Albemarle County Service Authority

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MEMORANDUM

To: Albemarle County Board of Supervisors
From: Gary O'Connell, Executive Director
Date: July 3, 2019
Re: Albemarle County Service Authority (ACSA) Quarterly Briefing
cc: Mr. Jeff Richardson, County Executive; ACSA Board of Directors; ACSA Leadership Team and Managers

Thank you for the on-going opportunity to share with the Board what is happening at your water agency, the Albemarle County Service Authority. We pride ourselves on safe, clean, reliable Albemarle water. Our employees continually work hard for this to happen and keep that trust in our drinking water, and provide excellent customer service. Here are some updates from the ACSA:

1. **Budget and Rates** – The ACSA FY 2020 Budget and Rates were approved by the ACSA Board at their June meeting. In addition, the ACSA Capital Improvements Program (CIP) was also approved at the meeting (see the Capital Project Report at the end that discusses new projects and a map of projects by district). A major part (over 60%) of the ACSA Budget and Rates goes for treatment costs and particularly large capital projects of the Rivanna Water and Sewer Authority (RWSA), which has major projects totaling nearly $100 million in their 5-year CIP program. Yet the ACSA average residential bill is under the statewide average, and 22% less than a comparable City of Charlottesville water and sewer bill. A short budget overview is attached, as well as our Customer Newsletter on the Budget and Rates that went to all of our customers with their May bills.

2. **Customer Survey** – Included with the February-March bill was a customer survey on ACSA services to obtain customer feedback for our new Strategic Plan. Nearly 1,200 customers submitted completed surveys. A copy of the survey is attached. Also attached, is a summary chart of the overall ACSA Customer Rankings. In most all categories in the survey, the ACSA rated above a 90% satisfaction level.

3. **2019-2022 Strategic Plan Process** – We have completed a number of reviews and assessments to identify strategic "gaps" to address in the future, including the customer feedback from the survey recently completed. A new three-year (2019-2022) Strategic Plan proposal is planned for Board adoption in July 2019. The two major Strategic Plan focus areas will be implementation of AMI (advanced metering infrastructure) and CMMS (computerized maintenance management system – customer service requests, work orders, inventory and asset management). Additional goal areas: continuation of succession planning; additional Best Practices Reviews; finalize Emergency Response and Business Continuity Plan with annual exercises; financial system upgrade; cyber security assessment; completion and implementation of the long-range Facility Master Plan; water audits (water conservation and water use tool) and an ACSA all facilities energy audit. Our overall goals are safe, clean, and reliable Albemarle Water.

4. **AMI (Advanced Metering Infrastructure)** – One of our strategic plan items is to explore the various AMI technologies that are available in the water metering world. Most medium and large sized water utilities have already converted to the AMI technology. The feasibility study is completed which evaluated our technology options and looked closely at the needs of our customers. The ACSA Board reviewed the feasibility study recommendations and has approved moving to the Request for Proposals (RFP) phase. The proposals from 13 vendors have been received, and interviews are being conducted with the top four this week. A final Board decision is scheduled for October. A tremendous advantage with AMI is immediate leak detection inside the customer's home or business, or water service line, a tremendous water conservation and cost savings tool. In the Customer Survey, over 97% of the respondents found it important to have leak notification.

5. **CMMS – Computerized Maintenance Management System** – This system for customer service requests, work orders, inventory and asset management is part of our Strategic Plan to improve how we manage our day to day operations and will utilize the CityWorks software program. This is one of those projects that is not so visible, but has the potential to greatly improve our operations to deliver better customer service, productivity and scheduling. We will also have a web portal/mobile app customer request in place at the completion of the project, likely 2020.

6. **ACSA Capital Investments** – Recently, some members of the Board of Supervisors have requested information about the extent of capital investments in the Urban Area. As part of that request, the question was asked specifically of the ACSA regarding investments in our utility infrastructure in this area of the County. In response, the ACSA staff have developed a listing of completed projects over the past 15 years in the Urban Area, and expanded that for Crozet and Scottsville. Attached is a completed project listing and maps indicating the locations. The total amount invested

was $59.2 million and the estimated value of projects under construction, or in the design phase, is $20.57 million, or a total of $79.77 million in ACSA capital project investments. The ACSA has a recurring annual Capital Improvement Program that focuses on needed infrastructure replacement in a planned way, over a long period of time. As the system ages (now over 55 years overall), this investment becomes critical to assuring our customers of safe, clean and reliable water and sewer.

7. **ACSA Capital Projects Update** – The adopted FY 2020 Capital Improvements Program (CIP) started July 1st and is a $10.4 million program (let us know if you would like any detailed project maps or to schedule a tour on any of the projects); a copy of the system-wide map showing CIP projects is attached. Highlights and current major projects are detailed below:

   - **Glenmore Water Tank Project** – This project is for system redundancy and emergency backup. The present line extends 4 ½ miles to Glenmore. The tank is completed, and final work has been completed on the pump station. We have also designed some additional security measures into the project. Work on the project is complete, with startup operations occurring in two weeks.
   - **Camelot Sewer Rehabilitation** – Sewer replacement, relining, and manhole repairs to reduce infiltration and inflow are needed for a well-functioning sanitary sewer. All the relining work is complete, and manhole rehabilitation has been completed.
   - **Operations Center Expansion Study (Master Plan)** – Study underway to look at the short and long-term future of ACSA properties (Crozet, Avon Street, and Pantops) and develop a master plan for the long-term needs of the organization as we continue to grow and add customers. Interior space renovations are complete and additional parking is scheduled for construction this fall. A conceptual site development plan for Avon Street is under discussion with the County Planning staff.
   - **Camelot Water Main Replacement** – Replacement of nearly 50-year-old water mains that are also undersized and deteriorating. Design work is underway at the 90% stage. Draft easement plats have been received and easement acquisition is underway.
   - **Scottsville Water Main Replacement** – Replacement of an aging water main along East Main Street. The project will be rebid early 2020 to generate more competitive bidding interest.
   - **Barterbrook Water Main Replacement** – Replacement of aging and badly deteriorating water mains along Solomon Road, North Berkshire Road, and Inglewood Drive. We have had a series of water main breaks in this area and replacement was needed. Construction is complete.
   - **Ashcroft Water Pump Stations Improvement** – This project will upgrade two existing water pump stations, which will result in quicker

refill of the storage tank and improved water quality. Construction completion in October 2019.

- **Peter Jefferson Place Pump Station Improvements** – This pump station is operating inefficiently, and a study was completed to determine the best solution to improve it. Project is under contract with a December 2019 completion.
- **Glenmore Drainage Basin Sewer System Rehabilitation** – We have seen wet weather issues in the Glenmore system to the point that this drainage basin has become a priority. Most manhole rehabilitations have been completed, with four left to finish to complete this project.
- **Madison Park Pump Station Upgrade** – Constructed 33 years ago, by a private development, and the original equipment is wearing down, building undersized, and not able to install SCADA (computerized monitor). The plan is to replace this pump station on-site. Design work is at the 60% stage.
- **Oak Forest Sewer Pump Station Abandonment –** This is an aging pump station in need of rehabilitation. With the adjacent Stonefield development, we now have the opportunity to extend a sewer main via micro-tunnel, and eliminate this aging pump station and avoid an expensive upgrade. We have completed design, and now acquiring easements.
- **Jefferson Village Water Main Replacement –** Replacing older (49 years) water mains made of inferior pipe product. Since originally part of a former well system, many of the mains are undersized. Design is at 90% completion. Six geotechnical borings have been completed.
- **Meriweather Hills Water Main Replacement –** This water main is reaching the end of its useful life and is in need of replacement. This is another of the former well system mains. Project is under construction along the Owensville Road corridor.
- **Pantops Sewer Study –** Area study to reduce wet weather infiltration and inflow (I/I). This study will likely lead to targeted sanitary sewer system rehabilitation. Flow monitoring and manhole inspections have been completed, and the investigation portion of this project, including robotic televising of the sewer lines, are being completed.
- **SCADA (computerized monitoring)** – A three phased project is nearing completion for over 40 water and wastewater facilities in the ACSA system. Another of our projects to provide emergency alerting and monitoring to assure reliable water and wastewater service. We have completed the second phase of work, with the third phase design completed to hire a contractor through a competitive negotiation process.
- **Crozet Phase IV Water Main Replacement** – Our Strategic Plan calls for the eventual replacement of all asbestos-cement water mains in our system, as they are older and made of a weaker material than the current industry norm. This project continues our systematic program to replace the aging and undersized water mains in the Crozet Water

System. This is the fourth of five phases that have been defined to carry out these improvements and is currently in design phase.

- **Hessian Hills Water Main Replacement** – The water mains in the Hessian Hills area are of a similar age and material as the water mains in the Barterbrook Phase 2 Project, plus they are in the same general area. By extension we are assuming their condition is similar with respect to major deterioration, and they are also undersized throughout most of the subdivision. This project follows our Strategic Plan goal to replace aging and undersized water mains throughout our system. It will also eliminate a small amount of plastic pipe installed in the early 1980's. Design work is at the 50% stage, with project completion in 2021.
- **Recoating Scottsville Water Storage Tank** – As part of our program of regular water storage tank cleaning and inspections, it was determined that the Scottsville Tank was exhibiting generalized degradation of the paint coating on the interior and exterior surfaces. This tank has not been recoated since its construction approximately 25 years ago. To be proactive in extending the useful life of our tanks, we scheduled for the Scottsville Tank to recently be recoated. Work is complete.
- **Hollymead Drainage Basin SSES** – ACSA staff has identified other large drainage basins to be evaluated for infiltration and inflow (I/I) to continue our efforts to maintain the integrity of our wastewater collection system. This study area includes the oldest portions of the Hollymead Subdivision, as well as, the offsite portion of the sewer main that serves the westernmost area of Forest Lakes South. The Forest Lakes Offsite Sewer will be the primary collector for the upcoming Brookhill development, and an evaluation of this trunk main will provide an excellent baseline of pipe integrity in advance of the future construction activities around this sewer. All of the manholes have been inspected and flow monitoring continues.
- **Redfields Sewer Pump Station Abandonment** – This wastewater pump station was constructed 23 years ago by private development and the parcel is too small to add an emergency standby generator. The Maintenance Department must rely on a portable pump to operate this station during power outages. With the development of Wintergreen Farm Subdivision, ACSA staff saw an opportunity for a sewer main extension that could eliminate this pump station. Now that the sewer main extension is in place the timing is perfect for abandoning this wastewater pump station. Completion anticipated at the end of 2019.
- **Vulnerability Assessment** – As part of an on-going emergency preparedness program, the ACSA is in a multi-phase effort to reduce risk and increase resilience**.** Projects include additional security measures, fencing and access gate enhancements, cybersecurity measures, additional tank protection, etc.

