affect people who participate in Austin Water’s reentry program and their experience with government systems and programs.

![Figure 1. Demographic Breakdown of Texas Criminal Justice System Population](image)

Racial prejudice and bias within organizations need not be explicit. Biases in practices of hiring, performance evaluation, pay, educational/leadership opportunities, and promotions all accumulate to create significant challenges exclusively affecting people of color in the workplace. In this way whiteness becomes a type of credential, qualifying a person for the easier and more common distribution of social and material resources (Ray 2019). While all returning citizens face some level of discrimination due to their past, regardless of race, Whiteness continues to be a credential for employment. A study following 740 men returning from incarceration in Illinois, Ohio, and Texas for eight months found non-White ethnic/racial identity is a significant predictor of a lower time spent employed (Visher, Debus-Sherrill, and Yahner 2011). Thus helping returning citizens find employment is one way to combat racial disparities that exist in the workplace. A successful reentry program at Austin Water could also inspire similar initiatives in other city agencies. This section reveals our findings in examining reentry programs that could serve as a model for Austin Water.
METHODS

Information was gathered through interviews with program administrators of other publicly managed reentry programs across 4 U.S. Cities. Multiple methods were used in order to find and contact reentry program administrators in the United States. At the project’s onset, Austin Water requested our research team interview reentry program administrators in Atlanta and Philadelphia, making them our earliest known contacts. Beyond these two noted cities, a mix of snowball sampling, keyword web-searches, and online database resources informed our final sample. Snowball sampling is a method which uses referrals from successful contact and interview efforts to continue building a sample. This method proved to be the most successful in identifying program managers to interview.

Information was gathered through interviews with program administrators of publicly managed reentry programs. In line with Austin Water’s request, we contacted reentry program administrators known to the agency in Atlanta and Philadelphia. Through snowball sampling, keyword web-searches, and online database resources, we identified additional potential interviewees in other cities.

Two online database resources helped us identify government agencies: the “List of Resources for Felons & Ex-offenders” from helpforfelons.net and the National Reentry Resource Center’s Reentry Services Directory. Both resources listed services by state. Web-searches involved combining terms such as “reentry,” “returning citizen,” “formerly incarcerated services,” with the terms “city of” and “department of.” The focus of key word searches use was to find reentry programs staffed and operated within public departments. One interview was successfully pursued and completed using the web-search and resource methods. Snowball sampling, in which successful contacts are asked to recommend other potential interviewees, proved to be the most successful in identifying program managers to interview, generating the majority of our study participants. Overall, we contacted public reentry or workforce development programs operating in the following 13 jurisdictions: Atlanta (GA), Boston (MA), Chicago (IL), Hamilton County (OH), Houston (TX), Little Rock (AR), Los Angeles, CA), Maui (HI), Montgomery County (OH), Newark (NJ), Philadelphia (PA), Shelby County (TN), and the State of Indiana.

One program administrator in Atlanta and Indiana, as well as two in Little Rock and Philadelphia participated in our research and gave comprehensive information about their programs through interviews. Interview questions were developed by practicum participants in based on Austin Water goals. This led to interviews focused on requirements for staff, participants, and budgeting, program successes and challenges, and full descriptions of the range of services offered by each program. In total the interview contained 11 questions and phone interviews took place in 30-60 minutes.

We faced a number of limitations in conducting our research. Due to time constraints, we were unable to interview a larger sample of agencies. We were also unable to obtain the perspectives of program participants or program partners. We also learned that in some states, state law regulates pre-release reentry programming, but time did not allow us to research Texas state law to determine whether this is the case in our state. Austin Water will need to determine this before designing its program.
EXISTING PROGRAMS

The following section presents case studies describing the five programs we researched. The case studies are organized into the following sections: Background, Program Details, Successes and Challenges, and Key Findings. They include information about each program's origin; how it is managed; how participants are recruited and participant eligibility; the training provided for participants; how participants are assisted with job placement; and an explanation of any partnerships on which the program depends.

CASE STUDY: FLEET AUTOMOTIVE SERVICE TRAINING PROGRAM – PHILADELPHIA OFFICE OF WORKFORCE DEVELOPMENT AND PHILADELPHIA OFFICE OF FLEET MANAGEMENT

Background
Philadelphia’s Office of Workforce Development was established in March 2018 to help achieve Philadelphia’s citywide workforce development strategy, “Fueling Philadelphia’s Talent Engine” (Appendix A). One of the strategy’s three core goals is to “address the underlying barriers that prevent Philadelphians from accessing meaningful career opportunities” (“Fueling Philadelphia’s Talent Engine: The Power of Partnership - Year One Progress Report” 2019). With this goal in mind, the city has developed strategies to promote career pathway success for groups that face greater barriers to employment, including “opportunity youth” (individuals aged 18-26), returning citizens, and immigrants (“Fueling Philadelphia’s Talent Engine: The Power of Partnership - Year One Progress Report” 2019). City as Model Employer is a specific initiative that supports this workforce strategy by creating apprenticeship programs and career pathways for residents who face barriers to employment in participating city departments. The initiative focuses on streamlining candidate recruitment, providing job-specific technical training and work-based learning assignments, and delivering soft skill and career readiness instruction.

Program Details
Philadelphia’s Office of Fleet Services is one of several city departments to participate in the City as Model Employer initiative. The department’s Fleet Automotive Service Training (FAST) Program, established in August 2019, is a six-month training program managed by the Office of Workforce Development in partnership with the Office of Fleet Management. The program prepares participants for careers in the automotive industry. There is both an on-the-job technical training component and a classroom-based training component in which program participants learn various skills to navigate the workforce. Total training hours and distribution of hours is broken down in Table 1. Classroom training includes self-sufficiency workshops, sometimes with outside facilitators, which are built into the program curriculum. Workshops include: “Building Expectations & Community,” “Coping/Cognitive Self Change & Communication/Anger Management,” “Trauma and the Importance of Self Care,” “Accessing Public Benefits,” “Locating Resources Needed for Housing,” “Tenant Rights,” “How to Save Money on Utility Bills,” “Financial Literacy,” and “Professionalism and Obtaining Professional Attire.” The Office of Fleet Management delivers the technical training while the Office of Workforce Management delivers and coordinates the classroom training. If participants successfully complete the program, they have an opportunity to apply for civil service employment. Figure 2 shows the career pathway for FAST program participants.

![Table 1](https://example.com/table1.png)

**Table 1.** FAST Program Breakdown of Training Hours (Adams 2019)
The Office of Workforce Development worked with the Office of Human Resources (OHR) to identify vacancies within the Office of Fleet Management to ensure that program participants have opportunities for employment (Figure 3). They identified six vacant Trades Helper positions, which served as the base number for program size. Program participant recruitment was closed and conducted in collaboration with two entities. The Department of Prisons helped identify eligible currently incarcerated individuals on work release, and the Mayor’s Office of Reintegration Services (RISE) identified eligible returning citizens. The program manager has worked with OHR to alter job specifications for the Trades Helper position so that one of the qualifications is successful completion of the FAST program. This gives program participants a distinct advantage because only they can obtain the Trades Helper civil service positions.

**Successes and Challenges**

Because the FAST program is so new and the first cohort of participants is currently being trained, it is hard to identify successes thus far. However, the Office of Workforce Development worked hard to design a program to specifically meet the needs of returning citizens and currently incarcerated work release individuals. The FAST program has been able to provide additional support for its participants by including self-sufficiency workshops to help with success outside of the workplace.
Some of the program's challenges have included securing support and approval from senior leaders, including commissioners and deputy commissioners. “Buy in of senior leaders is one of the biggest things that makes City as Model Employer as successful as it is,” Adrian Adams, the Workforce Development Program Administrator from the Office of Workforce Development, told us (Adams 2019). He attributed resistance to stigma surrounding returning citizens, and says it has been a challenge to convince stakeholders that the program will train participants to produce quality work.

**Key Findings**

Five key findings about the FAST program emerged. First, the program was originally part of a larger citywide workforce development initiative and had the backing of Mayor Jim Kenney and his administration. Political support is important when creating a program associated with social stigma. Second, the buy-in of senior department leaders was key to building the program. Third, the program focused on the idea of a career pathway with the end goal being a civil service position. One way it created a career pathway is by tailoring job specifications to the FAST training program. Fourth, reentry programs can provide support services such as financial literacy training and mental health resources that are important for the success of returning citizens. Fifth, for a program with many components partnerships between city departments are essential to smooth operations.

**CASE STUDY: PHILADELPHIA WATER DEPARTMENT APPRENTICESHIP PROGRAM**

**Background**

The Philadelphia Water Department (PWD) has several workforce development initiatives that focus on creating a talent-pipeline by providing entry-level professional and skilled trades candidates with a variety of professional experiences. These initiatives emerged as part of a larger citywide push, backed by federal funding, for workforce development and violence reduction. The Philadelphia Water Department Apprenticeship Program, established in 2014, was designed to provide meaningful work experience to high school students. The department had identified an ongoing need to find candidates for several hard-to-fill technical positions; apprenticeship program participants now fill these positions.

**Program Details**

The program timeline ranges from nine to 16 months, depending on the training position. Participants are provided with on-the job and classroom training to prepare them for job opportunities within the City of Philadelphia or the private sector. Eight people are currently participating. Since the program’s inception, 35 people have graduated and 32 have become permanent City of Philadelphia employees.

The PWD Apprenticeship Program works closely with two pre-apprenticeship or professional development programs to select most, if not all of its candidates (Figure 4). The first program is PowerCorps PHL, a City of Philadelphia AmeriCorps program and partnership with two nonprofits that provide education, career readiness, and employment for young people (EducationWorks and the Philadelphia Youth Network), which “engages disconnected young adults and returning citizens to enter and succeed in career pathways by using service as the strategy to provide career-connected education and paid, work experiences” (“About PowerCorpsPHL” n.d.). PWD established a partnership with PowerCorps PHL in 2013 and has since been drawing from its talent pool. The second program is the City of Philadelphia School District Career and Technology Education Program. While the program is not specifically designed for returning citizens, many PowerCorps PHL participants are youth with experience with the criminal justice system or returning citizens.
PWD Apprenticeship and Workforce Development Director Alex Warwood manages the program, and a handful of additional staff members work closely with him including a human resources hiring team, training staff who help with contracting and training, and a safety unit that assists with providing mandatory training courses for the water department. Each apprentice is also paired with a mentor who holds a job in the same career pathway, who teaches and works with the apprentice throughout the training program. Orleans Technical College provides classroom and the Sustainable Business Network provides skilled labor training.

![Philadelpia Water Department Apprenticeship Program Structure](image)

**Figure 4. Philadelphia Water Department Apprenticeship Program Structure**

**Successes and Challenges**
The PWD has been able to build strong relationships with PowerCorpsPHL and the School District of Philadelphia to continue recruiting young adults who have an interest and base knowledge of storm water operations. This partnership has increased the efficiency of recruitment and enables PWD to fill positions that have historically been hard to fill. The apprenticeship program has also been very successful in placing participants into full time civil service jobs; they have had a placement rate of over 85 percent.

Some of the challenges that the program faced included negative perceptions of the program participants. Alex Warwood, PWD Apprenticeship and Workforce Development Director, said, “Through time and experience and successes we have gotten a little bit past [those perceptions]. There are still some of those perception issues that are at play that we have to sort of mold and guide beyond closed thinking” (Warwood 2019). Program participants have proven successful in their training and their subsequent careers, but the stigma of returning citizens continues. Another big challenge was working with the existing city employment structure and altering the structure so that apprentices could promote into civil service positions quickly. The director spent time making sure both the classroom training and the on-the-job training components were appropriate to meet the needs of the department. Mr. Warwood also said that it is necessary, but challenging to be completely transparent with participants about program expectations from the very start to avoid later problems.

**Key Findings**
This case provides several important insights. First, partnerships are important in providing a talent pool from which to select participants. Second, several people from different offices within the administering department are necessary to provide support for the program. Third, it is important to address the negative perceptions that current utility employees may have of program participants. Fourth, it is important to be transparent with program participants from the start and ensure that they understand program expectations. Finally, ensuring that training is aligned with civil services job vacancies is crucial for career pathway success.
CASE STUDY: INDIANA’S HOOSIER INITIATIVE FOR REENTRY (HIRE) PROGRAM

Background
The Hoosier Initiative for Reentry (HIRE) is a State of Indiana-wide reentry program that began in 2012 following a Governor’s Initiative for reentry. This Initiative resulted in the program’s development under the Department of Workforce Development (DWD) (Heck 2019). The HIRE program moved to a new organizational position and has been under the umbrella of the Department of Corrections (DOC) since January 2019. This recent move was made to better achieve the program’s goals, as the program only works with those who are in a corrections facility or on active parole (Heck 2019). While partnerships between DWD and DOC continue to exist, moving under the umbrella of the DOC allowed HIRE easier access to pre-release clients. This was just one of many revisions of the HIRE program since it was created seven years ago; Director Carrie Heck estimates there have been at least 15 such major revisions. As she put it, “We’re forever editing and changing things just so we can stay within what the community needs within every area.” The HIRE program sees reentry as best followed by the ABC model of thinking, meaning “Any job, Better job, Career.” Its focus is not only finding job placement for returning citizens as soon as possible upon release, but in finding pathways for clients that allow them to step up into higher paid positions.

Program Details
The HIRE program operates with a three-pillar approach: Direct Client Services, Business Services, and Education. The program is a statewide effort within the DOC, managed as nine regions across the State of Indiana. Staff includes regional coordinators and an assistant director for the southern and northern portions of the state. Splitting the reentry work regionally provides confidence that the program is connecting returning citizens to local and accessible employment and services (Heck 2019). The main partnerships that allow HIRE to do its work are with facilities, parole officers, and other programs within the DOC, and with businesses or public agencies who provide interview opportunities and the possibility of a guaranteed position upon release for a returning citizen (Figure 5). As part of their partnership, the HIRE program utilizes the U.S. Department of Labor’s Federal Bonding program and helps businesses qualify for bonds set aside for difficult labor opportunities. Appendix B shows the fact sheet presented to businesses about the this program. HIRE works to find positions and opportunities for both pre-release citizens and returning citizens who are on active parole. As distinct from Philadelphia’s program, they call their beneficiaries “clients” rather program participants. Probation officials, parole officers, community corrections, Indiana’s local WorkOne re-employment offices, the DOC’s certification program and the DOC’s START program refer clients to HIRE (Heck 2019). Past clients also can and do recommend new clients. The program employs both group and individual training. It offers mock interviews and leads on jobs within partnerships based on transferable pre-existing skills (Heck 2019).