- **Sewer Force Main Condition Assessment** – This project utilizes a computerized "SmartBall" that is flowed through the force main capturing assessment data (via transient pressure monitoring technology) to determine any problem areas that require correction or further detailed investigation.

8. Capital Projects Approved for FY 2020:

- **Energy Audit (New):** This project will consist of a comprehensive energy audit of the Operations Center and all pump stations (20). It will evaluate current energy consumption and the factors that drive it, as well as, an analysis of utility rate structures to identify potential cost savings. Surveys will be conducted of all systems, including operation and maintenance procedures to determine where energy conservation can be improved.
- **Avon Street Maintenance Yard (New):** As part of the Operations Center Expansion Study our consultant reviewed all properties owned by the ACSA that could be utilized as we grow. The Avon Street property has long been held as a future location to build additional facilities in a central location, as needed. The current Maintenance Yard at our Operations Center is becoming overcrowded with equipment and materials, causing us to locate some equipment and larger materials to the former ACSA Maintenance Yard at the Crozet Water Treatment Plant, which we lease from RWSA. This project will begin to develop the ACSA owned Avon Street property into a much larger vehicle and materials storage facility. We are in consultation with Albemarle County Planning staff on this project proposal.
- **Ragged Mountain Phase 1 Water Main Replacement (New):** This project will replace the oldest active water main remaining in our system, which was part of the water main that served customers out Reservoir Road. This cast iron pipe is over 90 years old and is severely tuberculated, which greatly reduces the flow capacity in this section.
- **Northfields Water Main Replacement (New):** This project addresses the goal in our Strategic Plan for the eventual replacement of all asbestos-cement water mains in our system. The existing water mains are approximately 54 years old and have reached the end of their useful life. As a former well system that was connected to public water, most of the mains are also undersized.
- **Ednam Water Storage and Northfields Tank Recoating (New):** As part of our new program of regular water storage tank cleaning and inspections it was determined that the tanks were exhibiting generalized degradation of the paint coating on either the interior or exterior surfaces. The Ednam Tank was constructed in 1977 and was last painted in 1997. The original Northfield Tank was replaced in 2000 when the pump station was renovated. To be proactive in

extending the useful life of our water tanks, we are moving forward on the Ednam and Northfields Tanks to be recoated.

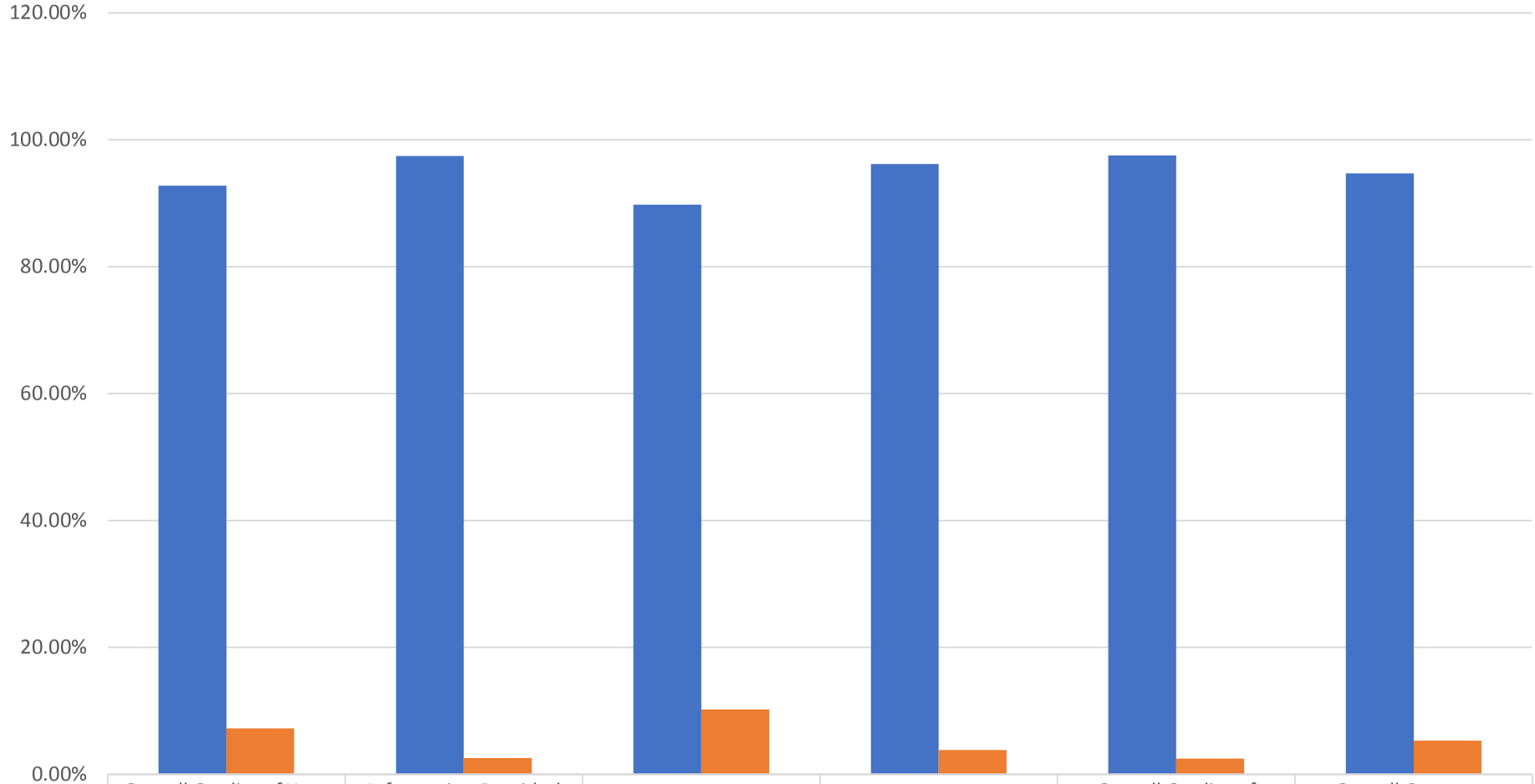
- **Exclusion Meters Replacement (New):** In the mid 1990's with the development of Glenmore, many new customers installed irrigation systems for their properties and wanted to have their sewer bills reduced by the amount of water that was diverted to irrigate their properties. Private meters were installed behind their ACSA meter to record this volume and it was "excluded" from the calculation of their sewer charges and these became known as exclusion meters. On January 1, 2006 the ACSA Rules and Regulations were modified to no longer allow exclusion meters and required that all future irrigation meters would be tapped separately off our water mains, to be owned and controlled by the ACSA. At that time the existing exclusion meters were grandfathered and allowed to stay in place unless the irrigation system was voluntarily abandoned. This project is a multi-year replacement program by our in-house CIP Crew to install dedicated, ACSA owned irrigation meters that will eliminate all remaining private exclusion meters in our system.
- **Pipe Saddles Replacement (New):** The ACSA Maintenance Department has discovered in recent years that pipe saddles used to make water service line connections to PVC water mains have been failing. Either the zinc-coated straps or the cast iron saddle bodies are deteriorating. This project is a multi-year replacement program to be undertaken with our in-house CIP Crew.

Let us know if you have further questions or comments. We are more than glad to meet with you about any of our projects, or facilities, or provide a tour if that would be useful.

Attachments:

-ACSA Customer Survey Overall Rankings
-ACSA Customer Budget and Rates Newsletter
-Capital Improvement Projects by District Map
-Capital Investments Listing and Maps for the Urban Area, including Scottsville and Crozet
-PowerPoint Presentation

Customer Survey Overall Rankings



	Overall Quality of Your Water	Information Provided About Your Water	Water Rates	Communication	Overall Quality of Customer Service	Overall Customer Satisfaction
Satisfied	92.76%	97.43%	89.75%	96.16%	97.52%	94.72%
Dissatisfied	7.24%	2.57%	10.25%	3.84%	2.48%	5.28%

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www.serviceauthority.org
Facebook: facebook.com/acsaconnect
Twitter: @acsa_connect
Email: custserv@serviceauthority.org
24/7 Customer Service Line: (434) 977-4511

FY' 20 Budget & Rates

Dear ACSA Customer,

The Albemarle County Service Authority (ACSA) is committed to maintaining and improving your utility systems in a timely, cooperative, and financially responsible manner. The proposed Fiscal Year 2020 budget reflects our continuing commitment to safe and clean water and wastewater services. In FY' 20, the ACSA proposes to spend more than $10 million on improvements that will continue to modernize our critical infrastructure and processes.

Our regional partner, the Rivanna Water and Sewer Authority (RWSA), plans to invest nearly $100 million in water and wastewater capital projects over the next five years. Their costs have increased 7.9% for water services and 15.6% for wastewater services.

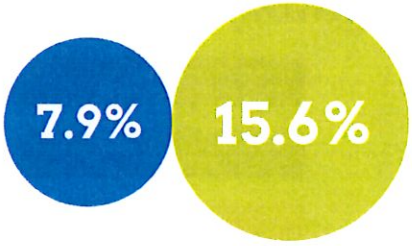
More than 60% of your water and sewer bill pays for water and wastewater treatment by the RWSA. As a result of our combined efforts to improve our water and sewer infrastructure for current and future generations, the ACSA is proposing a monthly user rate increase to keep pace with expected expenses. The average residential customer will see a 5.56% increase in their water and sewer bill, or $3.63 a month.

On the reverse side, we've included more details about our proposed rate structure, including helpful comparisons. We invite you to attend a public hearing on our budget and your rates at our administrative offices - 168 Spotnap Road - on June 20th at 9:00 a.m. You can also send your comments to us by email at board@serviceauthority.org.

Sincerely,

Gary O'Connell, Executive Director

More than 60% of your bill pays for RWSA's services



RWSA Water and Sewer Treatment Cost Increases

FY' 20 ACSA Rate Increase

The prices we pay per gallon. Your water remains a GREAT value.

$2.75

$3.50

$15.00

$32.00

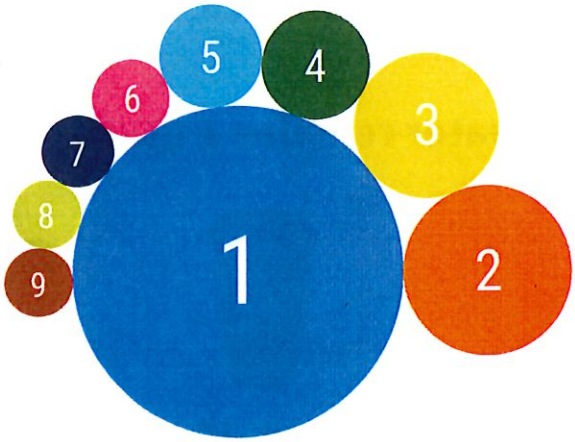
1/2 cent

ACSA Water & Sewer Monthly User Rates

Rates and Charges	FY '19	FY '20
Service Charge	$8.16	$8.57
Volume Charge: Single-Family Residential (per 1,000 gallons)		
Level 1: Up to 3,000 gallons	$4.27	$4.48
Level 2: 3,001 to 6,000 gallons	$8.55	$8.98
Level 3: 6,001 to 9,000 gallons	$12.82	$13.46
Level 4: More than 9,000 gallons	$17.10	$17.96
Multi-Family/Non-Residential (per 1,000 gallons)	$8.25	$8.66
Sewer: All Users (per 1,000 gallons)	$8.93	$9.47

Combined Monthly Bills (@ *4,000 gallons consumption*)

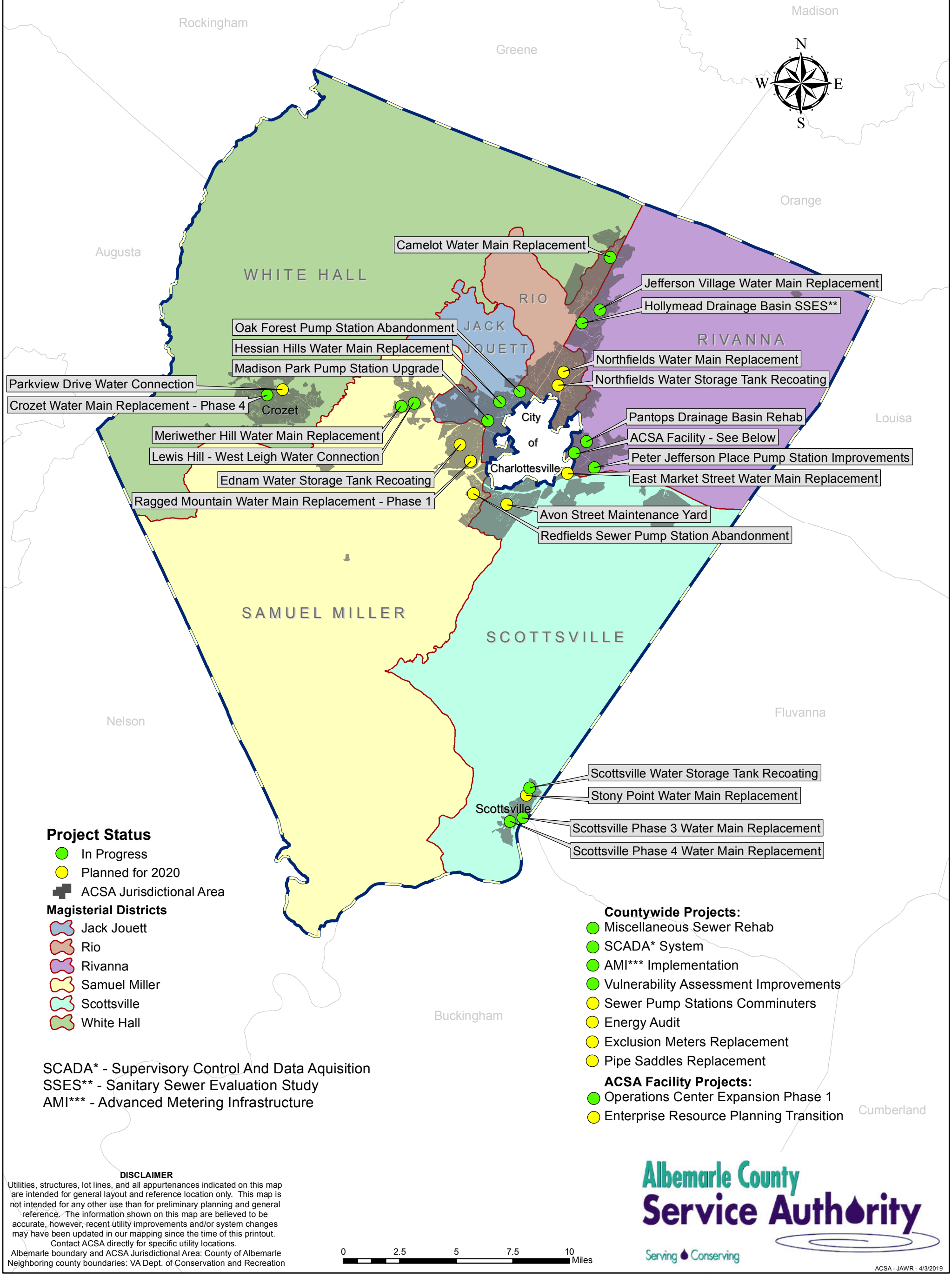
How The ACSA Invests User Rates



1: Water/Wastewater Treatment $19.09 Million
2: Transfers and Contributions for Capital Improvements $5.02 Million
3: Maintenance $3.65 Million
4: Finance $2.06 Million
5: Engineering $1.85 Million
6: Administration $1.05 Million
7: Information Technology $0.89 Million
8: Bond Debt Service $0.81 Million
9: Other Expenses $0.81 Million

Albemarle County Service Authority

Capital Improvement Projects by District



Project Status

- In Progress
- Planned for 2020
- ACSA Jurisdictional Area

Magisterial Districts

- Jack Jouett
- Rio
- Rivanna
- Samuel Miller
- Scottsville
- White Hall

Countywide Projects:

- Miscellaneous Sewer Rehab
- SCADA* System
- AMI*** Implementation
- Vulnerability Assessment Improvements
- Sewer Pump Stations Comminuters
- Energy Audit
- Exclusion Meters Replacement
- Pipe Saddles Replacement

ACSA Facility Projects:

- Operations Center Expansion Phase 1
- Enterprise Resource Planning Transition

SCADA* - Supervisory Control And Data Aquisition
SSES** - Sanitary Sewer Evaluation Study
AMI*** - Advanced Metering Infrastructure

0 2.5 5 7.5 10 Miles

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ACSA - JAWR - 4/3/2019

Historic CIP Projects List 1997 - 2019

Project Name	Year Constructed	Total Cost
Scottsville System		
Scottsville Water Replacement	2006	7,200.00
Scottsville Fire Hydrant Replacement	2009	20,588.00
Scottsville Phase 1 Water & Sewer	2007 - 2009	740,497.00
Scottsville PRV & Altitude Valve	2010	12,970.00
Scottsville Drainage Basin Rehab	2010 - 2011	122,418.00
Scottsville Streetscape Water Improvements	2011 - 2013	61,843.00
Confederate Street Water Replacement	2012	9,880.00
Jackson Street Water Replacement	2013 - 2014	72,252.00
Hardware St Water Ext/Scottsville Ph 2 Sewer	2011 - 2013	704,185.00
Subtotal		**1,751,833.00**
Crozet System		
Crozet Water Main Replacement Ph 1	2006	1,769,240.00
Union Mission Water Replacement	2007	6,325.00
Crozet Drainage Basin Rehab	2010 - 2012	470,727.00
St. George Ave/Buck Rd Water Replacement	2010 - 2013	1,354,546.00
Crozet Streetscape Water Extensions	2011	27,686.00
Jarman's Gap Road Water Main Upgrade	2011	20,290.00
Crozet Sewer Pump Station	2009 - 2014	109,195.00
Western Ridge - Foxchase Water Connection	2012 - 2015	380,775.00
Crozet Water Replacement Ph 2	2012 - 2015	1,015,495.00
Crozet Water Replacement Ph 3	2016 - 2017	949,303.00
Hillsboro Lane Water Replacement	2016	25,189.00
Orchard Acres Water Main Replacement	2018	1,304,129.00
Subtotal		**7,432,900.00**
Ivy Area		
Flordon Water Replacement	1997 - 1998	590,324.00
West Leigh Drive Water Replacement	2007 - 2009	672,128.00
Owensville Road Water Main	2007 - 2009	296,291.00
West Leigh Phase 2 Water Replacement	2008 - 2012	775,749.00
Ivy Rd - Flordon Water Connection & Ednam P	2013 - 2016	1,324,119.00
Cumberland Road Water Replacement	2013	25,304.00
West Leigh Phase 3 Water Replacement	2014 - 2016	356,450.00
West Woods Water Replacement	2017	90,527.00
Subtotal		**4,130,892.00**
Urban Ring		
Country Green Road Water Main	1997	128,358.00
Deerwood Water & Sewer Project	1997 - 1998	462,920.00
Jouett - Greer Water Main Replacement	1998 - 2000	160,983.00
Northfields Phase 2 Sewer	1998 - 2000	343,074.00