The pillar of business services details how HIRE creates partnerships and willingness among businesses to open their doors for returning citizens. In speaking with our team about program challenges, Heck described the importance of partnerships to communicate to businesses both that returning citizens are as hard, if not harder, working than other candidates and, at the same time, that returned citizens exit incarceration with a particular mindset that their employers must understand. To do this, HIRE uses a number of events and tools to bring businesses into carceral facilities before necessarily agreeing to open a position for a returning citizen through the program. This includes virtual job fairs, an employer day at a facility, facility tours, and having businesses provide mock interviews for clients. She describes this part of the program as crucial to its success of the program, and HIRE monitors how many new businesses they get to step into facilities and interact with pre-release citizens as an indicator of yearly program performance (Heck 2019).
The education pillar includes services and training HIRE offers to incarcerated people in preparation for more dedicated one-on-one work with a HIRE mentor. “HIRE Academy” teaches a range of skills to prepare pre-release citizens for release. Modules include job application, résumé, and interviewing skills, community reintegration, digital literacy, financial literacy, successful work habits, job retention skills, workplace conflict resolution, and a “what to expect” module which speaks more broadly to life post-release (Heck 2019). A unique aspect of HIRE Academy is that these modules and trainings were developed in-house, whereas other programs we evaluated contracted out or developed similar offerings with help from a nonprofit. HIRE has added new topics and revised existing trainings based on feedback from hiring partners and clients, with initial creation sourcing from the original 2012 staff’s experience in workforce development. HIRE's system of program measurement was the most comprehensive we examined. Program success is measured against yearly set goals that are based on historical data collected by the program. Beyond job placement, which they consider the most important metric, they also measure success based on the new businesses they bring into a facility, the total new partners, and the average hourly wage of placed clients (Heck 2019). These pieces of data allow HIRE to stay true to its commitment to the “ABC” of employment. They also ensure that the number of opportunities they can secure for clients will continue to grow in the future.

**Successes and Challenges**

The HIRE program is a great example of a successful pre-release reentry program. They understand reentry work to not only involve returning citizens, but also the businesses and partners who offer positions. Their holistic approach and continued revisions have led to huge successes across the State of Indiana. In total, HIRE has placed 644 post-release returning citizens, and 22 pre-release returning citizens in 2019; they earned an average hourly wage of $11.79, a full 63% higher than Indiana’s minimum wage of $7.25 (“DWD HIRE Recap December-Program End 2018,” n.d.).

When speaking to challenges, Director Carrie Heck identified the difficulty early on of finding partnerships. To overcome this, the program utilized local community meetings and snowballing off of nonprofit partnerships. This method of partner building has led the HIRE program to have membership on many regional reentry coalitions, and to be in network with many of the existing local efforts despite being a 13-staff statewide / regional effort. Heck also named funding as a challenge, which she described as slowing growth. The initial vision of the HIRE program was to serve returned citizens who were not necessarily on active parole as well as returning citizens, but prerelease has provided an overwhelming supply of candidates and budget has not permitted wider access.
Key Findings
HIRE prioritizes the relationships between its business partners and client base in order to build lasting, upward connections. Trainings and services have been developed within the Department of Workforce Development and Department of Corrections, which is uncommon compared to other cases which utilized community group and nonprofit workshops and facilitation services. While the types of education offered do cover multiple areas such as soft and technical skills, they are primarily closely related to workplace and employment skills, with only a few trainings addressing larger picture items like general mental health or re-integration. The HIRE program’s openness to any business, nonprofit, or public agency partner creates a huge demand base for placing returning citizens. Heck described placing returning citizens in public agency positions as a crucial part of showing that the program “walks the walk” in that the state picks employees from the same group of people it places (Heck 2019).

CASE STUDY: ATLANTA’S REENTRY PROGRAM: PREPARING ADULT OFFENDERS TO TRANSITION THROUGH TRAINING AND THERAPY

Background
Atlanta's Preparing Adult Offenders to Transition through Training and Therapy (PAT3) program engages participants while they are still incarcerated. The program, which was launched in 2018 with support from Mayor Keisha Lance Bottoms, was conceived by Chief Patrick "Pat" Labat of the City of Atlanta’s Department of Corrections who spoke with us about the program (City of Atlanta n.d.). Labat saw dual needs: first, a need within the City of Atlanta to fill job vacancies and to complete the work needed to maintain a rapidly growing municipality, and second, a need for employment by incarcerated Atlantans preparing to transition back into society at the end of their prison sentences (Labat 2019). The PAT3 program connects these dots by engaging non-violent offenders with 12–15 months remaining on their sentences in on-the-job technical training and soft skills training in preparation for the opportunity to transition to full-time city jobs at the end of their sentences (Labat 2019). The program’s goal is to help returning citizens succeed and to reduce recidivism by “providing essential life skills,” while at the same time meeting city staffing needs (City of Atlanta n.d.)

Program Details
The PAT3 program is a partnership between several city agencies, a state agency, and a nonprofit organization (City of Atlanta n.d.) (Figure 6). The City of Atlanta Department of Corrections serves as the lead coordinating agency (Labat 2019). Other partners include the Georgia Department of Corrections; the Urban League of Greater Atlanta; the City of Atlanta Department of Watershed Management; the City of Atlanta Department of Public Works; and the City of Atlanta Parks and Recreation Department (Labat 2019). Participants in the PAT3 program enter the program while they are incarcerated at the Georgia Department of Corrections—Georgia’s state prison (Labat 2019). Once participants are enrolled in the PAT3 program, they are moved to the Atlanta City Detention Center, which is managed by the City of Atlanta Department of Corrections, to complete their sentence and participate in the program under the supervision of the City of Atlanta Department of Corrections (Labat 2019).

PAT3 program participants participate in classes and counseling to help them develop life skills such as “financial management, parenting classes, anger management, substance abuse prevention, and workforce readiness” through the Urban League of Greater Atlanta. They receive on-the-job training as paid interns with the Department of Watershed Management, the Department of Public Works, or the Parks and Recreation Department, sometimes through a contracted third-party company that trains workers for that department (Labat 2019). PAT3 participants are paid at least the City of Atlanta’s minimum wage of $15 an hour, and they are permitted to work overtime (Labat 2019). Their wages are saved in an account for them until their release (City of Atlanta n.d.). They can then transition into full-time employment in the department with which they have been training upon returning to the community.
The Atlanta Department of Corrections also assists PAT3 participants in obtaining items they need to succeed as job trainees. For example, whereas other Department of Watershed Management employees receive a work shirt, but must provide work pants and shoes themselves, the Department of Corrections takes PAT3 participants to a uniform store and purchases pants and shoes for them (Labat 2019). Participants also receive a debit card with a small amount of money to use for lunches with colleagues during work hours (Labat 2019). Because participants remain under supervision, City of Atlanta Department of Corrections staff also transport them to and from their work site each day (Labat 2019).

While the PAT3 program has no set budget, costs include Department of Corrections staff time, materials for participants (like uniforms and funds for meals), existing equipment (like transport vehicles), life skills and job skills training, and wages for participants. Three to four Atlanta Dept. of Corrections staff positions contribute part of their time to managing the program, including the sergeant who serves as coordinator for the program and the officers who transport participants to and from their job site. The Urban League of Greater Atlanta receives Federal grant funding to offer their life skills training to PAT3 participants. Respective city departments budget for job skills training and wages.

To recruit participants for the PAT3 program, the City of Atlanta Dept. of Corrections asks the Georgia Department of Corrections for a list of incarcerated individuals who meet the following criteria: has 12 to 15 months remaining on his sentence; a non-violent offender; not a sexual offender; has not engaged in any altercation while incarcerated; has a return address in or was convicted in Fulton County (where Atlanta is located); male; high school diploma or GED preferred, but not required (Labat 2019). Labat shared that he hopes to extend the program to women soon. Because roughly 80 percent of those incarcerated at the Georgia Department of Corrections come from the Atlanta Metro Area, there are many eligible participants to choose from. Those selected for the program are transitioned to the Atlanta City Detention Center from state prison and drug tested. Those who fail the test can take it once more, but then lose their eligibility for the program (Labat 2019).

**Figure 6.** Atlanta’s PAT3 Program Structure
Successes and Challenges
The PAT3 program has achieved success on a variety of fronts. The program has served two cohorts since its inception, serving 10 and 19 participants, respectively. Most participants in the first cohort secured employment with the City of Atlanta, and the second cohort is still being trained (Labat 2019). According to Chief Labat, participants have excelled in their jobs, both as trainees and after transitioning into fulltime employees, thus serving as valuable resources for the City of Atlanta. “I had supervisors from Watershed or Department of Public Works come and do nothing but talk about …how great the participants were,” he told us. “They were out-working their co-workers.” One trainee passed a certification test for a Department of Watershed Management job the first time he took it, a rare feat as many candidates take the test three or four times before passing (Labat 2019).

Participants have also reaped diverse benefits. The program has helped them significantly improve their financial stability. Some have been able to begin making child support payments while still incarcerated. One participant had saved $20,000 by the time he completed his sentence, one was able to rent a house with space enough for his family of five with his earnings, and one expressed his amazement to Chief Labat that he had been able to buy his daughter a prom dress (Labat 2019). Participants have also gained in other ways, for example through the building of friendships. As Labat said each of the cohorts has been “extremely close-knit. And so… they started looking out for reach other.” Finally, participants have experienced a new sense of confidence, hope, and appreciation for the opportunity they have been given. Labat explained that the program changed “what expected…people had a certain set of expectations based on individuals being incarcerated. Well, the unintended consequence was, individuals believing in themselves and the real opportunity for a second chance.” Chief Labat shared that a group of graduates from the first cohort opted to purchase bicycles and toys for families of U.S. veterans as part of a City program. “I mean…those are the things that you can't measure, but show that because they got a second chance, they want to help somebody else” (Labat 2019).

The Atlanta Department of Corrections also faced significant challenges in establishing the PAT3 program, not least significant skepticism (Labat 2019). Another initial barrier was that Georgia state law required the City of Atlanta's Department of Corrections to become certified as a transitional center in order to supervise incarcerated individuals from the Georgia Department of Corrections. This necessitated some internal changes to policies and procedures. A third challenge was that at the time the program began, the city took an average of 65 days to hire an employee. Since then, however, as part of a separate effort led by Mayor Lance Bottoms, the city has reduced its hiring time to about 35 days, a significant improvement (Labat 2019).

Key Findings
This case offers several helpful insights. First, reentry programs like PAT3 can provide returning citizens with a valuable social support system of peers. Second, returning citizens can excel as city employees. Finally, city departments may face institutional or procedural barriers (such as Georgia’s requirement that any entity that supervises incarcerated people become certified as a transitional center), but determined leaders can overcome such issues.
CASE STUDY: LITTLE ROCK’S REENTRY SERVICES PROGRAM

Background
The Reentry Services program of the City of Little Rock, Arkansas, is administered under the city’s Department of Community Programs. This department “addresses crime prevention issues” and “improv[es] positive outcomes and the quality of life for the children, youth, and families of Little Rock” through Prevention, Intervention, and Treatment (PIT) programming focused on the most underserved youth and families (City of Little Rock n.d.). The Department of Community Programs was established in 1996, institutionalizing initial PIT programming efforts that had been funded through foundation grants. A half-cent sales tax supported by Little Rock voters secured the ongoing funding that allowed the formal establishment of the department (Pridgeon and Dossett 2019). The Reentry Services program began in 2012 after Little Rock residents voted for an additional 5/8-cent sales tax increase. Reflecting its community-driven origin, the Department of Community Programs is accountable to Little Rock’s Citizen Evaluation of New Tax Committee made up of interested Little Rock residents (City of Little Rock n.d.). The Department must report quarterly to the committee about how they are spending allocated funds on “reentry and career education” (Pridgeon and Dossett 2019).

Program Details
Little Rock’s Reentry Services program assists returning citizens by placing them in City of Little Rock trainee positions, helping them find employment outside the City of Little Rock, offering “employment readiness training,” and hosting an annual job and resource event called Rights After Wrongs that draws more than 1,000 people. Dwight Pridgeon, Reentry Services Coordinator, also visits prisons to talk with people still incarcerated about the services offered through the program. The program functions through both internal partnerships with other city departments and external partnerships with nonprofits. At its inception, the Reentry Services program placed returning citizens in trainee positions under the Public Works Department, where they constructed sidewalks (which voters had identified as a community need) (Pridgeon and Dossett 2019). Additional City departments have since added trainee positions for returning citizens for a total of about 50 designated positions within the following departments: the Solid Waste Services Department, the Police Department, Little Rock Zoo, the Parks and Recreation Department, Housing and Neighborhood Programs, and Fleet Services. Once they have secured trainee positions, program participants have the opportunity to be promoted into a regular city position, and Reentry Services program staff encourage them to strive for this outcome (Pridgeon and Dossett 2019). During their trainee placement, program participants receive leadership training (provided through a contracted nonprofit partner) offered in six sessions, during their lunch breaks. Through the Rights After Wrongs event, the program convenes employers as well as a variety of service providers who can help prepare returning citizens to obtain employment once they return to society. Dana Dossett, Director of the Department of Community Programs explained, “It’s really comprehensive: anything from driver’s services, to individual child support, expungement...we have several legal people who give pro bono services...just about everything you could think of that a reentry person would need to work, is under that roof.”

Job placement works as follows. Prospective participant meets with the Program Coordinator to discuss their needs. Little Rock has “banned the box” and therefore the Program Coordinator will not ask about criminal record, but the person may end up volunteering this information, since that is why they are seeking services. The Program Coordinator does an intake assessment and decides whether the participant is qualified for placement in a city position, and whether to recommend him or her for an open city job. For those approved for participation, the Program Coordinator sends his or her application to the City’s Human Resources Department with a recommendation that the application be sent to the appropriate department (Figure 7). The HR Department processes and passes on the application. A prospective participant’s application is kept on file for 90 days, but if he or she has not secured a job, reapplication is permissible. The HR Department may also pass on applications to the City’s internal temp agency (Pridgeon and Dossett 2019).
To be eligible for Little Rock's Reentry Services, a person must meet the following criteria: have committed a felony, but not a sex-related offense and a resident of Little Rock. Due to limitations imposed by Arkansas state law, the program cannot serve people while they are still incarcerated except to visit prisons to provide information about the program to them. Recruitment takes place by informing parole officers about the services, via outreach through the City of Little Rock's radio and television stations, and through the Rights After Wrongs event. Between 200 and 250 people receive job placement assistance each year, 50 of whom are placed in City of Little Rock trainee positions. The program serves roughly 1,000 people through Rights After Wrongs.

The Reentry Services program's budget for 2019 is $75K but varies year to year. This funding is used to pay for trainings provided by partners and to meet the needs of program participants (for example, to purchase work boots participants need to do their job). In previous years, the program's budget has also included funds to pay nonprofit partners like Goodwill to assist program participants through work assessments and job placement. Partnering city departments budget for the trainee positions they hold for program participants (Pridgeon and Dossett 2019).

**Figure 7.** Little Rock Reentry Program Structure

**Successes and Challenges**
The Little Rock Reentry Services program has seen success through the placement of participants in city jobs, the promotion of trainees to regular staff positions, and the personal transformation experienced by program participants. “[The program] gives them an opportunity to be trusted again,” Pridgeon explained. “[I]t builds them up again. It builds up their self-esteem, it builds up their confidence—they know they can do it. In other words, they can step out on faith and take their chance. They pick up a trade and then take it to the next level” (Pridgeon and Dossett 2019).

Both Pridgeon, himself a returned citizen, and Dossett, whose husband was a returned citizen, emphasize the value that their personal experience with the criminal justice system brings to their work. They state that their personal experience helps them to be relatable and credible to participants. Their experience also helps them to determine whether a prospective applicant is truly rehabilitated and ready to work. Pridgeon and Dossett also cite the importance of buy-in from department leadership for the success of their reentry program, which they work hard to secure.
Challenges the Little Rock Reentry Services program has faced include budget limitations, determining whether prospective participants are truly ready to take on work, and the stigma that returning citizens face as employees. Pridgeon and Dossett described participants who have faced negative attitudes and poor treatment from fellow employees (Pridgeon and Dossett 2019). A program participant the Police Department, which employed her in a landscaping role, had praised as a star employee left for a private sector job after being treated badly by colleagues. Department of Community Programs staff advocate for program participants by reporting mistreatment to department management, when participants tell them about it (Pridgeon and Dossett 2019).

Key Findings
This case provides three key insights. First, it revealed that staff with personal experience with the criminal justice system bring value to reentry programs, and that they have an important role as program designers and leaders. The case also demonstrates that one way to secure city positions for returning citizens is to create and budget for trainee positions that only program participants can fill. Finally, this case shows that state law may prevent a program from engaging incarcerated people in programing prior to their release from prison.

ANALYSIS
This section synthesizes the findings from the above case studies into several themes that reflect the major elements of a typical reentry program. It highlights the commonalities and unique aspects of the various programs within the following themes: program structure, partnerships, staffing, recruitment, program services, program measurement, and communication.

PROGRAM STRUCTURE AND ORGANIZATIONAL POSITION
Typically, reentry programs begin or are pursued under a larger political initiative, which the City Mayor or State has often championed. Programs often intersect with or are based in larger workforce development departments or programs. Sometimes, an office of reentry will be created under the mayor or county representatives, but much of the time reentry programs take place in a department that does related work. Either way, all program structures studied for this report had some type of central public agency managing and coordinating the program. Besides the existence of a central agency or office to administer the program, there was very little commonality among program structures. Program design, the ways positions for returning citizens are secured, and the share of responsibility across partnerships for things like program management and recruitment vary greatly. Little Rock’s and Indiana’s programs have undergone serious change over their years of development. As a program grows it may begin to create more dedicated partnerships with certain partners or may find new partners and ways of facilitating trainings. A major factor in the way training is structured is the extent to which the program offers services pre-release or post-release. This can dramatically change how the program looks due to the partnerships with State Corrections needed to enter facilities and administer pre-release programs.
Partnerships
Partnerships were crucial in all of the case studies. There was no employee training or reentry program that carried out all program components in-house. Partnerships served a variety of purposes. In all cases, partnerships were utilized for job placement and recruitment purposes. In some cases, partnerships were utilized for training services. There are different types of partnerships including cross-city partnerships in which multiple city departments worked together, state-city partnerships in which the leading city department worked closely with a state department, nonprofit partnerships, and private business partnerships.

Staffing
Dedicated staff time is needed to coordinate programs. The programs generally relied on staff within the department or agency leading coordination of the reentry program. Typically, 1-2 people are designated as coordinators (who may have other job responsibilities). Staffing structure is not uniform across programs, but common responsibilities for coordinators include the following:

- Engages partnering departments or private sector employers with job opportunities for returning citizens.
- Coordinates with nonprofit or private sector partners that provide training, counseling, or other services to program participants.
- Conducts outreach to recruit participants.
- Coordinates job placement services.
- Coordinates and/or leads professional development trainings.

Recruitment
Programs utilized a range of recruitment styles. Some programs used open recruitment strategies such as hosting large events and job fairs to attract program participants. Other programs used closed recruitment strategies such as collaborating with the city or state's department of corrections/prisons to identify currently incarcerated individuals for program participation. Some programs partnered with non-profits to identify program participants.

Program Services
The types of services related to or complementary to reentry could be categorized many ways, but for the purpose of this report we identify four areas of service. Figure 8 shows these categories with common examples. Services and workshops varied across program. Service administration also varied greatly among studied programs, with different programs varying the extent to which facilitation of services was offered in collaboration with some other public agency or non-profit partner. In addition to regular or semi-regular workshops, some programs hosted or organized larger events to connect returning citizens to both the program and larger area resources. For example, Little Rock's “Rights After Wrongs” event serves as a gathering place for judges, prosecutors, legal and expungement services, childcare help, employment opportunities, mental health help, and more and has had up to 1,000 attendees over the course of the day.

Programs also differed in the ways in which jobs were secured for returning citizens. Examples include formally budgeting within a department for positions, using written agreements, or creating positions that require the certification of program completion as part of the qualification to apply. For some programs, and more commonly in apprenticeship-based programs, positions are created specifically for a returning citizen. In other cases, program staff find existing positions which could be modified or re-purposed for hiring of returning citizens. Even within a program, the methods of securing positions could vary depending on the partnering organization. Program staff emphasized the importance of making sure positions exist for returning citizens before they enter the program.
**Program Measurement**

In terms of measuring program success, programs frequently used the percentage of program participants placed into full time jobs after completing the program to evaluate their success. It was also common for program staff to cite anecdotal positive outcomes related to personal growth or development, for example, gaining financial stability, gaining confidence, and having the opportunity to earn trust again. Only one program had conducted extensive program evaluation. Other notable measurements included recidivism rates of program participants in Little Rock and average hourly wage of placed clients in Indiana. These measurements provide a more comprehensive view of a program's success in serving a vulnerable population.

**Communication**

Clear, strategic, compassionate communication about reentry programs is important. Reentry programs use language that empowers, rather than stigmatizes the people they support. Examples include:

- Program staff use the term “returning Citizens” to refer to program participants, rather than “ex-felons,” “people with criminal records,” or “formerly incarcerated people.”
- Program staff frame their reentry programs as providing people with a “second chance.”
- “Reentry” or “reentry” is a commonly used term for programming that supports returning citizens in obtaining employment and returning to society after incarceration.

Staff in all programs discussed the need to overcome stigma associated with returning citizens, both among prospective employers and among fellow employees. Staff also discussed the need for programs to establish trust and credibility among returning citizens as a genuine source of support.
RECOMMENDATIONS

Our case studies provide clear directions for Austin Water’s creation of a successful reentry program. Recommendations are divided into program design and partnerships, which we identified as two encompassing factors which contribute to program success in the programs we investigated. Based on the above exploration and analysis of reentry programs across the country, we recommend that Austin Water take the following specific actions.

PROGRAM DESIGN

1. Identify positions and career pathways which may be suitable to reserve for returning citizens.

If the goal of the program is to provide full-time, civil service employment for participants following completion of the program, it is important to have jobs available prior to the start of the program. One way to reserve jobs for program participants is to tweak existing job specifications so that one of the qualifications is the successful completion of the training program.

2. Identify program goals and priorities, including what types of trainings and services a potential program might offer. Evaluate performance.

A logic model is a tool common to the nonprofit sector that allows the simple mapping of a program’s mission and process. Creating a logic model at the start of program design can help communicate the program, and gives a base from which to revise and evaluate program operations. It also can be helpful in on-boarding new staff to positions within the program. See Figure 9 for reference of the components of a typical logic model.

A program model may change depending on the goal. A dedicated apprenticeship program will have a different expected number of viable positions than one that seeks to hire returning citizens into as many positions as possible. Determining the program goal can help guide the selection of approaches. Another guiding tool is a program theory of change. A theory of change is the “how” of a program’s process, the idea of how change happens that connects the activities being pursued to the program’s ultimate goal. In the case of reentry, a theory of change for apprenticeship might be “Upward mobility in employment is the best way to prevent recidivism.” A theory of change for a larger hiring program might be “employment focuses a returned citizen’s life and allows them to access other needed services.”
3. Consult returning citizens within the organization in designing and managing any reentry program.

Those with lived experience as returning citizens can offer valuable insights about the needs and challenges of returning citizens. Self-identified returning citizens who already work at Austin Water should be invited to take leadership roles in the design and management of the reentry program.

4. Budget for, design, and structure several staff positions for the coordination and administration of a reentry program.

It is important to have designated staff managing the program. It is particularly important to have a program manager or coordinator to be the point of contact for any program partnerships. The designated staff will be responsible for making sure that all pieces of the program are taken care of, including identification of job vacancies, recruitment of participants, and selection of training types and additional services offered.

**PARTNERSHIP**

5. Partner with the Equity office to engage staff in thinking about and being sensitive to returned citizens.

Austin Water volunteered to participate in the City's first cohort equity assessment program. The department had not focused on equity until the startup of the City's equity program, and it had some of the lowest ratings in its racial equity assessment tool. Success may thus hinge on the full backing of the agency and acceptance among existing employees. Interviewed reentry program staff had all observed and heard of stigma against returning citizens and all described the need to change minds. By partnering with the Austin Equity Office, Austin Water can prepare its existing workforce to be understanding and supportive of future returned citizen coworkers.

6. Identify opportunities to collaborate with entities that do related work to enhance programming and avoid redundant initiatives.

Austin Water should consult with the Austin Equity Office, the Texas Department of Criminal Justice, and the Austin Economic Development Department's Workforce Development Division to identify opportunities for collaboration and to avoid redundancies in programming. The utility should also invite these departments to collaborate in designing the reentry program. Further partnerships should be determined through review of the Travis County Reentry Guide circa 2018. This guide, published by the Travis County Justice Planning Department, addresses multiple areas such as education, legal services, and other needs (“Travis County Reentry Resource Guide” 2018).

7. Identify potential nonprofit or private partners to help develop desired trainings.

Eligible avenues for this process are local and state justice-oriented or reentry coalitions. Coalitions should have a variety of participating nonprofit or private organizations that may be willing to partner with Austin Water. Current employees who are returned citizens may be able to help identify partners based on their own experiences of receiving services.

Based on our analysis and recommendations, Figure 10 provides an example of a reentry program structure for Austin Water.
CONCLUSION

Reentry programs advance racial equity and provide hope at both individual and systemic levels. For individuals returning to society after incarceration, these programs represent an opportunity to gain life skills and to secure stable employment. At the systemic level, they reduce barriers to employment, in turn reducing recidivism. Because a disproportionate percentage of the returning citizen population consists of people of color, improving the outlook for returning citizens advances racial equity. Austin Water is well-poised to begin a reentry program. Already a leading water utility at the national level in other respects, the utility has the opportunity to become a leader in racial equity, as well. Other water utilities have played a leadership role in advancing equity, but Austin Water could be among the first to create a successful reentry program. The process should begin with designing the program with input from returning citizen staff, either by allocating City of Austin funding and staff time, or by engaging a consultant to carry out the process. Doing so will contribute to a more equitable Austin, and thus a better city for everyone.
As part of its 100-year Water Forward plan, Austin Water plans to transition households from the use of an analog water meter system to digital meters. The new digital meters and associated wireless communication network, commonly known as AMI. Austin Water intends for the more detailed and accurate data collected through AMI to allow for implementation of advanced analytics to better predict water demand and direct targeted conservation efforts. AMI will help achieve the goal, as set in the Water Forward long-range plan, of improving water conservation and water use efficiency. However, while giving customers hourly updates about their water usage may make it easier for them to modulate use, the greater accuracy will likely raise water bills, with implications for racial equity that must be addressed. This chapter details how Austin Water’s communications with vulnerable residents during the AMI rollout can address racial equity.

BACKGROUND

Austin’s current method of recording customer water consumption involves mechanical water meters. In mechanical meters, the water that flows through the meter physically moves the internal meter components, and volume is measured as a function of that movement. Over time, meters can lose accuracy and underreport the actual amount of water consumed by up to 15% (Monks et al. 2019). All data that determines billing as well as Austin Water’s tracking and prediction of system-level water consumption patterns depends on monthly manual reading of individual household meters. The Water Forward plan identified an opportunity for improvement through a transition to AMI. Through this change digital household water meters will transmit usage data in real-time to a central server. The digital water meters function by digitally recording velocity of water as it passes through the meter, which can be used to calculate flow rates and volume of water consumed. This allows real-time, sub-daily water use measurements, which help utilities to measure and regulate water usage with far more granularity and accuracy. A comparison of mechanical meters to meters used for AMI is presented below in Table 1.

<table>
<thead>
<tr>
<th>Usage Recording Mechanism</th>
<th>Accuracy</th>
<th>Reading Method</th>
<th>Recording Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Meter</td>
<td>Physical displacement moving water</td>
<td>Loses accuracy over time</td>
<td>Manual</td>
</tr>
<tr>
<td>Advanced Metering Infrastructure</td>
<td>Digital flow based on velocity</td>
<td>Accuracy maintained</td>
<td>Wireless</td>
</tr>
</tbody>
</table>

**TABLE 1.** Comparison of mechanical and digital water meters
There are many AMI transition advantages to water, including:

- Increased accuracy of water consumption records (mechanical meters tend to under-record by up to 15%)
- Enhanced capability of detecting leaks by recognizing sharp increases in water consumption at a particular residence
- Ability to detect unauthorized/pirated water consumption
- Reduced labor costs from automating the meter reading process
- Data transparency and direct communication with customers, such that customers can see their water consumption patterns and create strategies for conservation. (Monks et al. 2019; Tiger, Hughes, and Eskaf n.d.)

The term Automated Meter Reading (AMR), refers to generally the same technology as AMI. The major difference between AMR and AMI technologies is that in AMR, meter readings are collected by the utility driving around a truck in which the meter readings are automatically ready by a short-range receiver, whereas in AMI, meter readings are transmitted wirelessly to a central database in real time.

Austin Water intends to implement an AMI pilot program in summer 2020 for a small subset of customers. During the pilot, the new system will be tested and lessons will be learned in advance of the system-wide rollout. Overall, the transition to AMI presents Austin Water with multiple opportunities for improving operation of Austin Water’s bill dissemination, customer communication, and water system operation.

**EQUITY IMPLICATIONS OF ADVANCED METERING INFRASTRUCTURE**

AMI is a common component of “smart cities” infrastructure that uses information and communication technologies to improve the quality and efficiency of city service provision. Many aspects of smart cities, however, can inadvertently leave behind marginalized communities, including low-income communities of color. Any high-tech intervention that is distributed unequally, or that is built around the needs and concerns of specific groups, or that requires smartphones to access, may disproportionately benefit higher-income residents or harm lower-income residents (Kharas and Remes 2018; Kitchin 2014; O’Dell et al. 2019).

Austin Water is committed to advancing racial equity through its water service provision practices, and uses equity as a key metric in evaluating its current and future programs in the Water Forward plan. Increasingly aware of its impact on communities of color, Austin Water is evaluating its upcoming AMI implementation for possible negative impacts on marginalized communities, and seeking measures to counteract these impacts.

Expected increase in monthly bills due to more accurate monitoring, which has occurred in other cities that have transitioned to digital water meters is a particular area of concern. Some households may already experience difficulty paying monthly water bills. Austin Water intends to manage the AMI implementation to alleviate the financial hardship for lower-income households, and communicate why and how the transition is occurring in a way that alleviates harm.

In line with concerns about the digital divide, efforts will include accommodating customers that have neither a smartphone nor home internet access, as usually one or the other is required to view real-time usage data. As well, Austin Water’s anticipated communication regarding AMI is expected to be communicated using digital methods to notify residents of the transition, meter installation procedures, and ongoing water consumption patterns. This includes creating an online portal through which residents can view their water consumption in real-time, and be notified of indications of leaks. While this portal presents a significant leap in Austin Water’s direct communication with customers, alternative customer communication channels will be required in order to include the subset of vulnerable customers without internet access.
Managing the AMI transition with an equity-focused communications strategy is also in Austin Water's interest as it seeks to prevent negative press and public scrutiny. If customers see a rise in water rates due to the installation of more accurate meters, estimated as high as 15%, they may suspect the utility of dishonestly using the new technology to raise bills. Interviews with other water utilities nationwide suggest that this has occurred, as other utilities have faced scrutiny during their AMI rollouts. A thoughtful communications strategy is therefore necessary to protect the utility during a transition that causes water bills to rise.