Historic CIP Projects List 1997 - 2019

Project Name	Year Constructed	Total Cost
Branchlands Water Loop	1999	9,490.00
Bellair Water Main Replacement	2000 - 2001	728,831.00
Meter Vault Replacements	2000 - 2001	8,239.00
Lampkin Way Water Connection	2002	2,085.00
Georgetown Square Water Replacement	2003	8,435.00
Turtle Creek Water Service Replacement	2003	4,409.00
Northfields Phase 3 Sewer	2003 - 2004	281,680.00
Route 250 West Water Improvements	2003 - 2004	149,544.00
Oak Hill Water Replacement	2005	175,658.00
Georgetown Green Water Improvements	2005	34,000.00
Sherwood Manor Water Replacement	2006	31,582.00
Sherwood Manor Sewer Relining	2005 - 2006	326,535.00
Colthurst Water Replacement	2006 - 2008	836,456.00
Woodbrook Water Replacement	2007 - 2009	1,704,071.00
Pen Park Lane Water Replacement	2007	7,774.00
Camp Holiday Trails Water Main	2007 - 2008	266,416.00
Georgetown Green Sanitary Sewer Rehab	2007 - 2008	123,352.00
Berkeley Sewer Relining	2007 - 2008	233,222.00
Stonehenge Sewer Relining	2007 - 2008	189,756.00
Barterbrook & Scottsville Sewer Relining	2007 - 2009	572,163.00
Northfields Phase 4 Sewer	2007 - 2010	481,627.00
King George Circle Water Replacement	2008	18,097.00
Avemore Water Extension	2008	27,508.00
Lockesley Terrace Sewer Replacement	2008	46,543.00
Canterbury Hills & Ednam Pump Stations	2008	69,749.00
Camelot WWTP Program	2008	4,969.00
Camelot WWTP Upgrade	2008 - 2009	258,277.00
Georgetown Green Pump Station Generator	2008 - 2009	66,304.00
Ragged Mountain Water Phases 2 & 3	2008 - 2009	331,673.00
Boar's Head Inn Sewer Replacement	2008 - 2010	350,413.00
Meadow Creek Drainage Basin Rehab	2008 - 2012	2,608,974.00
Oak Hill Phase 1 Sewer	2008 - 2012	995,351.00
Camelot Pressure Reducing Valve	2009	51,780.00
Frederick Circle Water Replacement	2009	32,030.00
Old Forge Sewer Pump Station	2009 - 2011	116,246.00
Canterbury Hills Water Replacement	2009 - 2011	690,211.00
Redfields Sewer Pump Station	2010	14,397.00
Camp Holiday Trails Water Quality Study	2010	76,473.00
Berwick Road Water Replacement	2010 - 2012	347,499.00
Buckingham Circle Water Replacement	2010 - 2013	802,977.00
North Fork Regional Pump Station	2008 - 2013	11,851,621.00
Hollymead Water Replacement	2010 - 2014	715,349.00
Boundary Valve Insertion	2011	46,975.00

Historic CIP Projects List 1997 - 2019

Project Name	Year Constructed	Total Cost
Shoppers World Water Replacement	2011	117,230.00
Arden Place Water Extension	2011	18,990.00
Brookway Aerial Sewer Crossing Repair	2011	63,083.00
Biscuit Run Drainage Basin Rehab	2011 - 2012	237,282.00
Large Meter - Random Meter Test Program	2011 - 2012	188,390.00
Water Tank Improvements	2011 - 2014	366,740.00
PVCC Sewer Main Relocation	2012	32,481.00
Woodbrook Drainage Basin Rehab	2012 - 2013	384,132.00
Glenmore Sewer Pump Station	2013	13,498.00
Shoppers World Sewer Replacement	2013	138,167.00
Greenfields Ct - Berkmar Dr Water Extension	2013	23,513.00
AHS Water Meter Relocation	2014	30,179.00
Montvue Water Replacement	2014	6,661.00
Glenmore WWTP Capacity Evaluation	2014	29,117.00
Red Hill Wellhouse	2014	16,294.00
University Commons Water Abandonment	2014 - 2015	17,082.00
Ashcroft Water Improvements & P.S. 1	2008 - 2015	1,308,498.00
Arc Flash Hazard Risk Assessment	2012 - 2015	367,593.00
Ednam Drainage Basin Rehab	2013 - 2015	121,118.00
Key West Water Replacement	2011 - 2016	3,788,949.00
Michie Tavern Water Replacement	2014 - 2016	617,083.00
PVCC Drainage Basin Rehab	2014 - 2016	208,411.00
Oak Hill Phase 2 Sewer	2014 - 2016	640,925.00
Route 250 Fire Hydrants Installation	2015	29,778.00
Water Storage Tank Maintenance Program	2015 - 2016	18,437.00
Airport Sewer Collector Upgrade Evaluation	2016	51,054.00
Bacteriological Sample Stations	2016	7,708.00
Automatic Flushing Assemblies	2015 - 2017	25,286.00
Westmoreland Water Replacement	2015 - 2017	1,747,287.00
Greenbrier Drive Sewer Replacement	2016 - 2017	323,644.00
Airport Sewer Collector Betterment	2017	59,340.00
Berkeley Water Replacement	2017	2,408,045.00
Barterbrook Phase 2 Water Replacement	2018	992,536.00
Miscellaneous Sewer Rehabilitation	2007 - 2018	3,300,629.00
SCADA System Phases 1 and 2	2010-2018	1,600,591.00
Fontana Loop Water Connections	2018	62,894.00
Camelot Drainage Basin Rehab*	2018 - 2019	277,168.00
Glenmore Drainage Basin Rehab*	2018 - 2019	358,068.00
		46,791,957.00
Less CDBG Contributions (Oak Hill Phases 1 & 2)		947,500.00
Subtotal		**45,844,457.00**
Total Completed		**59,160,082.00**

Historic CIP Projects List 1997 - 2019

Project Name	Year Constructed	Total Cost
Under Design/Construction		**Estimated Cost**
Glenmore Tank & Pump Station	2016 - 2019	2,153,716.00
Ashcroft Pump Station 2 & 3 Upgrade	2017 - 2019	1,215,882.00
Peter Jefferson Place Pump Station Improvem	2017 - 2019	512,068.00
Scottsville Phase 3 Water Replacement	2017 - 2019	765,531.00
SCADA System Phase 3	2017 - 2019	680,450.00
Oak Forest Pump Station Abandonment	2017 - 2019	945,033.00
Madison Park Pump Station Upgrade	2018 - 2019	495,249.00
Scottsville Water Tank Recoating	2018 - 2019	280,879.00
Meriwether Hill Water Replacement	2018 - 2019	1,936,350.00
Pantops Drainage Basin Rehab	2018 - 2019	315,100.00
Camelot Water Replacement	2017 - 2020	1,753,895.00
Jefferson Village Water Replacement	2018 - 2020	1,130,800.00
Hollymead Drainage Basin Rehab	2019 - 2020	454,700.00
Hessian Hills Water Replacement	2018 - 2021	3,132,600.00
Lewis Hill - West Leigh Water Connection	2019-2020	80,900.00
Crozet Water Replacement - Phase 4	2019-2022	3,361,300.00
Scottsville Phase 4 Water Replacement	2019 - 2023	1,357,200.00
Subtotal		**20,571,653.00**
Grand Total		**79,731,735.00**

* Projects near completion

Historical Capital Improvement Projects - Urban Area

Project Name	Project ID
AHS Water Meter Relocation	1
Airport Sewer Collector Betterment	2
Airport Sewer Collector Upgrade Evaluation	3
Arden Place Water Extension	4
Ashcroft Pump Station 2 & 3 Upgrade	5
Ashcroft Water Improvements & P.S. 1	6
Avemore Water Extension	7
Barterbrook & Scottsville Sewer Relining	8
Barterbrook Phase 2 Water Replacement	9
Bellair Water Main Replacement	10
Berkeley Sewer Relining	11
Berkeley Water Replacement	12
Berwick Road Water Replacement	13
Biscuit Run Drainage Basin Rehab	14
Boar's Head Inn Sewer Replacement	15
Branchlands Water Loop	16
Brookway Aerial Sewer Crossing Repair	17
Buckingham Circle Water Replacement	18
Camelot Drainage Basin Rehab	19
Camelot Pressure Reducing Valve	20
Camelot Water Replacement	21
Camelot WWTP Program	22
Camelot WWTP Upgrade	23
Camp Holiday Trails Water Main	24
Camp Holiday Trails Water Quality Study	25
Canterbury Hills & Ednam Pump Stations	26
Canterbury Hills Water Replacement	27
Colthurst Water Replacement	28
Country Green Road Water Main	29
Cumberland Road Water Replacement	30
Deerwood Water & Sewer Project	31
Ednam Drainage Basin Rehab	32
Flordon Water Replacement	33
Fontana Loop Water Connections	34
Frederick Circle Water Replacement	35
Georgetown Green Pump Station Generator	36
Georgetown Green Sanitary Sewer Rehab	37
Georgetown Green Water Improvements	38
Georgetown Square Water Replacement	39
Glenmore Drainage Basin Rehab	40
Glenmore Sewer Pump Station	41
Glenmore Tank & Pump Station	42
Glenmore WWTP Capacity Evaluation	43
Greenbrier Drive Sewer Replacement	44
Greenfields Ct - Berkmar Dr Water Extension	45
Hessian Hills Water Replacement	46
Hollymead Drainage Basin Rehab	47
Hollymead Water Replacement	48
Ivy Rd - Flordon Water Connection & Ednam PS Upgrade	49
Jefferson Village Water Replacement	50
Jouett - Greer Water Main Replacement	51
Key West Water Replacement	52
King George Circle Water Replacement	53
Lampkin Way Water Connection	54
Lewis Hill - West Leigh Water Connection	55
Lockesley Terrace Sewer Replacement	56
Madison Park Pump Station Upgrade	57
Meadow Creek Drainage Basin Rehab	58
Meriwether Hill Water Replacement	59
Michie Tavern Water Replacement	60
Montvue Water Replacement	61
North Fork Regional Pump Station	62