**METHODS**

**QUANTITATIVE RESEARCH**

We took a mixed-methods approach in our analysis, using CAP customers as a proxy for the city's low-income households. We first conducted a statistical analysis to gauge the demographics of participants in Austin Water’s CAP. We also generated financial projections to determine the potential effect of bill increases would be on CAP customers. Austin Water provided the research team with data on CAP customer monthly water use. The conclusions we draw about CAP customers may be extended to all Austin Water households that struggle to pay their water bills.

First, an ordinary least squares (OLS) linear regression model was created to determine the importance of certain demographic characteristics on the percentage of CAP participation within a particular census tract, in order to understand the characteristics of Austin Water customers likely to face hardship from the increased prices. U.S. Census tract-level data were used.

We also quantified the financial ramifications of potential bill increases on CAP customers. The bill of each CAP customer was calculated based on Austin Water's tiered billing structure for the 2018 fiscal year. Then, in order to simulate the effect of meter reading increases, the supplied meter readings were multiplied by a factor between 1 and 1.15, simulating a 0% to 15% increase in all meters among CAP customers. In reality, the increase in meter reading for each customer would not be systematic. However, this method was used to approximate the effect of an average meter reading increase among all CAP customers.

**QUALITATIVE RESEARCH**

To learn from other cities' efforts to deal with the AMI transition, we interviewed five water utilities that have implemented an AMI program. Among the 50 largest cities in the U.S., 19 cities have implemented AMI. Of those 19, five cities agreed to take part in the study: Washington DC, Denver, CO, Aurora, CO, Arlington, TX, and Louisville, MO. Water utilities were contacted via calling customer service lines, calling employees if their phone numbers were publicly available, and by email. Vendors who work with utilities on technical aspects of an AMI project were contacted, but none agreed to be a part of the study as they had no experience with racial equity issues. Interview questions were developed in collaboration with Austin Water and subsequently refined.

We also examined gray literature to identify utilities and water associations' best practices. Because AMI technology is widely used in the energy sectors, reports from energy utilities were reviewed as secondary sources. For example, a report by the Water Research Foundation “Advanced Metering Infrastructure: Best practices for water utilities” provided a wealth of insights. The report focuses on management and customer relation in AMI projects. It was based on interviews with utility officials in several cities in the U.S., U.K. and Canada, and provides best practices and recommendations regarding project staffing, communication, training, and billing for AMI projects. Additionally, publicly available communication plans prepared for four energy utilities’ AMI projects were reviewed. The reports include FirstEnergy's Pennsylvania Utilities Smart Meter Communications Plan, XCEL Energy Advanced Meter Customer Education and Communication Plan for Colorado Public Utilities Commission, Ameren Illinois's Advanced Metering Infrastructure Plan, and BGE Smart Meter Customer Education.
FINDINGS

QUANTITATIVE ANALYSIS
The results of the financial and statistical projections lead to insights regarding the makeup of residents most vulnerable to harm when bills increase. The CAP participation rates were compared to tract-level demographic data within the Austin Water service area. We specifically investigated what demographic characteristics most closely predict CAP participation as a proxy for difficulty paying the bills. The results of the OLS regression model indicate that census tracts with greater CAP participation were more likely to have higher percentages of Black people and people with limited English proficiency as well as lower percentages of smartphone ownership and internet access at home. Further, the most important explanatory variables based on the regression tree model are median income, percent limited English, percent Black, and percent with internet subscription. Though the results of the two model forms are not identical, common trends are exposed:

1. First, these models demonstrate that bill increases are a racial equity issue. Because the percent of Black people in a census tract is an important predictor of CAP participation, we surmise that the potential bill increase would disproportionately affect Black residents.
2. Further, both models suggest that low-income customers are less likely to either possess a smartphone or have an internet subscription, showing the need for Austin Water to include non-digital methods of communication to notify customers of AMI installation and ongoing water consumption/leak detection.
3. Finally, since percent limited English is an important CAP participation predictor, Austin Water should anticipate that CAP participants are more likely to face a language barrier in receiving communications. Thus Austin Water should be sure to include communications in languages other than English in order to effectively reach lower-income customers.

Our findings with respect to the financial implications of the potential bill increases indicate that any increase in water bills would have a large effect on CAP customers. During the 2018-2019 fiscal year, the total revenue from CAP customers was $9.8 million, with a median monthly bill of $49.58. A 15% increase would imply total revenue from CAP customers would be $11.8 million, with a median monthly bill of $58.80, a near $10 per month increase. However, Austin Water’s tiered structure means that an increase in measured water use will actually bring both revenues and some bills proportionately higher. Some customers whose water use was billed at a lower tier will have usage in higher tiers. With each percent increase in metered consumption (between 0 and 15%), the percent increase in revenue collected is approximately 1.35%, implying that some of the additional recorded consumption will be billed at higher tiers. These are approximations of the aggregate effects of an average increase in meter readings of 15%. However, the meter reading increase is not expected to average 15% but to be a maximum of 15%. This is because analog meters currently in use are inaccurate to differing degrees, and different households will see different changes in their billing. The mean increase is thus likely to be lower. Expanding the aid given by the CAP such that current participants will not pay more due to digital meter accuracy would require $2 million per year if these customers experience an average 15% meter reading increase, but in fact 15% is expected to be the maximum increase.
Factoring in the tiers, we estimated the impact of price increases resulting from AMI on lower-income customers assuming a 5% meter reading increase. Figure 1 shows the census tracts where existing CAP customers, based on past usage, would pay for water in a different price tier for at least one month during a given year, thus potentially seeing a disproportionate jump in their water bills. As shown in Figure 1, much as CAP participation rates are disproportionately high in communities of color the map of projected increases among CAP customers largely follows Austin’s “Eastern Crescent” of poverty.

**FIGURE 1:** The number of customers expected to pay in higher water usage tier as a result of a system-wide 5% increase in meter readings.
QUALITATIVE ANALYSIS

While our quantitative analysis of Austin’s own demographics and Austin Water’s customer base allows us to estimate the potential impact of the AMI transition, interviews and other qualitative research built a more complete picture of how other utilities have addressed, or are addressing, the same issues that Austin Water expects to face. We identified nineteen large cities have implemented an AMI pilot or rollout (Table 2).

<table>
<thead>
<tr>
<th>Utility</th>
<th>Pilot Program Year</th>
<th>Full AMI Rollout Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Water</td>
<td>N/A</td>
<td>Completed 2017-2018</td>
</tr>
<tr>
<td>Denver</td>
<td>2015</td>
<td>2000-3000 meters expected</td>
</tr>
<tr>
<td>Aurora Water (Colorado)</td>
<td>2019</td>
<td>Pending pilot results</td>
</tr>
<tr>
<td>Arlington Water (Texas)</td>
<td>2011</td>
<td>Yes, started 2014</td>
</tr>
<tr>
<td>Louisville Water</td>
<td>N/A</td>
<td>Expected 2020-2022</td>
</tr>
</tbody>
</table>

**TABLE 2**: Cities that have implemented AMI pilot or rollout

In the following section, we present case studies examining the five programs we researched. The case studies are organized into the following sections: Background, Program Details, Successes and Challenges, and Key Findings. Interviews with officials in the five cities revealed multiple perspectives on how to implement AMI through public outreach and communications in ways that address racial equity concerns (Table 3) (Appendix C).

**TABLE 3**: Interviews Conducted

- Washington D.C.
- Denver, CO
- Aurora, CO
- Arlington, TX
- Fort Worth, TX
- Colorado Springs, CO
- Connellsville, PA
- Nashville, TN
- Louisville, KY
- Memphis, TN
- San Diego, CA
- Jacksonville, FL
- Miami, FL
- Fresno, CA
- Columbus, OH
- Detroit, MI
- Fort Collins, CO
- San Jose, CA
- San Francisco, CA
CASE STUDY: DC WATER

DC Water is the public water utility for the city of Washington. Its External Communications Manager participated in a telephone interview to aid our investigation. Using external contractors for both engineering management and its customer service call center, DC Water engaged in a pilot program before full-scale implementation between 2017 and 2018. External expert contractors provided engineering management, likely aiding the rapid rollout. DC Water also used external contractors for their customer service call center, requiring extensive employee training.

Key insights from the interview include:

- Using a diverse set of communication methods helped to reach different groups and demographics of their customer base.
- There were instances of burglars pretending to be installers to rob customers. DC Water addressed these security concerns by communicating the implementation schedule and ensuring all legitimate installers wore vests with logos and that customers were aware of this measure.
- A widely publicized hotline to provide identification information of the contractors and installers can address a serious security concern among vulnerable communities.

CASE STUDY: DENVER WATER, COLORADO

The following information about Denver Water’s AMI program was collected through a Skype interview with the Head of the Customer Service division of Denver Water who began his career at the utility as a meter reader.

Denver Water is unique among the utilities interviewed in that is privately operated and currently under contract with the City of Denver. They maintain about 250,000 meters throughout the city, most of which use AMR technology since a service area-wide replacement in 2001. They began their AMI pilot in 2015 and in select areas such as the airport and suburban residences. Their ultimate AMI rollout goal is to install about 3,000 AMI meters. This limited rollout to hard-to-reach areas is due to data collected from a survey that gauged customers’ interest in a potential AMI program. Most respondents said they were interested in the benefits that AMI would provide, but felt that bill increases that would accompany AMI conversion would offset any such advantage.

Key insights from the interview include:

- The loss of face-to-face communication with customers needs to be addressed during the transition from manual meter readers to AMI, especially with those customer groups who may be housebound.
- The implementation of a pilot is necessary when it comes to testing out the different meter brands and troubleshooting the communication of AMI and the extant billing system.
- Regular surveys help to improve the system as a whole to gauge customer satisfaction and their understanding of AMI and the installation process.
CASE STUDY: AURORA WATER, COLORADO

Aurora Water is the third largest water provider in Colorado. The following information about Aurora Water’s AMI Pilot was collected through a Skype interview with the utility’s Public Relations Manager.

Aurora Water replaced their mechanical meters with AMR in 1996 to address issues of cost inefficiency and inaccurate meter reads. In 2017, they studied the benefit of AMI over AMR, then started a pilot in May 2019 with a target of installing 500 AMI meters, then increased their plan to 1485 AMI meters in November 2019. Contractors are handling installation of the meters and billing for customers whose meters have been converted. They plan to replace all of the system’s meters after the satisfactory completion of the pilot.

Key insights from the interview include:

- Partnerships with community organizations for different social and community programs help to build trust and relationships with communities. Aurora Water has partnered with High Youth Corp’s job creation program, which teaches youth from disadvantaged communities job skills related to the water sector.
- The flexibility regarding the timeline of the pilot programs gives the utility an opportunity to learn about issues with AMI installation they could not have predicted.
- Digital outreach through a community based social media channel (e.g. NextDoor) can help to gauge customer needs and expectations as well as serving as a greater platform for project outreach.
- A robust FAQ on the website can answer customers’ questions and reassure them about the sincere efforts of the utility.

CASE STUDY: ARLINGTON WATER, TEXAS

Arlington Water branded their AMI project “Know Your H2O” to emphasize that AMI meters would help people to make informed decisions about their water usage. The Director of Arlington Water, who is implementing the third AMI project of his career with Arlington Water, participated in a phone interview.

Arlington Water serves 90,000 accounts in the whole city, which were purely mechanical until a pilot that began in 2011. The utility installed 1,700 AMI meters at that time. The original intent was to save money by no longer requiring personnel for meter reading. The pilot targeted, among other areas, a portion of the city with widely spaced industrial and commercial buildings that make manual meter reading inefficient. In 2014, a rollout with a target of installing 10,000-11,000 meters per year around the city began. The pilot relied on contractors, but the citywide rollout depends on in-house labor. During the pilot period, Arlington Water partnered with Texas A&M who helped them develop a website analytics to determine what most customers are looking at in their website. They are also reaching out to different parts of the community through around 50 community organizations.

Key insights from the interview include:

- Broad spectrum of communication methods can improve reach to diverse sets of customers. Arlington Water used both digital (website, social media, email) and non-digital (paper mail, door hangers, community meetings) channels.
- Partnerships with community organizations help to reach targeted neighborhoods. Arlington Water worked with homeowners’ and neighborhood associations.
- Face to face interaction through one-on-one communication in community meetings helps to build a relationship of trust with communities. Arlington Water made it possible for customers to get information and explanations directly from utility employees.
Website modernization and customization through using different tools make the system more transparent to customers and help them make informed decisions about their water use and conservation. Arlington Water has offered high leakage alerts and high usage alerts to customers. Their website allows customers to examine how weather data corresponds with water usage and to add personalized notes about water usage.

Being transparent about the system and technology change and informing customers of any change before AMI meter installation helps to maintain the relationship of trust with communities. Arlington Water used mailings and other communications to inform customers about changes.

CASE STUDY: LOUISVILLE WATER

The following information about Louisville Water’s AMI program was collected through a phone interview with the Vice President of Marketing and Communications at Louisville Water.

Louisville Water’s customers 280,000 residential customers currently have mechanical meters. It did not undertake a pilot but at the time of the interview had planned a full-scale AMI rollout for 70% of its 280,000 residential customers between 2020 and 2022, and has developed a broad communication strategy regarding the AMI rollout. Louisville Water anticipates increasing billing frequency from bi-monthly to monthly. Though the potential for increased bills due to digital meter accuracy was acknowledged, the utility is estimating the overall impact on the bills will be nominal, and the communication strategy has not significantly addressed the issue. However, the FAQ on Louisville Water’s web page about AMI will include the fact that water bills may increase.

Key insights from the interview include:

- Framing AMI implementation as a customer experience upgrade, of which the actual meter is just one component, helps to put the customer in the “driver’s seat” of their water consumption in which the AMI dashboard will allow for enhanced water conservation and leak detection.
- Partnerships with community organizations can help reach specific targeted communities. Louisville Water intends to use public libraries, refugee and immigrant assistance organizations, nature preserves, the local zoo, fire departments, and large employers to convey messages efficiently to customers.
- Ensuring that utility employees are knowledgeable about AMI implementation has made it possible to leverage utility employees as ambassadors of the overall utility’s communication strategy to the broader community.
- Being upfront with customers regarding the potential for bill increases to build and maintain relationships with customers.
COMMUNICATIONS PLANS AND STUDIES

In addition to the primary source data we collected from interviews, we also relied on secondary sources that included four communications plans from different water utilities. The plans came from utilities in Maryland (Baltimore Gas and Electric Company, BGE), Illinois (Ameren), Pennsylvania (FirstEnergy), and Colorado (Xcel Energy). Based on this review, we extract the following directions for a strong communications plan:

• Proactively educating customers about AMIs is key, especially in the pre-deployment phase. A utility interviewed by BGE recommended beginning engagement as early as 75 days before the first informational mail-outs would even reach customers.
• Data security and privacy are big concerns among customers and should be addressed directly.
• It is better not to make extravagant promises about the potential for money savings due to conservation.
• Affordability and reliability are the top two benefits of AMI technology. Giving customers as much information about this as possible helps them to feel more in control.
• Develop communications plans with a diversity of groups in mind. Consider different groups’ openness to and familiarity with AMI technology.
• As customer concerns come to the utility’s attention address them quickly, clearly, and proactively if possible. Keep a record of concerns raised.

The Water Research Foundation report, “Advanced Metering Infrastructure,” outlines different methods to maintain and improve customer relation regarding the AMI installation through shaping good communication strategies. They identified several concerns customers have regarding AMI: the impact on rates and their bills, utility employee layoffs, electromagnetic radiation, and customer security and privacy. They maintain that honestly dealing with these concerns through effective communications reduces customers’ concerns and highlight utilities' efforts to efficiently address them. The report describes these methods of communication as possible (Hughes and Zhang 2019):

• Mass media publicity through a combination of different media including newspaper ads in paper media, air time in television channels, bill stuffers, utility website, posters, refrigerator magnets, etc. ahead of the AMI installation.
• Small audience publicity through particular community and neighborhood groups.
• Briefings with elected officials, regulatory commissioners, public safety officers, and community leaders to equip them with the necessary data and information of the project so that they can address communities’ concerns when needed.
• Outlining communication strategy for different phases of the project, which needs to be carefully worded and controlled to describe and explain the transitional phases of the AMI project.
• Employees who have substantial contact with customers should be briefed thoroughly about all aspects of the project and technology and receive updates on the progress of installation to answer customers’ concerns.
• Branding the AMI project to call attention to the project and raise its profile among all customers, employees, and the public, to distinguish it from the generic project, to provide an easy point of reference.
• Mechanisms to receive stakeholder feedback.
ADDITIONAL FINDINGS

THE IMPORTANCE OF PILOT PROGRAMS
Based on the interviews conducted with cities who piloted an AMI program (Denver, Aurora, and Arlington), as well as the four communications plans and Water Research Foundation’s report, conducting a pilot makes a successful rollout far more likely. A synthesis of our sources produces the following findings related to the utility of a pilot:

• Utilities have an opportunity to work out any unforeseeable issues, such as billing difficulties or technical issues related to the meter brand (which Denver Water experienced).
• Pilots allow ample time to communicate the eventual service-area-wide rollout.
• For some customers, especially those who are low-income or are wary of the benefits of AMI, a pilot will give Austin Water a chance to build better relationships with these communities and more thoroughly address their concerns.
• A pilot can create an organic, on-the-ground communications plan—if customers are satisfied with their experience with AMI, they will share their satisfaction with their community.

UNDERSTANDING ADVANCED METERING INFRASTRUCTURE AS A RACIAL EQUITY ISSUE
Finally, connections between AMI and racial equity were not always clear to the interviewed utilities. If the topic of racial equity was ever addressed in an AMI communication plan, it was usually in the form of using languages other than English in AMI literature. Some interviewees who work for utilities that have done a pilot suggested they might address issues relating to racial equity in the full rollout in response to a direct question about the inclusion of racial equity. Thus Austin Water will stand out among water utilities if it explicitly addresses racial equity in AMI implementation from the pilot stage.

RECOMMENDATIONS
We offer the following recommendations regarding how Austin Water can best manage the transition to AMI to advance racial equity. These recommendations are based on our findings regarding what other utilities find to be effective in their AMI transition plans and communications strategies.

PRESERVE AFFORDABILITY
Since the accuracy that AMI affords could cause water readings to increase up to 15%, and because bills will potentially increase at an even higher rate due to tiering, Austin Water should seek ways to maintain or improve the affordability of water bills. Recommendations to preserve affordability include the following:

Communicate proactively: Communicating the potential for bill increases in advance offers customers the best opportunity to adjust their water consumption accordingly. This is especially important for customers who have historically high rates of water use. Being proactive can also prevent a high volume of calls related to billing following the installation.

Introduce flexible billing options: Offer bi-weekly bills or a more flexible billing cycle. The constant stream of information that AMI readings provide enable the utility to bill in cycles that align with customers’ pay schedules. Paying more frequent, smaller bills can reduce residents’ bill burden and help them to budget more effectively.

Provide custom water usage alerts: AMI technology and water use tracking should also allow customers to set custom usage alerts. If customers know they can only budget a certain amount for their water bill, giving them the option to request alerts when they are nearing these limits can help households manage their water usage and their monthly budget.
Make use of existing programs: Making use of programs that already exist, such as CAP, can help alleviate bill increases. If the 5% to 15% reading increases the bills for CAP-eligible customers who are not currently enrolled, finding a frictionless way to enroll them in the program can offset the costs of more accurate readings.

Offer complimentary services for low-income households: Many utilities already offer low- or no-cost leak repair and weatherization services. With AMI, identifying homes that may have leaks or inefficient appliances can be even easier. Targeting complimentary repair and efficiency services should be especially focused on low-income customers to lower bills.

Include bill discount as a benefit of AMI pilot participation: Incentivizing participation in the AMI pilot program by providing a bill discount to low-income customers can improve overall perceptions of AMI and the utility as a whole and make it easier to address the concerns of low-income customers during the pilot phase.

Adjust billing tiers: Because AMI allows for use accuracy by counting water use exactly, customers could potentially enter new billing tiers. Raising the benchmarks for the billing tiers that low-income customers are most commonly in can prevent these more vulnerable customers from jumping into a higher billing tier rate.

CREATE ACCESSIBLE COMMUNICATIONS CHANNELS

Communication is vital to the successful implementation of an AMI installation project. Informing customers about the advantages of AMI technology over other available options, explaining how Austin Water will address the affordability concerns of customers as well as the other issues related with AMI meter installation should be the focus of the utility’s communication and outreach strategy. Considering the following issues will make it possible to create accessible communication channels for customers:

Partner with community or neighborhood organizations: Partnering with community organizations for both high-level awareness-based preliminary outreach to more specific neighborhood-by-neighborhood and house-by-house communications will help communications reach low-income water customers and help the utility address their concerns. Furthermore, utilities mentioned that as a communication plan has several distinct steps, it is helpful to consult with community partners at each step, and iteratively improve project transactional communications.

Use diverse communications channels to reach a diverse customer base: Austin Water should use a broad spectrum of communication channels to reach a diverse group of customers. Statistical analyses suggest that Austin’s CAP customers are less likely to own smartphones or have consistent access to the internet than the general population, which presents a barrier to use of the online portal to view AMI consumption data. Similar trends were observed by interviewed cities and in the reviewed reports. The specific recommendations are as follows:

- Utilize bill inserts, door hangers, posters in public places, print media advertisements, and press releases. Fact sheets and printed FAQs may be able to anticipate questions and concerns. For customers with landline phones but not smartphones, direct phone calls could distribute information to customers during the implementation phase as well as notifications about high water usage alerts and other AMI-related messages that would otherwise be sent via email or text message. Leaving flyers or handouts at community service agencies that low-income groups typically use can also be effective in reaching them.
Web-based means of communication should start with the water utility’s website and customer-facing portal. A website, through good design, can improve customer engagement by including features such as allowing customers to receive alerts of high water use or possible leakage. The site can also be used to survey users on their feelings about AMI, providing feedback, and website analytics can analyze site engagement.

Attend and present information regarding Austin Water’s AMI implementation at community meetings at which Austin’s vulnerable residents already are invested and attend.

Use face-to-face messaging campaigns, like door knocking, to directly speak with customers to inform them of the changes that Austin Water is making to metering technology.

Brand the AMI project. Use catchy names, slogans, and logos, as shown in Figure 2, to help increase familiarity with the AMI implementation project.

Train utility employees to respond to expected customer questions regarding AMI implementation.

Maintain trust with vulnerable communities

“Be transparent and open- that’s the biggest thing. Give people the means of communications.”
- Greg Baker, Aurora Water

General distrust of people in government makes it difficult to reach out to certain communities, and every municipality faces this (Baker 2019). Thus, building and maintaining a relationship of trust with communities is essential for successful implementation of any project. Several issues are needed to be considered to maintain trust with vulnerable communities:

Form partnerships with community organizations: Partnerships with community and neighborhood organizations can help Austin Water to build trust with targeted communities.

Stay vigilant about community concerns: Common concerns of customers may include: higher bills, employee layoffs, electromagnetic radiation, and customer security and privacy. Austin Water should be transparent about the different installation phases of the AMI program prepare transparent answers to address concerns. They should explain the reason for any bill increase and the advantages of AMI regarding water usage and conservation, but should also be aware of wariness of AMI benefits among low-income customers. Austin Water can reassure customers by explaining the limitations on its ability to control water flow or shut off service remotely. They should also explain why the electromagnetic radiation used in AMI technology in the water sector has no negative health effects (Cummings 2019). The utility should also be transparent about the different installation phases of AMI program and not over-commit to communities about potential conservation without confidence.
Rely on in-person communication: During the pilot and rollout period, Austin Water can use meter readers as door-knockers to alert customers of changes. The utility should also attend community or neighborhood meetings arranged by trusted community partners, especially in targeted low-income, disadvantaged Black and Latinx communities. Utility representatives’ presence in those meetings to answer customers’ concerns would help people to build trust in the utility and make it easier for the utility to gauge customer needs.

CONCLUSION

Based on our findings, the implementation of AMI presents both challenges and opportunities to advance racial equity. Statistical analyses show that CAP utilization by census tract is correlated with the percent Black, percent without internet subscriptions or smartphones, and percent limited English. These findings support the notion that potential bill increases are an issue of racial equity and lend insight into the affected population of vulnerable customers. Further, due to the tiered billing system, the rate of bill increases will exceed the rate at which meter readings increase. The median bill of a CAP customer may rise by about $10 per month. Therefore, equity-related measures should focus on bills increases and their impact on Austin’s low-income residents and on disparities in access to the internet and therefore the conservation-oriented services that AMI enables. However, with a robust communication and outreach strategy, rooted in preserving affordability, accessibility, and trust, expected challenges can be navigated in ways that advance racial equity.
EXPANDING CUSTOMER ASSISTANCE PROGRAMS FOR WATER UTILITIES

Water bills are relatively low-cost compared to other monthly bills, like electricity. As a result, local governments considering household related expenses often overlook them. However, water bills have been steadily rising, prompted renewed attention to affordability concerns related to them (Teodoro 2018). Under current rate structures about 1% of U.S. customers are unable to pay their water bill at any particular time (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016). Given the rising costs of living in Austin, it is increasingly likely that water costs will lead to hardship and displacement as part of an overall picture of rising costs.

CUSTOMER ASSISTANCE PROGRAMS

When customers are unable to pay their bills, utility services are often promptly terminated, leaving customers with immediate health and safety risks. Due to the public health risks associated with the lack of water, utilities across the country have committed to developing CAPs to help low-income households avoid disconnection. The benefits of CAPs to customers includes addressing issues with affordability, retaining or restoring access to water services crucial to daily life, avoiding penalties and fees, and avoiding health threats associated with the disconnection of water services (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016). Of 795 utilities across the United States, 228 utilities (28.7%) offer some type of CAP (Table 1). The table below shows the numbers of programs offered by large and medium utilities (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016).

<table>
<thead>
<tr>
<th>Type of Drinking Water and Wastewater Utilities Reviewed</th>
<th>Number of Utilities Reviewed</th>
<th>Number of Utilities Found to Have One or More Programs</th>
<th>Total Number of Programs Identified During Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Utilities (&gt;100,000 people)</td>
<td>620</td>
<td>190 (30.6%)</td>
<td>308 (84.4%)</td>
</tr>
<tr>
<td>Medium Utilities (10,000–100,000 people)</td>
<td>175</td>
<td>38 (21.7%)</td>
<td>57 (15.6%)</td>
</tr>
</tbody>
</table>

TABLE 1. Types of Customer Assistance Programs. (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016).
CAPs typically consist of one of three types of assistance programs (Table 2). They also determine program eligibility in various ways. Many offer discounts for customers whose income is below a certain threshold or on a water bill charge exceeding a specific percentage of household income (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016). Others, like Austin Water, determine eligibility based on whether the customer receives assistance from other social programs.

<table>
<thead>
<tr>
<th>Assistance Type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill Discount</td>
<td>Utilities reduce a customer’s bill, usually long-term. Can be applied to nearly any type of rate structure or aspect of the bill (e.g., variable rate structure, fixed service charge, and volumetric charge). Also known as write-off, reduced fixed fee.</td>
</tr>
<tr>
<td>Flexible Terms</td>
<td>Utilities help customers afford services and pay bills through arrearage forgiveness (e.g., rewarding timely bill payments by partially forgiving old debt and establishing a payment plan for future payments), bill timing adjustment (e.g., moving from quarterly to monthly billing cycles), or levelized billing (e.g., dividing total anticipated annual water and sewer bill by 12 to create a predictable monthly bill amount). Common categories of different program types include payment plans, connection loans, managing arrears, levelized billing, bill timing.</td>
</tr>
<tr>
<td>Lifeline Rate</td>
<td>Customers pay a subsidized rate for a fixed amount of water, which is expected to cover that customer’s basic water needs. When water use exceeds the initial fixed amount of water (i.e., the lifeline block), the rates increase. Also known as minimum bill, low-income rate structure, single tariff, water budget.</td>
</tr>
<tr>
<td>Temporary Assistance</td>
<td>Utilities help customers on a short-term or one-time basis to prevent disconnection of service or restore service after disconnection for households facing an unexpected hardship (e.g., death, job loss, divorce, domestic violence). Also known as emergency assistance, crisis assistance, grant, one-time reduction</td>
</tr>
<tr>
<td>Water Efficiency</td>
<td>Utilities subsidize water efficiency measures by providing financial assistance for leak repairs and offering rebates for Water Sense-certified fixtures, toilets, and appliances. Also known as water conservation.</td>
</tr>
</tbody>
</table>

**TABLE 2.** Types of Discount in Customer Assistance Programs. (“Drinking Water and Wastewater Utility Customer Assistance Programs” 2016).
In the following section of this report we will provide an overview of Austin Water's CAP based on customer data, city of Austin demographic trends, and program eligibility. It is our hope to raise awareness and provide recommendations such that expanding the CAP can generate more equitable outcomes for Austin Water customers. Austin Water's CAP can be categorized as a bill discount because it lowers the total monthly bill for a customer. The discount is provided to customers with low or fixed incomes who participate in certain state, federal, or local assistance programs (“CAP Discounts” 2013). The CAP discounts the following items on the water bill: Water Service Customer Charge waiver; Water Tiered Fixed Charge waiver; Water Volume Charge discount; Wastewater Service Customer Charge waiver; Wastewater Volume Charge Discount; Drainage Fee 50% discount, and Discount on Community Benefit Charge.
In 2009, Austin Water began offering a low-income CAP. However, the program has some limitations. This was noted in the Equity Office’s departmental equity assessment. The report found that CAP “unintentionally excludes some communities by offering discounts for low-income residents in single family housing, but not for those living in multifamily housing.” The exclusion of multifamily residential units from Austin Water’s CAP has negative implications for low income communities of color, as 52% of Austin’s African American households and 43% of its Latino households live in multifamily units (City of Austin 2015). This issue is a structural constraint many water utilities face, as water consumption in multifamily residential units is typically metered with one device per building. Without sub meters for each residential unit, water utilities are unable to bill customers directly for their water usage, which means that they cannot seek relief for these costs. Figure 1 shows the distribution of CAP customers in Austin. Figure 2 shows the concentration of people of color in Austin. These maps have similar dispersions showing that CAP customers reside in tracts with high concentrations of people of color. This trend follows the trend of racial segregation in Austin along the eastern crescent.