Project Name	Project ID
Northfields Phase 2 Sewer	63
Northfields Phase 3 Sewer	64
Northfields Phase 4 Sewer	65
Oak Forest Pump Station Abandonment	66
Oak Hill Phase 1 Sewer	67
Oak Hill Phase 2 Sewer	68
Oak Hill Water Replacement	69
Old Forge Sewer Pump Station	70
Owensville Road Water Main	71
Pantops Drainage Basin Rehab	72
Pen Park Lane Water Replacement	73
Peter Jefferson Place Pump Station Improvements	74
PVCC Drainage Basin Rehab	75
PVCC Sewer Main Relocation	76
Ragged Mountain Water Phases 2 & 3	77
Red Hill Wellhouse	78
Redfields Sewer Pump Station	79
Route 250 Fire Hydrants Installation	80
Route 250 West Water Improvements	81
Sherwood Manor Sewer Relining	82
Sherwood Manor Water Replacement	83
Shoppers World Sewer Replacement	84
Shoppers World Water Replacement	85
Stonehenge Sewer Relining	86
Turtle Creek Water Service Replacement	87
University Commons Water Abandonment	88
West Leigh Drive Water Replacement	89
West Leigh Phase 2 Water Replacement	90
West Leigh Phase 3 Water Replacement	91
West Woods Water Replacement	92
Westmoreland Water Replacement	93
Woodbrook Drainage Basin Rehab	94
Woodbrook Water Replacement	95

Projects Not Displayed on Map

- Arc Flash Hazard Risk Assessment
- Automatic Flushing Assemblies
- Bacteriological Sample Stations
- Boundary Valve Insertion
- Large Meter - Random Meter Test Program
- Meter Vault Replacements
- Miscellaneous Sewer Rehabilitation
- SCADA System Phase 3
- SCADA System Phases 1 and 2
- Water Storage Tank Maintenance Program
- Water Tank Improvements

Albemarle County Service Authority

Historical Capital Improvement Projects - Urban Area

WHITE HALL

RIO

RIVANNA

JACK JOUETT

SAMUEL MILLER

City of Charlottesville

SCOTTSVILLE

Red Hill Wellhouse (Off the Page)

Legend

CIP Projects

Project Status

- Complete
- In Progress

Albemarle County Service Authority

Historical Capital Improvement Projects - Scottsville

Scottsville Altitude Valve
Scottsville Water Tank Recoating
Scottsville PRV
Scottsville Phase 4 Water Replacement
Scottsville Phase 1 Water & Sewer
Scottsville Phase 1 Water & Sewer
Confederate Street Water Replacement
Hardware Street Water Extension
Scottsville Water Replacement
Scottsville Phase 2 Sewer
Scottsville Streetscape Water Improvements
Jackson Street Water Replacement
Scottsville Fire Hydrant Replacement
Scottsville Phase 3 Water Replacement
Scottsville Phase 1 Water & Sewer
Scottsville Phase 4 Water Replacement
Scottsville Drainage Basin Rehab

BLENHEIM RD
20
PINE RD
HOLLY RD
DENNIS RD
MOONSHADOW LN
FAIRHUNT DR
IRISH RD
SCOTTSVILLE CTR
WHITE PINE ST
HIGH MEADOWS LN
OVERLOOK HTS
ROBINS POINT PL
MOUNTAIN VISTA RD
BALDWIN AVE
HAYMAN ST
HARDWARE ST
WARREN ST
MOORES HL
POPLAR SPRING RD
JAMES RIVER RD
Scottsville
E MAIN ST
BIRD ST
PAGE ST
VALLEY ST

Albemarle County Service Authority
Serving Conserving

0 0.1 0.2 0.3 0.4 Miles

Legend

CIP Projects

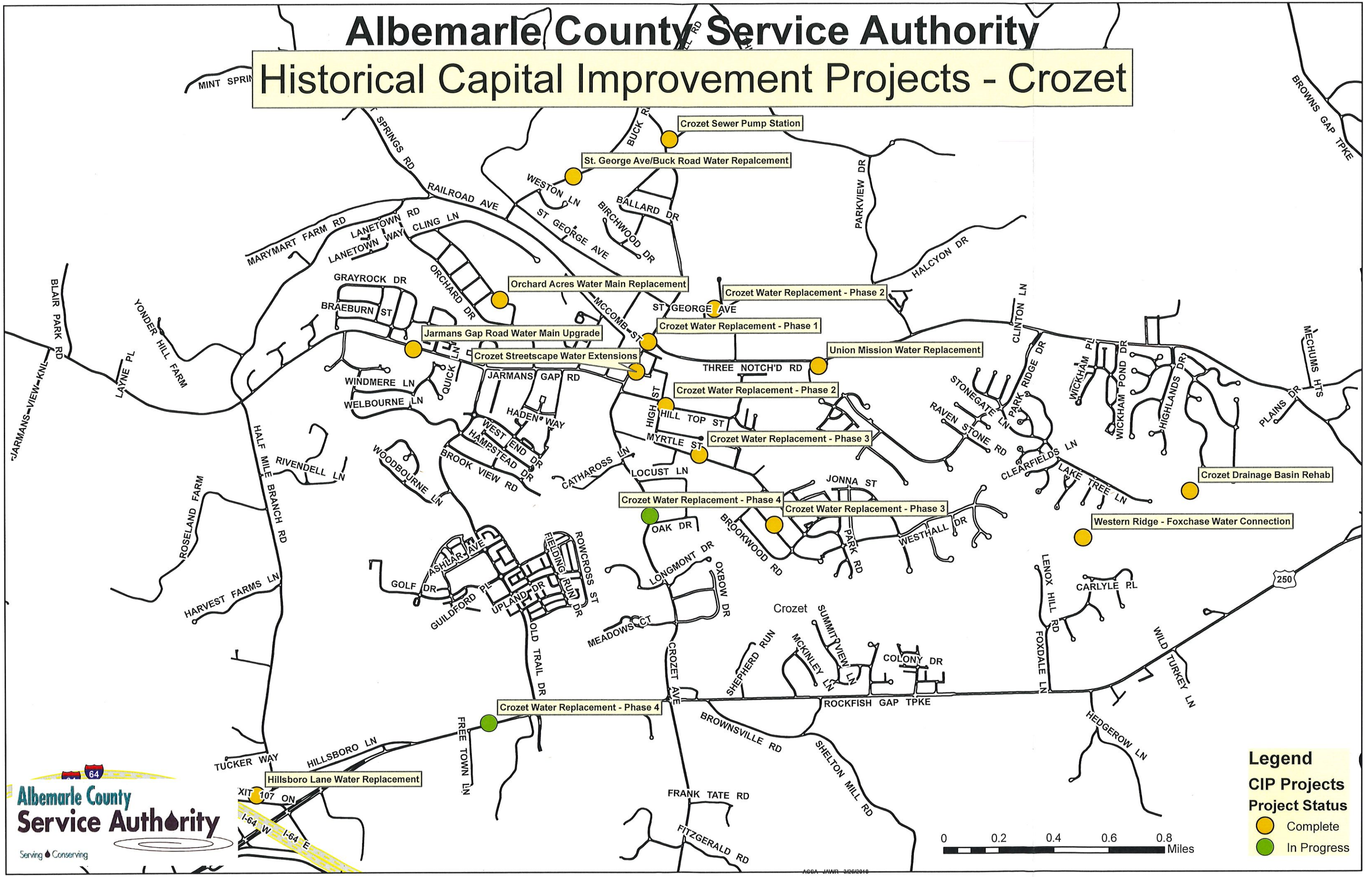
Project Status

- Complete
- In Progress

ACSA JAWR 3/26/2018

Albemarle County Service Authority

Historical Capital Improvement Projects - Crozet



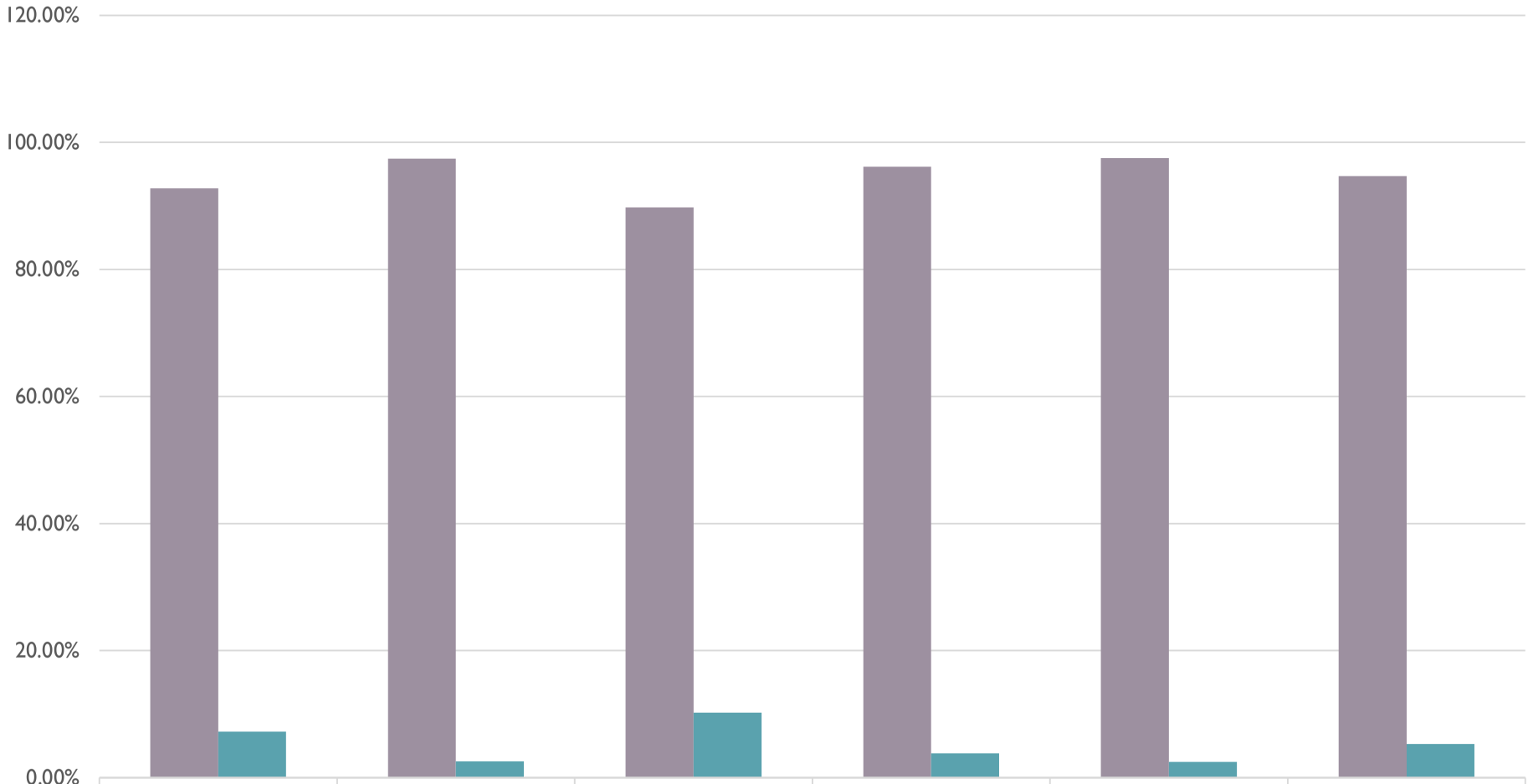
Presentation to Albemarle County Board of Supervisors