**FIGURE 1.** Number of Customer Assistance Program Customers per Census Tracts, Oct. 2018- Sept
METHODS

Our team carried out a mixed method approach in our analysis of Austin Water’s CAP, utilizing quantitative and qualitative methods. Our goal was to develop an understanding of Austin Water’s CAP design and identify innovative strategies other cities have deployed to serve this population. Our quantitative analysis examines Austin’s current low-income customer landscape, and the qualitative analysis involved staff interviews with water utilities in other jurisdictions that have found ways around the multifamily service gap. A detailed description of our methods is located in Appendix D.

Austin Water provided data of all of their CAP customers for quantitative and spatial analysis. The data included information for each customer for 2016, 2017, and 2018. It included information about the census tracts where CAP customers resided, the total usage for each month, and the months of enrollment in the program. Using this data, students developed an analysis of program tenure across time and space, as well as eligibility and accessibility. This analysis, combined with the strengths, weaknesses, opportunities, and threats outlined by the Equity Office’s equity assessment help inform the recommendations at the end of this report.

FIGURE 2. People of Color by Census Tract in the Austin Water Service Area
For the analysis, we assumed that each point of CAP customer data represents data for one household. To normalize the data points, CAP customers’ data against the number of single-family households per census tract in Travis County are considered. The spatial concentration of current CAP customers served by Austin Water was mapped using data from Austin Water and ACS data from the 2017 5-year estimate for Travis County.

Currently, all CAP customers reside in single-family households. To approximate the number of expected CAP customers living in multifamily units, a conservative approach was taken, using ACS’s definitions of “1 unit attached” and “1 unit detached” to define “single-family” units. The sum of the number of those two categories was counted as the number of single-family households in Travis County (Table DP04, 2017 ACS 5-year estimate). All other types of households were understood as multifamily units. Based on the percentage of CAP customers in those single-family units, the number of expected CAP customers in multifamily units were counted; see Figure 3.

**FIGURE 3.** Expected Number of Multifamily CAP Customers per census tract
FINDINGS
The researchers carried out several quantitative analyses to contextualize water usage in Austin. It was important to include a spatial demographic analysis to help identify areas where vulnerable populations reside in Austin and their relationship to the CAP. The researchers also looked at CAP enrollment over time to assess positive or negative trends and explore possible back-end causes. Finally, our group used statistical analysis to identify areas where CAP membership is expected to increase with multifamily expansion, based on current CAP residences.

CAP IS A RACIAL EQUITY ISSUE
Previous analysis found that Austin is an economically segregated metro area, delineated by racial and economic disparities. A higher concentration of current CAP customers in the southeast and northeast side of Austin indicates that the CAP is reaching low-income homeowners of color (Figure 3). However, 52% of African American and 43% of Hispanic households in Austin live in multifamily units, significantly greater than White households (City of Austin 2015). The analysis of appropriating the number of expected CAP customers in multifamily units also resonates with the fact that low-income areas along I-35 have a higher concentration of multifamily households that could use the benefits provided by CAP.

UNDER-ENROLLMENT IN LOW-INCOME TRACS
Of the 50 tracts with the lowest median household income, our examination identified 20 tracts that have a low CAP participation rate and high number of single-family dwellings (Appendix E). The tracts with low median household income and a high percentage of single-family households who are enrolled in CAP presents an opportunity for community engagement (Figure 4). Tracts that have a low median household income and few CAP customers in spite of high single family housing rates include tract 18.13, which has a median household income of $34,918 and only 6% of the single family households in the tract are enrolled in CAP. Similarly only 6% of households in tract 23.15 are enrolled in CAP despite its low median income of $35,216.

FIGURE 4. Tracts with a High Percentage of Low Income Single Family Units and Low Customer Assistance Program Participation
DECLINE IN CUSTOMER ASSISTANCE PROGRAM ENROLLMENT

Maps of absolute CAP enrollment change over time reveal two trends. The CAP lost in absolute terms 4,265 participants between 2016 and 2019, and there are no longer tracts with at least 400 CAP participants (Figure 5). Loss has been concentrated in the east and southeast parts of Central Austin, while in the borders of the service area declines are slow and in some places there is an increase. Four tracts gained up to 85 participants and another nine saw modest gains. At the same time, of the nine tracts that no longer have CAP customers, only two are located east of I-35. Many of the tracts which have lost few or no CAP-enrolled customers had 35 or fewer enrolled customers in 2016. Enrollment in these low total tracts, primarily concentrated in West Austin, is decreasing slightly, but far less than in tracts in East and South Austin, which have lost 50–150 enrolled customers.

Unfortunately, cost of living is rising in central Austin where CAP enrollment has decreased. The rise of multifamily units while far north, far south, and far East Austin maintain or add single family housing explains the patterns of change. The areas that have seen the most decline in CAP enrollment are in East Austin and are primarily Black or Latinx communities which have been experiencing the adverse effects of gentrification over the last decade. Many of the tracts which have seen the highest losses in CAP enrollment are the same tracts identified as “Most Vulnerable” in the City of Austin commissioned Uprooted Report (Way et. Al, pg. 30) which analyzed gentrification in Austin. The gains and losses across different tracts are likely linked, and it would be fair to expect the areas gaining CAP customers to be gaining Black and Hispanic households who have had to move from Central-East/South Austin due to rising costs. Notably, overall CAP enrollment losses greatly outweigh the gains made in some tracts, and census tract demographic data indicates that most of the households that are losing benefits formerly received through CAP are Latinx and Black.

**LIMITED ELIGIBILITY CRITERIA/GUIDELINES**

It is important for Austin Water to have a clear understanding of the implications of CAP eligibility guidelines. Currently, eligibility is contingent on customers receiving assistance from one of eight local or state funded assistance programs that use income eligibility guidelines. The focus of this analysis is to provide an understanding of the income constraints customers can have based on eligibility for six of the eight local- and state-funded assistance programs. This analysis does not provide information for VASH or the Medical Access program as their income eligibility criteria is more complex than the others. As well, VASH only serves renters. The analysis that is provided will allow Austin Water to understand the indirect income eligibility requirements for CAP customers.

All of the qualifying programs have income-based restrictions that apply based on the family's household size. This analysis applied three as the average household size of CAP customers based on census tract data from American Fact Finder. American Fact Finder provides five-year estimates from the American Communities Survey and this analysis used table S1101 to determine average household size for Census Tracts with CAP customers. Findings indicate that, because of the programs it depends on to perform means-testing, Austin Water's eligibility process limits CAP participation to customers living in high poverty situations.

**Children’s Health Insurance Program-$42,874.**

CHIP extends health insurance coverage to children and pregnant women whose families do not qualify for Medicaid if they meet other requirements. The child must live in the household at least 50% of the time and be 18 or younger, although there are conditions that allow for an extension to 20 years of age and individuals who live alone are eligible up to the age of 19. In order to qualify for CHIP participants must be a resident of Texas and a U.S. citizen or a legal permanent resident. The income of a household of three people cannot exceed $42,874 (“CHIP | Texas Children’s Health Plan” n.d.).

**Supplemental Nutrition Assistance Program-$35,196**

SNAP provides financial benefits to supplement families' monthly food budget. This program has a maximum income level of $35,196 for qualifying three-person households (Table 3) and a requirement that recipients work 20 hours a week or be enrolled in a job training program. SNAP-receiving households without children, a pregnant woman, disabled person, or person over the age of 49 present can only receive benefits for three months (“SNAP Food Benefits | How to Get Help” n.d.).
**Comprehensive Energy Assistance Program-$31,995.**
The Comprehensive Energy Assistance Program provides utility assistance to qualifying families. There is a maximum income level of $31,995 for three-person households, implying that two full time income earners would have to make less than $7.69 per hour to qualify for the program. These funds are administered locally, and eligibility requirements vary by county, but the income eligibility restriction alone excludes some households that may have significant hardship (“Comprehensive Energy Assistance Program Guidance” n.d.).

**Telephone Life Insurance-$28,796**
The Telephone Life Insurance Program has a maximum income level of $28,796 for qualifying three-person households. Households become eligible for Telephone Life Insurance by proving participation in SNAP, Medicaid, Social Security Insurance, Federal Public Housing Assistance, Veteran’s Pension or Survivors Pension, Tribally Administered or Temporary Assistance for Needy Families, Tribal Head Start or a food distribution service a Native American Reservation or providing income verification. However, two income earners would have to earn less than the federal minimum wage if they worked full-time to qualify (“Do I Qualify? - Universal Service Administrative Company” n.d.).

**Medicaid-$28,369**
Medicaid provides medical insurance benefits for qualifying families and has a maximum income level of $28,369 for three-person households. In order to qualify for Medicaid participants must be a resident of Texas and a US citizen or a legal permanent resident. A household encompassing two-full time income earners making the federal minimum wage of $7.25 does not qualify for participation in this program due to their income (“Do I Qualify? | Texas Children’s Health Plan” n.d.).

**Social Security Insurance-$28,020**
Social Security Insurance provides financial benefits to families whose members have disabilities that interfere with their ability to earn income from work. The program applies income maximums based on blindness, disability, and age that range from $23,640 to $28,020.

Until 2016, customer who were auto-enrolled in the program. Concerned that households that include qualifying family members but that did not need the program’s assistance may have been auto-enrolled, the utility terminated the program. We have not been able to determine the extent of erroneous auto-enrollments. However, it would be beneficial to analyze the costs and benefits of a modified auto-enrollment program to make CAP more accessible and that benefits may outweigh the negative impacts of erroneous CAP enrollments.
The clearest shortfall of Austin Water's use of other programs for eligibility is that it excludes households experiencing poverty that is serious, though not extreme (Appendix F). Barring it qualifies for CHIP, a three-person household with an income of $40,320 would not qualify for CAP. While this is 200% of the federal poverty level, the average rental amount for a two-bedroom rental in Austin is $1,471 ("U.S. Rent Data - Apartment List Rentonomics" n.d.), which amounts to 44% of the family's monthly income before taxes. This is alarming, as the U.S. Housing and Urban Development department defines 30% or more as rent burdened.
RECOMMENDATIONS TO INCREASE CAP MEMBERSHIP

1. **Conduct targeted outreach in select tracts to register customers for CAP who are eligible under current requirements.**
   Using the table in Appendix E, Austin Water can identify the tracts with customers who are eligible under current CAP requirements but not participating. Using this information, they can perform targeted outreach to increase membership, including door-to-door visitations, improved online accessibility, and application assistance.

2. **Adopt a mixed eligibility process that allows customers to qualify for CAP by income verification or participation in other programs for low-income families (beyond current options).**
   Austin Water could amend its program requirements and allow more customers to qualify for CAP using an income threshold rather than requiring a client to be in a federal program. This would allow customers who face hardship but do not qualify for those programs to receive relief through CAP.

3. **Collect demographic information on Austin Water.**
   By collecting demographic information, Austin Water can measure the impacts of its programs and ensure that they are advancing racial equity in Austin.
EXPANDING PROGRAM ACCESS TO MULTIFAMILY HOUSEHOLDS

Most CAPs only serve single-family dwellings, where water use is measured by a single water meter. In most multifamily buildings, however, all units are connected to a single water meter. The building manager has the account with the water utility, and the manager has no way of determining how much water each unit used. Many new multifamily developments have applied individual water meters to each housing unit, but Austin has many older developments without this amenity.

While CAPs that serve multifamily residents are few and far between, we were able to identify four cities among the largest 70 in the U.S. that have a CAP for customers in multifamily units. We interviewed representatives of the utilities in four of these to provide recommendations for Austin Water to establish a program that will suit the needs of our community.

METHODS

The Water Research Center’s 2017 report, “Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers,” indicates that some CAPs that seem not to serve multifamily residents might actually serve them. Nonetheless, we started our recruitment project by checking the website of the water utility in the 70 most populous U.S. cities to determine a) if it had a CAP, and b) if that program was available to multifamily residents. In line with the report, in many cases it was difficult to determine if a city fit our criteria. For those where it seemed possible, we searched city websites and online reports for the phone number or email of the public employee(s) who manage the CAP. We called general service lines when specific employee phone numbers were not available and emailed general service accounts when specific employee email addresses were not available.

Further complicating our search, employees at some agencies mistakenly believed that their agency’s CAP assisted multifamily residents. These employees were not themselves responsible for the CAPs, but this oversight indicates that multifamily residents are being overlooked institutionally. Some managers did not want to participate in our study. This experience suggests that multifamily residents looking to join their city’s CAP may find it difficult.

Ultimately, we did identify four cities that have a CAP with strategies to address the multifamily service gap. Once these cities were identified each team member reached out via email to water managers on the list. We used a proofread template for outreach emails, altered occasionally for context, and then set up phone interviews to learn more about the cities’ programs.

In the following section, we present interview results from the four identified cities with programs of interest: Seattle, Portland, OR, Columbus, and New York City. For each city we describe the structure of the multifamily discount, the program’s eligibility criteria, and the program’s strengths and weaknesses. The case studies are organized into the following sections: Structure of Multifamily Discount, Eligibility, Strengths, and Challenges. After interviewing the four program, we identified that there are two main ways to design a multifamily CAP. The first approach is for utilities to provide a benefit directly to residents and the second is to provide credits to landlords that would pass savings down.
A. SEATTLE: TENANT ENGAGEMENT PROGRAM
The following information was collected through a phone interview with Tracey Rowland, the Strategic Advisor for the Seattle Utility Discount Program.

Structure of Multifamily Discount:
The Seattle Utility Discount Program is a partnership between Seattle Public Utilities, which manages the city’s water; Seattle City Light, which manages electrical services; and the Seattle Human Services Department, which provides outreach coordination. The three city departments work together to provide assistance for the services residential customers utilize within their service boundaries. By sharing customer data between the electrical billing services and water billing services, the program provides a combined services discount to homeowners and tenants in need of assistance.

There is one application process to gain relief on both utility services and customers receive discounts based on their participation in billed services with each provider. In its simplest form, the combined utility discount applies a 50% bill reduction to customers for their water and electricity services. In order to reach residential customers that pay for water services indirectly, the program cross references customers receiving electricity bills with properties also receiving water services with Seattle Public Utilities. This allows the program to identify indirect water customers living in multifamily residential units or renting in a single-family residential unit where the property owner pays for water services. The customer receives a 50% discount on their electricity services and a fixed bill credit toward their electricity bill for the water services provided to their unit. There are some instances where all of the water services Seattle Public Utility provides are not applicable for units, so the program applies credits for water usage, sewer and drainage services and solid waste management. The credits are then applied in an à la carte fashion to the appropriate billed service.

The Seattle Utility Discount Program also provides incentives for water conservation for indirectly billed customers because of the nature of the bill credits process. They utilize historical usage data to identify appropriate bill credits based on housing types and billed services that are uniformly applied to similar units. There are instances where customers conserve enough of their water usage over the year to accumulate a balance of credits that are paid out annually.

Eligibility:
Eligibility is determined based on customers making less than 70% of Washington state median income and being a customer of Seattle City Light.

The program has recently begun accepting customers based on their participation in SNAP or a community partner that provides subsidized housing. Customers that receive SNAP benefits do not have to undergo income verification and customers that participate in subsidized housing are verified through the housing agency’s income verification process. Depending on the allowable income requirements in a subsidized housing property, tenants can either be auto-enrolled or have an expedited enrollment process.
Strengths:

- The Utility Discount Program is able to leverage departmental and community partnerships to directly provide assistance to households.
- Seattle, like Austin, is rapidly growing and experiencing unaffordability and displacement trends.
- The program incentivizes water conservation through monetary support.
- The program allows eligibility to be determined through income verification as well as participation in SNAP and subsidized housing, which allows them to capture customers that are struggling with affordability whose median family income isn't low enough to qualify for SNAP or subsidized housing.

Challenges:

- Water utilities and electric utilities often have different service boundaries which can have an impact on equal access to affordable services for customers. Thus making only Seattle City Light customers eligible excludes some customers.
- Providing credits for billed water services that are under the applied credit amount can be perceived as providing water services for free. This could violate policies governing the way in which water is billed in some cities.

B. PORTLAND, OR: TENANT ENGAGEMENT PROGRAM:

The following information was collected through an interview with Leigh Schrock, the Program Supervisor for the Short-Term Rent Assistance Program at Home Forward, which is the Housing Authority of the City of Portland.

Structure of Multifamily Discount:

To expand its CAP to multifamily households, Portland Water Bureau officials approached Home Forward to see if they could partner with an existing rental assistance programs. The existing rental assistance program is a pool of money from the city of Portland, Multnomah County, state of Oregon, and HUD that provides short-term rental assistance for people experiencing homelessness or at risk of experiencing homelessness. This short-term rent assistance program had been around a long time and it administered a lot of different types of money to help end or prevent homelessness and thus was a likely partner for the Water Bureau's goals.

The Portland Water Bureau determined to help with up to $500 in rent or rent arrears once a year for households enrolled in case management in one of these agencies. They determined the amount of $500 by looking at the average water bills for an entire year for a household living in a multifamily unit. Since water bills are typically lower than other monthly utility bills, Portland Water Bureau didn't think it would be cost effective to have people come in when they can't pay each individual bill. Instead, the water bureau decided to pay rent by taking a year's worth of water costs by taking the averaging of a multifamily customer's yearly expense.

Home Forward is the fiscal agent in the partnership. The Portland Water Bureau sends the money for rental assistance to Home Forward and Home Forward administers this money to 19 different social service agencies who are providing case management for clients who receive the funding.
Eligibility:
Home Forward worked together with Portland Water Bureau to determine eligibility criteria for assistance. Portland Water Bureau designed the eligibility criteria with the goal of creating a low barrier-to-entry program. In order to receive the assistance a client must:

- Certify their income is below 60% area median income.
- Have been living in their unit for at least a year according to their signed lease, indicating the water bills for that unit from the preceding 12 months are theirs.
- Live in the Portland Water Bureau service area, according to the address on their lease.

In order to receive assistance, a person would need to be enrolled in one of the 19 social service agencies for case management. The social service agency would determine their eligibility and collect documentation and then pay the $500 rental amount directly to the landlord. Schrock emphasized the importance of keeping the program accessible to as many people as possible, saying, “I want Austin to learn from what we're doing and I would recommend to be as flexible as possible and as low barrier as possible when creating the program.”

Strengths:
- The Portland Water Bureau found a cost-effective way to help multifamily customers most in need.
- The Portland Water Bureau works with an existing rental assistance program so all of the documentation and eligibility verification is conducted by partner agencies.

Challenges:
- It has been a challenge to spend down the money devoted to short term rental assistance. The limited amount of $500 often does not cover the full rental amount and it is only once a year. This assistance often has to be paired with other forms of assistance to help households in need.
- Currently, the people receiving assistance are required to be enrolled in case management. This has proved to be a barrier for some people due to the fact that there is limited agency capacity or limited case management capacity. Some people who could benefit from the $500 assistance do not necessarily need case management.

C. COLUMBUS, OH: LANDLORD ENGAGEMENT PROGRAM
The following information was collected through and interview with Pam DeSantis-Rounds, the Customer Service Manager at City of Columbus.

Structure of Multifamily Discount:
The city of Columbus created a CAP that extended to multifamily in 2005. The program is designed in such a way that landlords who have a single water meter for multiple rental units can apply for the discount through the City of Columbus. If the landlord provides the required documentation the water commodity usage charge and sewer usage charge are both reduced by 20%. The City of Columbus ensures that this discount is passed on to tenants by collecting copies of the bill sent to tenants. De-Santis Rounds stated, “I think our CAP helps the residents of Columbus. And that's our target. We want to be able to help low-income residents as much as possible.”

Columbus does not have any partners in administering their CAP. Everything is done within the Department of Public Utilities at the city of Columbus.
Eligibility:
In order to be eligible, a landlord must prove that 80% of a property's units are occupied by low-income tenants. They can demonstrate this by showing their tenants are participating in low-income programs like SNAP, Ohio Medicaid, Ohio Works First, or SSI, or by showing that tenants have incomes at 150% or less of the federal poverty level. They also must show a copy of a signed lease from one tenant, a roster with current tenant's names and addresses, and a copy of the water bill that tenants receive.

Strengths:
• Columbus is able to provide discounts for tenants living in buildings with other low-income households.
• The administrative work is not much different from enrolling a single-family household in CAP.
• Requires no action from the qualifying resident.

Challenges:
• Many landlords choose not to participate due to the fact that they receive no direct benefit but must exert effort.
• There is no specific outreach to properties that could be eligible. Landlords have to find out about the program through social media, a community meeting, or word of mouth.
• At the time of the interview, only around 10 landlords had participated in the program.

D. NEW YORK CITY: LANDLORD ENGAGEMENT PROGRAM
The following information was collected through a phone interview with Omar Nazem (Treasurer, NYC Water Board) and Sangamithra Iyer (Director, Water Supply Infrastructure and Watershed Assessment for the NYC Department of Environmental Protection, DEP) and descriptive program literature that they shared.

Structure of Discounted Water Rate Program:
New York's water managers face the same fundamental issue as Austin's: multifamily buildings have only one water meter. Unlike Austin, New York has a robust rent control infrastructure, and DEP administers CAP discounts for multifamily residents through this infrastructure.

NYC's Discounted Water Rate Program (DWRP) is restricted to rent controlled buildings. Landlords of these buildings, or of buildings containing these units, reach out to DEP and apply for DWRP membership. After accepting a building, DEP communicates with the Department of Housing Preservation and Development (HPD) and the Housing Development Corporation (HDC), public housing authorities in the city that determine rent control levels; these agencies have sufficient data to determine how many residents of a building qualify for the DWRP. DEP will then give the landlord a $250 bill credit per residential unit; the water bill is still calculated at the same rate as any in the city. The credits can be applied to the water bill upon payment, reducing the overall amount the landlord must pay. Then, the housing agencies carry out an annual evaluation of landlord operating expenses to determine how much the landlords may raise rents; the higher the operating expense, the higher the rent ceiling. As the CAP bill credits have lowered the landlord's operating expenses, the evaluators will set a lower rent ceiling than they would in the credits' absence.
**Eligibility:**
- The building must be “affordable” to households earning less than 60% of area median income.
- The landlord must prove the building uses water efficiently, which it can prove using its water meter or by participating in the Multifamily Conservation Program.
- Building must not have delinquent bills with the City.

**Strengths:**
- Auditing is built into the system. If a city were to give bill credits to a multifamily building with a single water meter, there is no guarantee that the landlord would pass the savings on to their customers. An auditing agency would need to be created or contracted to confirm the proper application of savings. New York's rent control system precludes the need for outside auditing by including the recorded water bill savings into their rent ceiling calculations.
- Requires no action from the qualifying resident.
- DEP uses good relationships with other city agencies to leverage data access and data processing capabilities at no additional administration cost. Responsibility for administering the program is sufficiently diffuse not to require hiring dedicated workers.

**Challenges:**
- Multifamily buildings without rent-controlled units are ineligible for CAP benefits.
- If an eligible landlord is unaware of the program or does not apply, eligible residents will not receive CAP discounts.
- DEP may be able to provide a greater discount, but state law makes this ambiguous. State law prevents the city from giving away water for free or for a nominal fee. All parties seem to accept $250 as safely above “nominal,” whereas a greater discount may be challenged in court.
FINDINGS

PROGRAM ENGAGEMENT: TENANT VS. LANDLORD
Our research into the four CAPs serving multifamily residents found two prominent approaches water utilities can take in designing their program (Table 4). The first approach is to structure the program to work directly with tenants. This approach allows families to directly receive the benefit and is a more transparent process regarding impacting affordability. The second approach is to structure the program to engage directly with landlords. This approach requires a robust auditing process to ensure the benefit is being passed down to tenants to impact affordability.

<table>
<thead>
<tr>
<th>CAP City</th>
<th>Who Applies</th>
<th>Nature of Discount</th>
<th>Reach to Multi-family Units</th>
<th>Serves</th>
<th>Budget</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland, OR</td>
<td>Tenant through social service agency</td>
<td>$500 Discount to Rent once a year</td>
<td>Any tenant who needs rent assistance and is under 60% AMI</td>
<td>First year of project- no totals</td>
<td>Fee added to customers’ bills- separate from rest of CAP budget</td>
<td>Home Forward (Housing Authority) and social service agencies</td>
</tr>
<tr>
<td>New York City, NY</td>
<td>Landlord</td>
<td>Flat Rate High Density (5% of total), 25% Bill Reduction/Credit (95% of total)</td>
<td>Rent Controlled Units</td>
<td>42,000 MFU</td>
<td>10 Million</td>
<td>Rent Control Regulation Body, Affordable Housing Agencies, Tax Assessors Office</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>MF Residents of Tenants</td>
<td>Credits to City Light Bill</td>
<td>Any tenant with less than 70% State MFI</td>
<td>33,000 MFU</td>
<td>17 Million</td>
<td>Seattle City Light, Human Services Department, Affordable Housing Agencies, Tax Assessors Office, Washington State Finance Department, Strategic Planning Citizen Advisory Committee</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>Landlord</td>
<td>20% Discount to eligible properties</td>
<td>As long as at least 80% of tenants are enrolled in low-income programs</td>
<td>1400 households</td>
<td>Part of entire CAP budget</td>
<td>None</td>
</tr>
</tbody>
</table>

**TABLE 4.** CAPs Serving Multifamily Units
MULTIFAMILY ACCESS IN AUSTIN
Our 70-city survey makes clear that few large U.S. cities are providing CAP benefits to multifamily units. Many cities we spoke with were intrigued by this research and were interested in learning about our findings to understand how their own CAPs could be extended to multifamily customers. Austin Water is committed to equity and extending affordability to all of its customers. Creating a CAP to reach multifamily residents would be another step in this direction and strengthen Austin Water's reputation as a national leader in equity.

DESIGNING LEGAL MULTIFAMILY CUSTOMER ASSISTANCE PROGRAMS
It is important to note that there are legal challenges because multifamily residents do not have a water bill in their own name. The cities with CAPs serving these customers had found a solution with their attorneys and looking at the language in the ordinances permitting their CAPs. Austin Water will need to make sure the program is legally feasible and in line with state policies.

DESIGNING ACCESSIBLE MULTIFAMILY CUSTOMER ASSISTANCE PROGRAMS
Another major challenge many cities cited related to designing a program with a low barrier to entry. Cities cited the challenges around helping the people most in need and not creating additional bureaucratic challenges around obtaining the funding. The research team's experience in searching the Web for information supports the idea that many programs are inaccessible. Many water utilities with CAPs did not have user-friendly websites; sometimes the program's page was difficult to find or had incomplete information. It should be noted, however, that the team was generally able to contact a customer service operator at the water utility itself. Those who refused to provide information made it clear this was because we were conducting research. They would presumably be more amenable to sharing program information with utility customers. Nonetheless, Austin Water will want to consider the barriers present in other cities so that they do not run into challenges with spending down the money dedicated to CAP multifamily and so they do not unintentionally create bottlenecks in the program delivery.

RECOMMENDATIONS
Austin Water is one of very few cities that are exploring ways to address the structural constraint of providing water assistance to families that are not billed directly for their water services. Our research has uncovered several considerations that could result in an increase of CAP customers and position Austin Water to become a leader in addressing water affordability for marginalized communities. It is admirable of Austin Water to take this initial step in analyzing the problem of not providing a customer assistance program to multifamily units from a structural lens. We believe it would benefit Austin Water to continue to support further professional development of employees to aid in their understanding of how race and income have significant impacts on the goals and outcomes of the programs design. This report will provide recommendations based on the spatial analysis conducted and strategies explored by other cities that can be reasonably replicated in Austin.

STRATEGIES TO REACH MULTI-FAMILY UNITS BASED ON IMPLEMENTATION
Reaching multifamily households would help expand the impact of Austin Water's CAP and directly address the racial inequities experienced by communities of color because of the structural constraints limiting program access. Based on the case studies on CAPs that reach multifamily residents, Austin Water would need to 1) decide how to design its program, 2) determine the type of discount it would like to provide and 3) determine a program coordination scheme.
Program Design:
1. Engage Directly with Tenants to Provide Discounts: Austin Water could work directly with tenants to provide discounts. This would require direct engagement with income verification processes and the ongoing management of the program.
2. Memorandum of Understanding with Landlords: Austin Water could allow landlords to apply who have tenants at or below a certain income threshold. Landlords could provide the bill they send to tenants to Austin Water to ensure that the discount is being passed on to tenants. This may require additional staff for auditing landlord compliance. Auditing positions could be a destination for employees whose duties have been partially or fully replaced by AMI.

Type of Discount
1. Bill Credits: Austin Water could apply bill credits based on historical water usage. These credits can be applied equitably to customers based on their housing type. This data is already being collected by the Housing Authority of the City of Austin (HACA). It would be advantageous of Austin Water to collaborate with HACA to capture this data and apply credits accordingly.
2. Deduction from Rent: Austin Water could partner with HACA or a local social service agency to provide annual rental assistance for customers in need. This would be a solution to the challenges of paying for a water bill that is not in the customer’s name. The amount of assistance could be the sum of a year’s worth of water bills for a customer in a multifamily unit (around $600).

Program Coordination
1. Coordinate Program with Austin Water: Austin Water could handle all program coordination in house, which would require various levels of resources.
2. Partner with a Non-governmental Agency to Coordinate Portions of the Program: Community-serving organizations have programs and initiatives that could also provide coordination of CAP to reduce program expenses. Austin Water could identify potential organizations or help fund an organization that would assist with the required coordination details that may be considered out of the scope of current positions within Austin Water. Through these partnerships, Austin Water could evaluate eligibility and provide financial relief to customers who do not have accounts with the agency.

Additional Recommendations:
1. Reloadable Debit Card: Austin Water could issue reloadable debit cards to customers in multifamily units who apply and qualify for CAP. The amount loaded on the debit card would be the discount amount which would be a precalculated estimation of the household’s water usage based on household size. Austin Water could reach out to HACA for assistance in administering such a program like this.
2. Partner with the Housing Authority of the City of Austin: HACA calculates household typical water usage based on housing types annually and a partnership could leverage this data for Austin Water to use to apply discount amounts.
3. Use Technology to Assist with Program Coordination: Austin Water could leverage technology to improve program implementation for tenants, landlords, and program coordinators. For example, the Texas Health and Human Service Commission utilizes an app that allows participants to apply for aid, check program participation status, receive notifications, report changes, and upload required documentation. This helps streamline the reporting process, saving resources in program coordination.
CONCLUSION
Based on the case study data and our analysis, Austin Water ought to choose a program that works directly with tenants instead of with landlords. The programs that work with tenants have been proven to directly benefit households with fewer barriers, which allows more tenants to participate in the programs. Programs that worked directly with landlords tend to be less successful at providing discounts for low income tenants because the landlords do not benefit from the discount, which means they do not have as much of an incentive to participate. We therefore recommend that Austin Water model its program on those in Seattle and Portland.