July 3, 2019

Albemarle County Service Authority

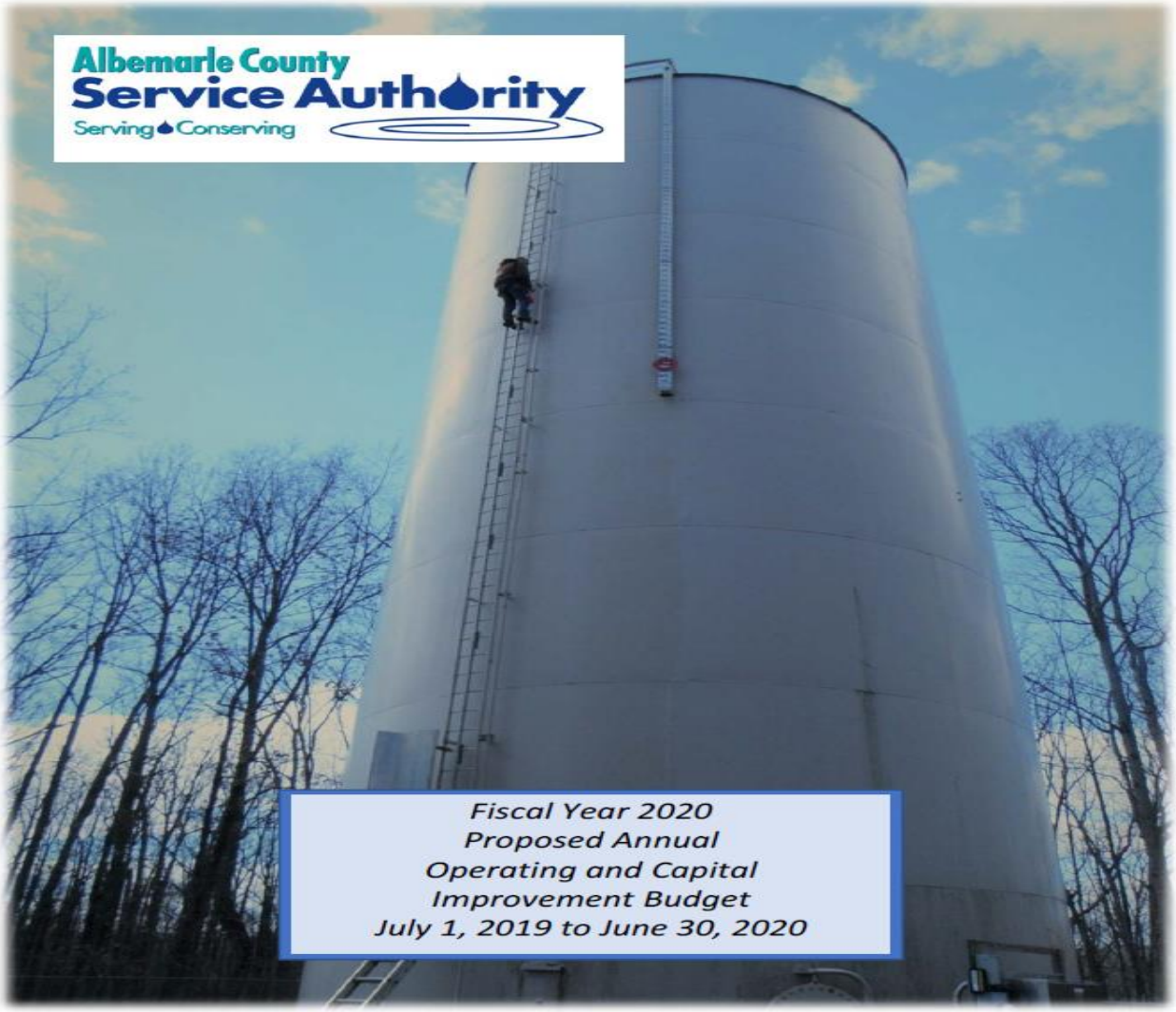
Serving & Conserving

Customer Survey Overall Rankings



	Overall Quality of Your Water	Information Provided About Your Water	Water Rates	Communication	Overall Quality of Customer Service	Overall Customer Satisfaction
Satisfied	92.76%	97.43%	89.75%	96.16%	97.52%	94.72%
Dissatisfied	7.24%	2.57%	10.25%	3.84%	2.48%	5.28%

Fiscal Year 2020
ACSA Budget & Rates



Clean, Safe, Reliable

Vision

Serve and conserve today,
sustain for tomorrow, and protect our resources forever.

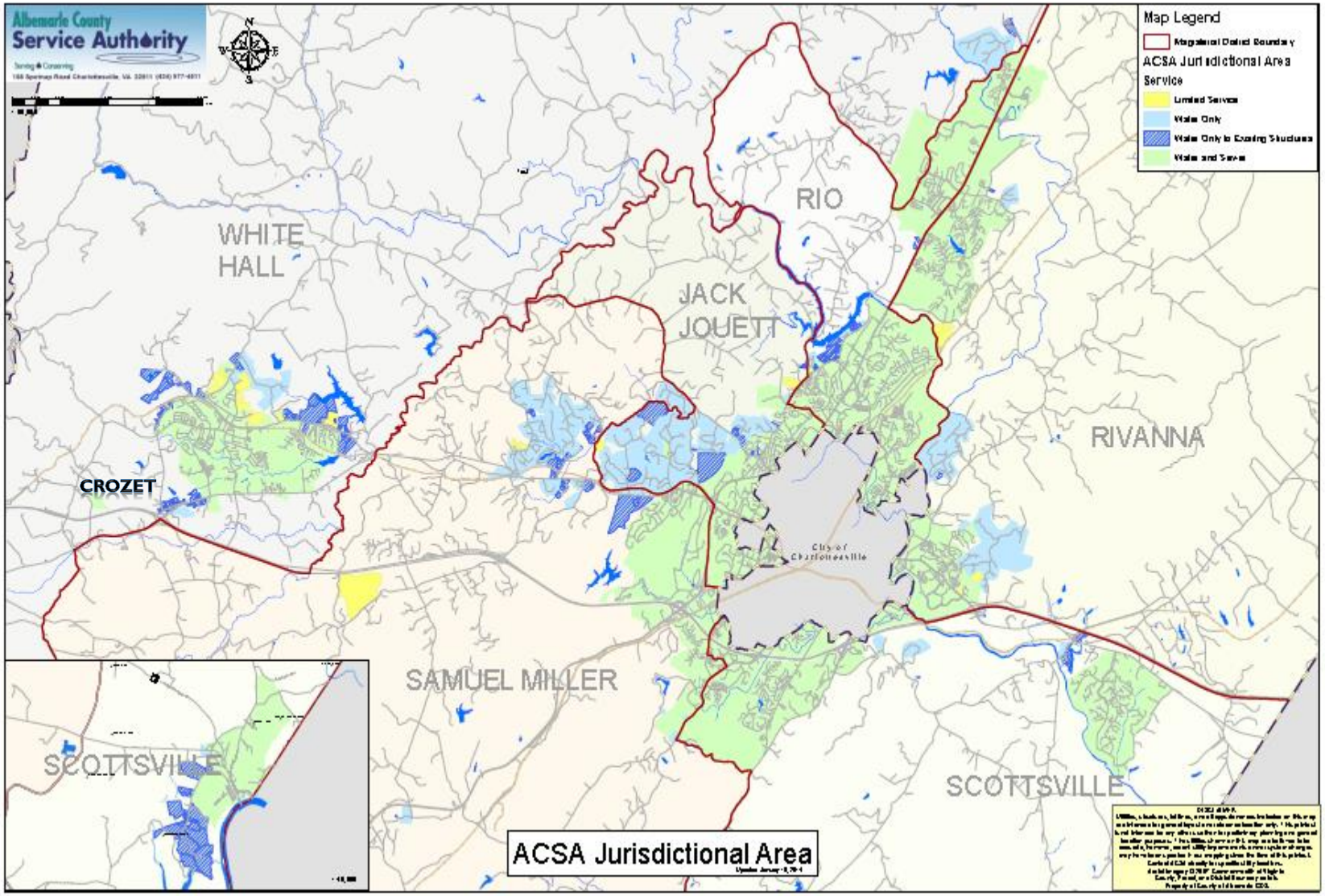
Mission

With pride and dedication we serve our customers by providing clean safe water, exemplary wastewater services, and fire protection infrastructure. Together with our community partners we maintain and improve our utility system in a timely, cooperative, and financially responsible manner.

Albemarle County Service Authority (ACSA)

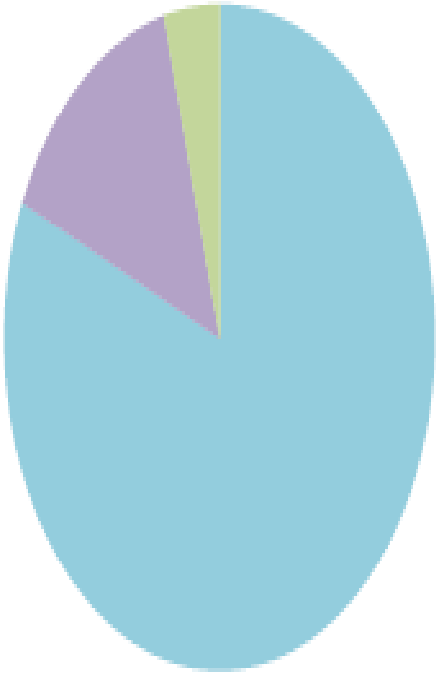
- Founded in 1964
- Serving 75,000+ customers
- 20,100+ water accounts and growing
- 78 Employees
- 349 miles of Water Lines
- 292 miles of Sanitary Sewer Lines
- 20 Pump Stations
- 8 Water Storage Tanks
- 2,650 Fire Hydrants

ACSA Service Area



Revenue Streams

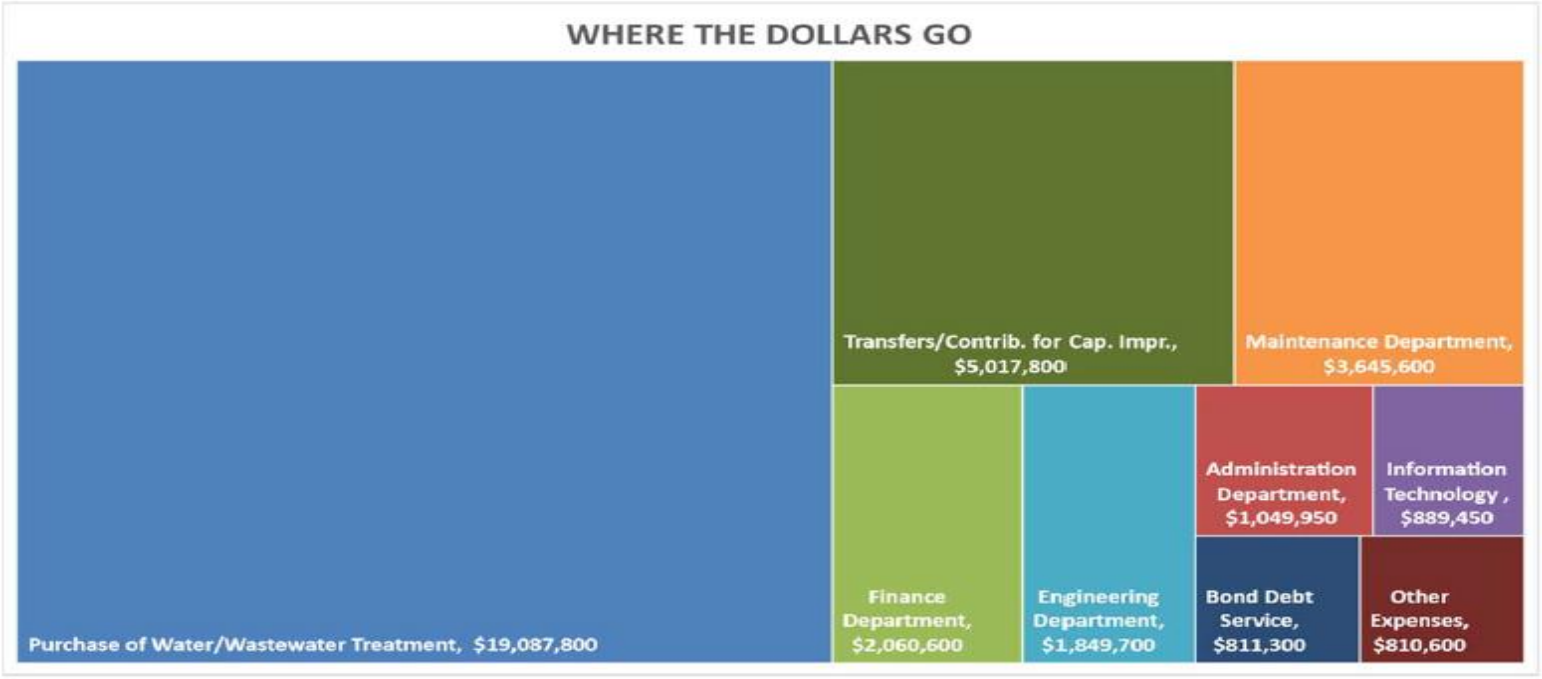
Where the Dollars Come From



Water/Sewer Charges	$28,757,800	81.64%
System Connection Charges	$ 5,000,000	14.20%
Other Revenues	$ 1,465,000	4.16%
Total Budgeted Revenues	$35,222,800	100.00%

Expenses

- Purchased Water/Wastewater
  - **$19,087,800**
- Operating Departments
  - **$ 9,495,300**
- Capital Improvements/Non-Operating
  - **$ 6,639,700**



Water and Sewer Rates- FY 2020

The proposed increase in monthly user water and sewer rates is due to:

- RWSA Urban, Crozet, and Scottsville Water increases of 3.0%, 19.8%, and 13.4%, respectively
- RWSA Urban wastewater treatment rate increase of 17.2%;
- Total operating budget increase of 5.6%

ACSA Water and Sewer Monthly User Rates

	FY 2019	FY 2020
Service Charge	$ 8.16	$ 8.57
Volume Charge - Single-Family Residential (per 1,000 gallons)		
Level 1 (0-3,000 gallons)	$ 4.27	$ 4.48
Level 2 (3,001-6,000 gallons)	$ 8.55	$ 8.98
Level 3 (6,001-9,000 gallons)	$12.82	$13.46
Level 4 (over 9,000 gallons)	$17.10	$17.96
Multi-Family/Non-Residential (per 1,000 gallons)	$ 8.25	$ 8.66
Sewer/All Users (per 1,000 gallons)	$ 8.93	$ 9.47

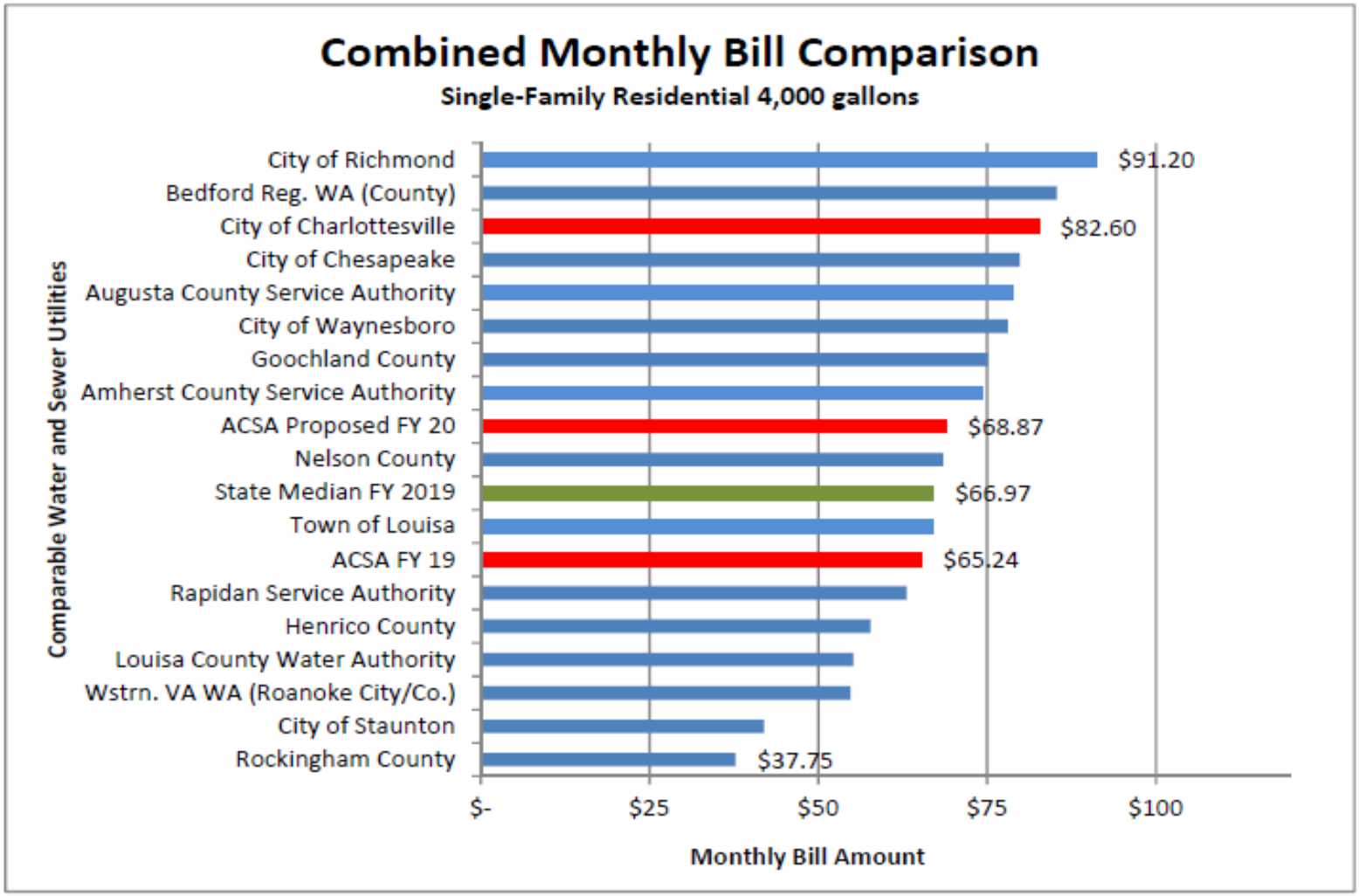
Sample Monthly Combined Bill

Combined Water and Sewer	Meter Size	Monthly Usage (gallons)	Current Bill	Recommended FY 2020 Bill	Monthly $ Increase	Monthly % Increase
Single-Family						
Minimal User	5/8"	1,200	$ 24.00	$ 25.31	$1.31	5.46%
Small User	5/8"	2,500	$ 41.16	$ 43.45	$2.29	5.56%
Median	5/8"	3,400	$ 54.75	$ 57.80	$3.05	5.57%
Large User	5/8"	6,200	$ 104.55	$ 110.36	$5.81	5.56%
Excessive User	5/8"	7,700	$ 137.18	$ 144.75	$7.57	5.52%
Multi-Family/Non-Residential						
Multi-Family	1"	33,700	$ 594.65	$ 627.44	$32.79	5.51%
Com. (Offices)	1"	6,300	$ 123.91	$ 130.68	$ 6.77	5.46%
Com. (Other)	5/8"	4,700	$ 88.91	$ 93.78	$ 4.87	5.48%
Industrial	1 ½"	16,500	$311.71	$328.80	$17.09	5.48%
Institutional	5/8"	13,000	$ 231.50	$ 244.26	$ 12.76	5.51%