CAP is an important affordability tool for low-income people. We thus recommend that Austin Water conduct targeted outreach in select tracts to register customers for CAP who are eligible under current requirements, adopt a mixed eligibility process that allows customers to qualify for CAP by income verification or participation in other programs for low-income families, and collect demographic information of CAP customers. Finally, we recommend that Austin Water extends its CAP to multifamily residents by adopting a tenant-based engagement strategy in order to provide the most substantial benefits to residents and advance racial equity in the city.
PRACTICUM PARTICIPANTS

JUNE GREEMAN
June's background is in transportation engineering and research; her specific interests involve the relationship between truck freight transportation and social equity.

SARI ALBORNOZ
Sari brings experience advocating for a resilient and equitable local food system and supporting community-driven agriculture projects. She is interested in strategies to support green infrastructure projects that benefit economically and racially diverse urban residents.

MICHELLE PARKE
Michelle is interested in promoting equity through environmental and water planning.

SAMIRA BASHAR
Samira studied Architecture before entering the planning field and aims to advance equity through planning by working with disadvantaged communities who have been traditionally excluded from the planning process.

LUCY HALL
Before enrolling in UT's Community and Regional Planning program, Lucy's academic background is in Anthropology and French, while her professional interests led her to pursue a career in reproductive justice. Now, she plans to work in tenant advocacy and affordable housing after completing her degree.

TIM MCCARTHY
Tim's background was in economics before studying planning, and hopes to contribute to the fight against climate change by making cities more compact, connected, and equitable.

MATTHEW FRANKEL
Matthew is currently pursuing a dual masters degree in environmental engineering and public affairs at UT.

NADIA CARLSON
Nadia Carlson worked in affordable housing and homeless services prior to starting graduate school in Community and Regional Planning. She aims to advance equity in the planning field.

BRYTANI CAVIL
Brytani Cavil has spent her career advocating and supporting low-income youth of color through creative youth development and community initiatives.

TYMON KHAMSI
Tymon studied Environmental Hydrology Resources and Water Resources before entering the planning field, and aims to achieve just outcomes by redistributing power to marginalized communities.
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CHAPTER 3: ADVANCING EQUITY THROUGH ADVANCED METERING INFRASTRUCTURE


Cummings, Craig. Telephone, December 2, 2019.


CHAPTER 4: EXPANDING CUSTOMER ASSISTANCE PROGRAMS FOR WATER UTILITIES


The Fleet Automotive Service Training (FAST) Program is a six-month career readiness program managed by the Office of Workforce Development, in partnership with the Office of Fleet Management (OFM). The program prepares job seekers for careers in the automotive industry. Participants receive foundational automotive training, on-the-job work-based learning experiences and workplace readiness instruction to prepare for employment as an Automotive Trades Helper in OFM. Professional development courses offered through the program assist participants in gaining interpersonal and career readiness skills for a successful career. Graduates qualify for automotive positions with the City of Philadelphia and are positioned to launch transportation careers with private sector employers.

QUALIFIED INDIVIDUALS MUST:
- Possess some high school education and meet civil service position's educational requirements prior to program conclusion.
- Have a strong interest in the automotive service and vehicle maintenance industry.
- Complete pre-enrollment background screening, assessments focused on mechanical aptitude, basic literacy and self-sufficiency.
- Demonstrate a sincere willingness to prepare for and attain full-time permanent employment.

Email: careerpathways@phila.gov
APPENDIX B

HIRE FEDERAL BONDING FACT SHEET

Employer Benefits:
- No cost.
- The bond coverage is in effect the day the new employee begins working and lasts for six months.
- Coverage lasts for 6 months. Helps alleviate risk for second chance clients.
- The bond has no deductible and reimburses the employer for any loss due to employee theft within the specified six-month period.
- No deductible.

Who Qualifies for Bonding?
- Individuals who are not commercially bondable due to past questionable behavior. This includes:
  - Ex-offenders, including anyone with a record of arrest, conviction or imprisonment.
  - Those with a poor financial credit history or who have declared bankruptcy.
  - Ex-addicts with history of alcohol or drug abuse.
  - Those who have been dishonorably discharged from the Armed Forces.
  - Persons lacking a work history from low-income families.

Job Requirements
- The employer must have a specific date set for the applicant to begin work.
- The applicant must be of legal working age.
- Federal taxes must be automatically deducted from the check.
- Ensure that the job is suitable for the applicant: Example: An individual convicted of drug abuse may not be placed where drugs are readily accessible like a pharmacy or hospital.
- Self-employed and/or franchised individuals are not eligible.

Coverage Amounts
- Bonds are issued in increments of $5,000 for a period of six months. The maximum amount is $25,000. $5,000 - $25,000 depending on need/value.
- $5,000 is generally sufficient to cover most circumstances.
- Coverage is based on the potential or estimated risk to the employer for financial loss in one event.
- Bonds in excess of $5,000 should be limited to positions where the employer may lose more than $5,000 in money or property at one time. The requester should base a bond request in excess of $5,000 upon reasonable justification.

Bond Information
- Bonds can be issued to any employer regardless of whether the company has or has not commercially purchased a Fidelity Bond.
- Specific coverage includes theft, forgery, larceny or embezzlement. Bonds do not provide coverage for situations due to poor workmanship, job injuries or work accidents.
- It is not a bail bond, court bond, contract bond, performance bond, name bond, blanket bond or license bond.
- Bonds are not transferable from one employer to another.

The Bonding Process
The process is simple and quick:
- A letter will be sent which will include the name of the job seeker for whom the bond is being issued, bond effective date, amount and period of coverage, etc.

Contact your local HIRE Representative or visit Indiana’s Federal Bonding web page at:

www.in.gov/dwd/2459.htm
APPENDIX C

INTERVIEW QUESTIONS

The team asked the following questions of their interviewees to better understand their AMI projects.

1. How did you roll out the program? If you had a pilot program, what did you learn from it?
2. How did you choose the location/group for the pilot program?
3. Were there marked increases to water bills? Did this present any issues, either to customers or otherwise?
4. Were any of these changes to meters/network/bills communicated to your customers?
5. If so, how? What was your communication strategy?
6. Do you have a long-term communication plan to communicate any changes/updates to the program?
   Do you have a feedback strategy where customers can report their experiences.
7. What strategies did you find effective?
8. How did you prepare employees to communicate with residents (if at all)?
9. Do you have a plan for communicating these possible bill changes to low-income residents?
10. Going back to the pilot program, what equity concerns presented themselves during the pilot phase?
11. How did you navigate addressing the specific needs of different racial/ethnic communities?
12. Do you have community partnerships that assisted the roll out of the program?
13. How did you select those groups? How did you communicate to them?
14. Do you know of any cities that did this well?
15. Would you be able to put us in touch with this city/person who oversaw the program.
Austin Water provided data of all of their CAP customers for quantitative and spatial analysis. The data included information for each customer for 2016, 2017 and 2018. It included information about the census tracts where CAP customers resided, the total usage for each month, and the months of enrollment in the program. Using this data, students developed an analysis of program tenure across time and space and Eligibility and Accessibility. This analysis combined with the strengths, weaknesses, opportunities, and threats outlined by Austin Water through the Equity Office dashboard help inform the recommendations at the end of this report.

Spatial Demographic Analysis
Demographic information can be very useful in providing context for decision making purposes regarding customer assistance programs (CAP). Using demographic data helps identify areas where vulnerable populations reside in Austin and their relationship to the CAP program. Demographic maps were made using American Factfinder's ACS 2017 5-year estimates. More specifically, reference tables B01001H (Sex by Age White Alone, Not Hispanic or Latino) and B01003 (Total Population) were used to calculate the percentage of people of color by census tract in Austin.

Spatial Analysis of Total CAP Enrollment Over Time
Understanding how CAP enrollment has changed over space is a key step toward forming recommendations around the CAP program and its expansion. A recent picture of CAP enrollment can inform outreach areas and reveal possible common issues experienced by the CAP enrolled customer base. There are three key questions to address before being able to link CAP enrollment changes to other trends and demographic shifts:

- What did CAP customer totals look like at the start of the data (Oct. 2016)?
- What do they look like in the most recent data (Aug. 2019)? and
- How have CAP enrollment totals changed over space during that time period?

To this end, three maps were developed using data provided by Austin Water. These maps show CAP enrollment totals by census tract during the first month of data, enrollment totals during the last month of data, and the change in CAP enrollment between these two periods. Showing change as a difference in CAP Customer totals between the first and last month of the provided data was preferred over evaluating this change using an average or median. Due to the sharp decline from 2017-2019 of CAP enrolled customers, including a drop of 1,496 enrolled customers from October 2018 to August 2019, an average or median would under-represent the magnitude of change which CAP has undergone over the last three years.

Program Tenure
The team analyzed the average number of months, by census tract, that each user was enrolled in CAP. A user enrolled for an entire fiscal year was enrolled for 12 months, one who left halfway through the year was enrolled for 6 months, etc. Since we did not have data for individual customers across fiscal years, we cannot discuss their tenure for more than 12 months at a time. Instead we analyzed the average number of months within each of the three fiscal years, and found the average of the three years. In theory, a census tract where all customers were enrolled for the entire year would have an average of 12 months enrolled in CAP; the average demonstrates how far removed each census tract is from this “perfect stability” scenario. (Note: Since the 2018-2019 fiscal year only contains 11 complete months, and incomplete September 2019 data was discarded, 2019 averages were adjusted to their predicted values if the year had contained 12 months of data: all values were multiplied by (11/12).)
In order to normalize the data, we only used the census tracts that had at least 50 CAP users in at least one of the three fiscal years for which we had data. This set included 110 census tracts. We decided not to use tracts with fewer CAP users, as that could skew the tenure rates: a tract with one user who left the program mid-year would appear to have 100% volatility in tenure.

Tenure rates were compared against ACS 2017 5-year average data on moving rates by census tract. Table B07003 contains data on how many surveyed residents had lived in the same residence one year prior to the survey. This rate, subtracted from 1, gives us the percentage of residents who had moved into their residence in the past year. (Data from all five counties served partially by Austin Water - Travis, Williamson, Hays, Caldwell, and Bastrop - was included, though in the end only Travis and Williamson contained CAP users.)

**Spatial Analysis of Potential CAP Customers**

*Spatial Distribution Mapping*

For the analysis it was assumed that each point of CAP customer data represents data for one household. To normalize the data points, CAP customers' data against the number of single-family households per census tract in Travis County are considered. Using data from Austin Water and ACS data from the 2017 5-year estimate for Travis County, the spatial concentration of current CAP customers served by Austin Water was mapped.

Currently, all CAP customers reside in single-family households. To appropriate the number of expected CAP customers living in multifamily units, a conservative approach was taken. American Community Survey's definitions of '1 unit attached' and '1 unit detached' were used to define 'single-family' units. The sum of the number of those two categories was counted as the number of single-family households in Travis County (Table DP04, 2017 ACS 5-year estimate). Then the other types of households were appropriated as multifamily units. Based on the percentage of CAP customers in those single-family units, the number of expected CAP customers in multifamily units were counted.

To be eligible to participate in the CAP program, households must receive one of eight accepted assistance programs provided by the federal government. Of these programs, the data on households receiving SNAP (Supplemental Nutrition Assistance Program) is available publicly which includes data on the racial composition, income, family composition, employment status, disability status of households receiving SNAP in Travis county (Table S2201, 2017 ACS 5-year estimate). At the census tract level, by subtracting the number of CAP customers from the number of households receiving SNAP, the number of households who are currently receiving SNAP and would likely become CAP customers if the program expands to multifamily units were counted.

*Correlational Mapping*

An ordinary least squares (OLS) regression and regression tree model were created in order to determine the correlation between racial demographics of a census tract and CAP participation rates. The following factors were modeled against percent CAP utilization in a census tract, with p-value of OLS regression in parentheses:

- Median Income in 2017 (p value: 0.205)
- Percent of residents receiving Social Security Income (p value: 0.006)
- Percent rentership (p value: 0.203)
- Percent of people with limited English (p value: 0.021)
- Unemployment Rate (p value: 0.976)
- Percent of smartphone utilization (p value: 0.001)
- Percent Black (p value: 0.003)
<table>
<thead>
<tr>
<th>Census Tracts</th>
<th>Total Unique Users Oct 2017 - Sep 2018</th>
<th># Single Family Dwellings</th>
<th>Percent CAP Users of Single Family</th>
<th>Median Income</th>
<th>Percent people of color</th>
<th>Total Households (including multifamily)</th>
<th>Percent Cap Users of Total Households</th>
</tr>
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<tbody>
<tr>
<td>Census Tract 6.04</td>
<td>3</td>
<td>229</td>
<td>1%</td>
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<td>0%</td>
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<td>10035</td>
<td>49%</td>
<td>2349</td>
<td>0%</td>
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<td>205</td>
<td>37%</td>
<td>26163</td>
<td>77%</td>
<td>1910</td>
<td>4%</td>
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<tr>
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<td>399</td>
<td>62%</td>
<td>30461</td>
<td>83%</td>
<td>2984</td>
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<td>704</td>
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<td>6%</td>
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<td>2266</td>
<td>13%</td>
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<td>24%</td>
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<td>76%</td>
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<td>17%</td>
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<tr>
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<td>626</td>
<td>26%</td>
<td>37705</td>
<td>81%</td>
<td>3216</td>
<td>5%</td>
</tr>
</tbody>
</table>
### APPENDIX F

**FEDERAL POVERTY INCOME GUIDELINES - 2016**

(“FAMILY SERVICES ELIGIBILITY” N.D.)

<table>
<thead>
<tr>
<th>Household Size</th>
<th>50% Poverty Level</th>
<th>100% Poverty Level</th>
<th>125% Poverty Level</th>
<th>150% Poverty Level</th>
<th>200% Poverty Level</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$5,940.00</td>
<td>$11,880.00</td>
<td>$14,850.00</td>
<td>$17,820.00</td>
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<td>$16,020.00</td>
<td>$20,025.00</td>
<td>$24,030.00</td>
<td>$32,040.00</td>
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<tr>
<td>3</td>
<td>$10,080.00</td>
<td>$20,160.00</td>
<td>$25,200.00</td>
<td>$30,240.00</td>
<td>$40,320.00</td>
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<tr>
<td>4</td>
<td>$12,150.00</td>
<td>$24,300.00</td>
<td>$30,375.00</td>
<td>$36,450.00</td>
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<tr>
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<td>$56,880.00</td>
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<tr>
<td>6</td>
<td>$16,290.00</td>
<td>$32,580.00</td>
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<tr>
<td>7</td>
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<td>$36,730.00</td>
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<tr>
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</tbody>
</table>

For each additional h/h member add: $4,160 for each additional person