Value of Water

=

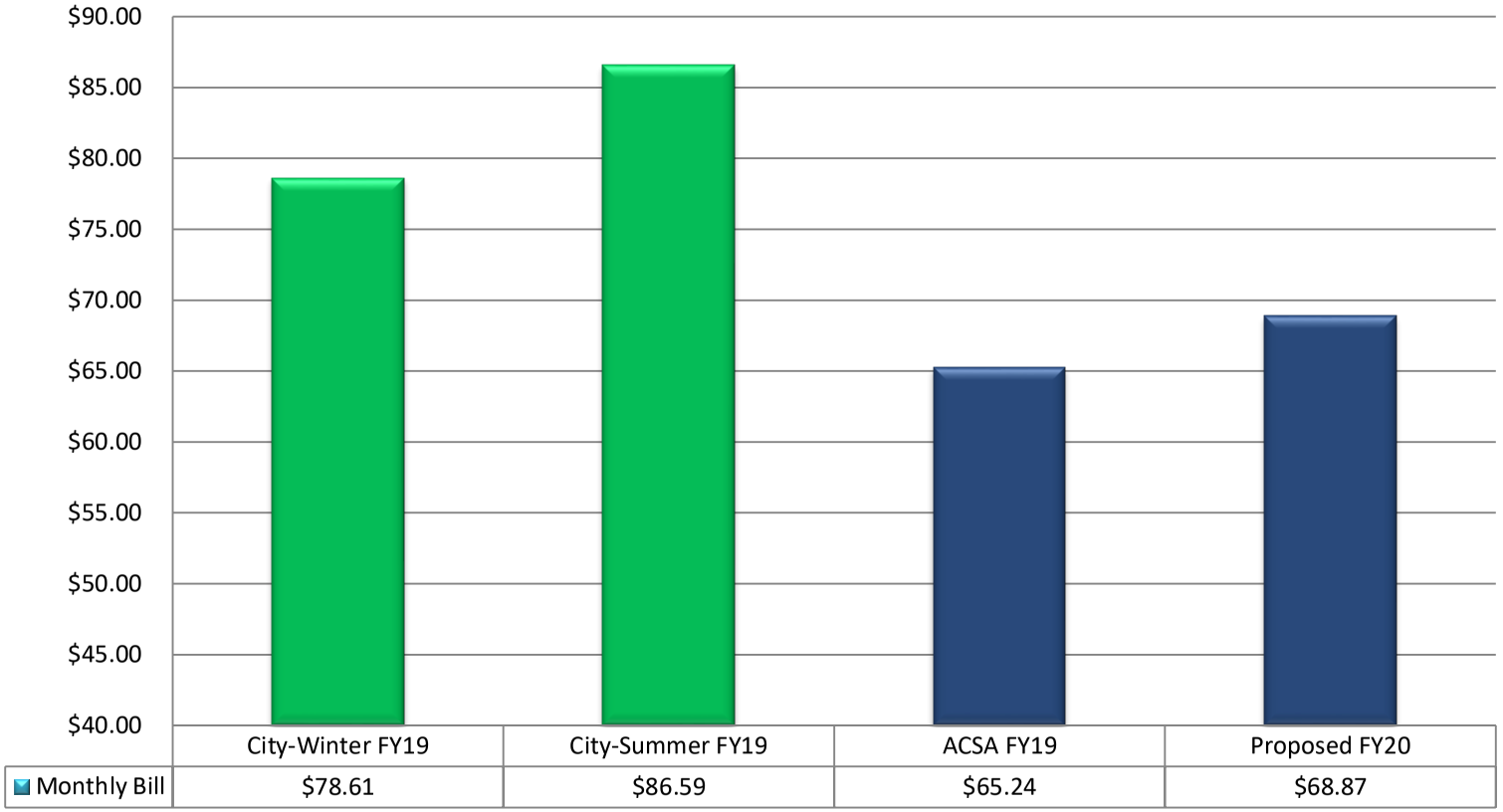
ACSA vs. Virginia Water Utilities



Source: The 30th Annual Virginia Water and Wastewater Rate Report 2018, https://daa.com/resources/2018-va-www-rate-report/

ACSA/City of Charlottesville Comparison

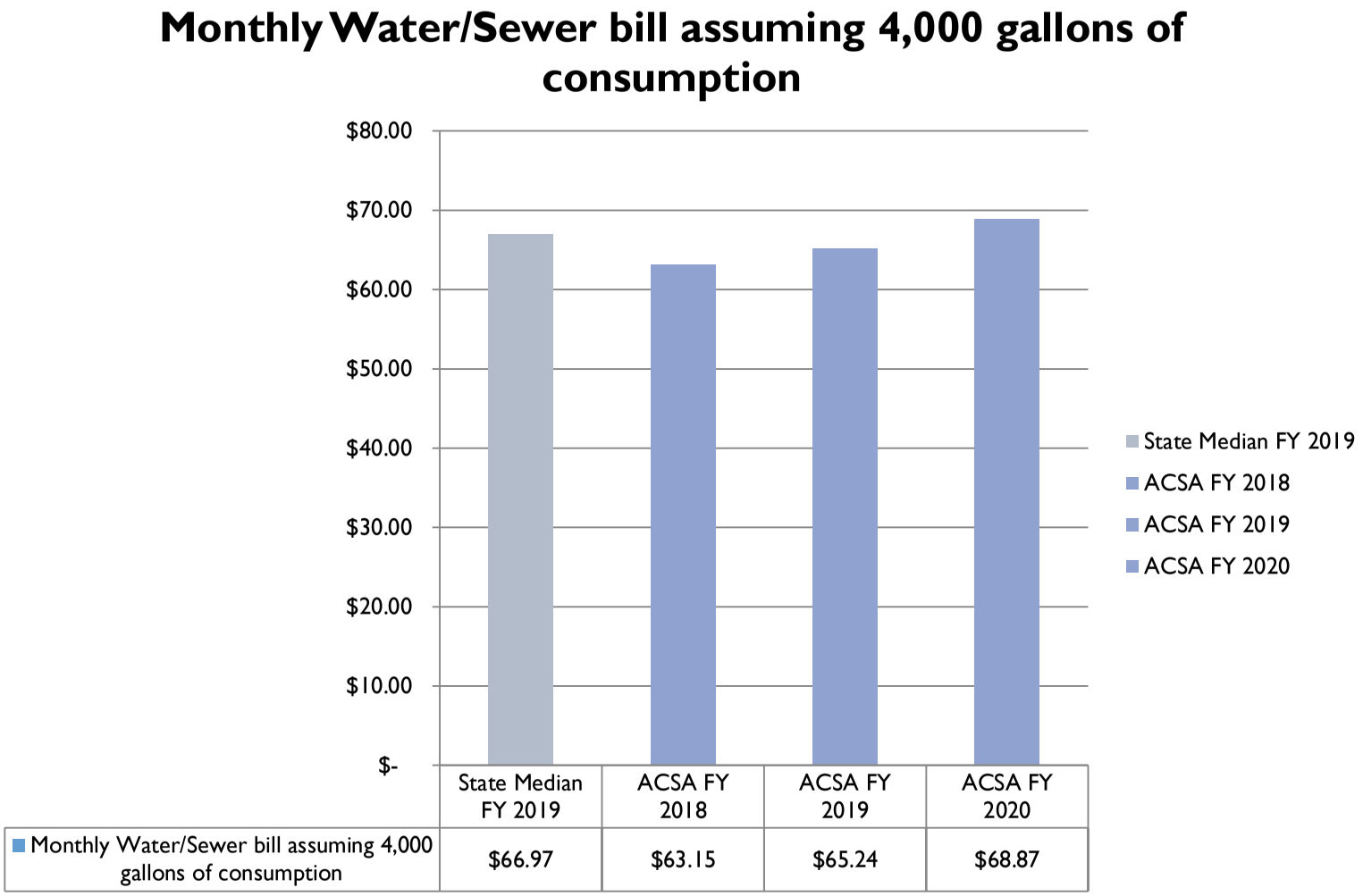
Customer Water/Wastewater Bill (4,000 gallons)



	City-Winter FY19	City-Summer FY19	ACSA FY19	Proposed FY20
Monthly Bill	$78.61	$86.59	$65.24	$68.87

Assuming the details noted above, an ACSA customer's bill at the FY 20 proposed rates, would be 12% - 20% less than a comparable bill from the City (using the most current rates available or FY 19), plus the City charges a 10% Utility tax in addition to the monthly bill on consumption (not reflected in the City's bill above).

Monthly Bill by Fiscal Year



	State Median FY 2019	ACSA FY 2018	ACSA FY 2019	ACSA FY 2020
Monthly Water/Sewer bill assuming 4,000 gallons of consumption	$66.97	$63.15	$65.24	$68.87

Growth Paying for Growth

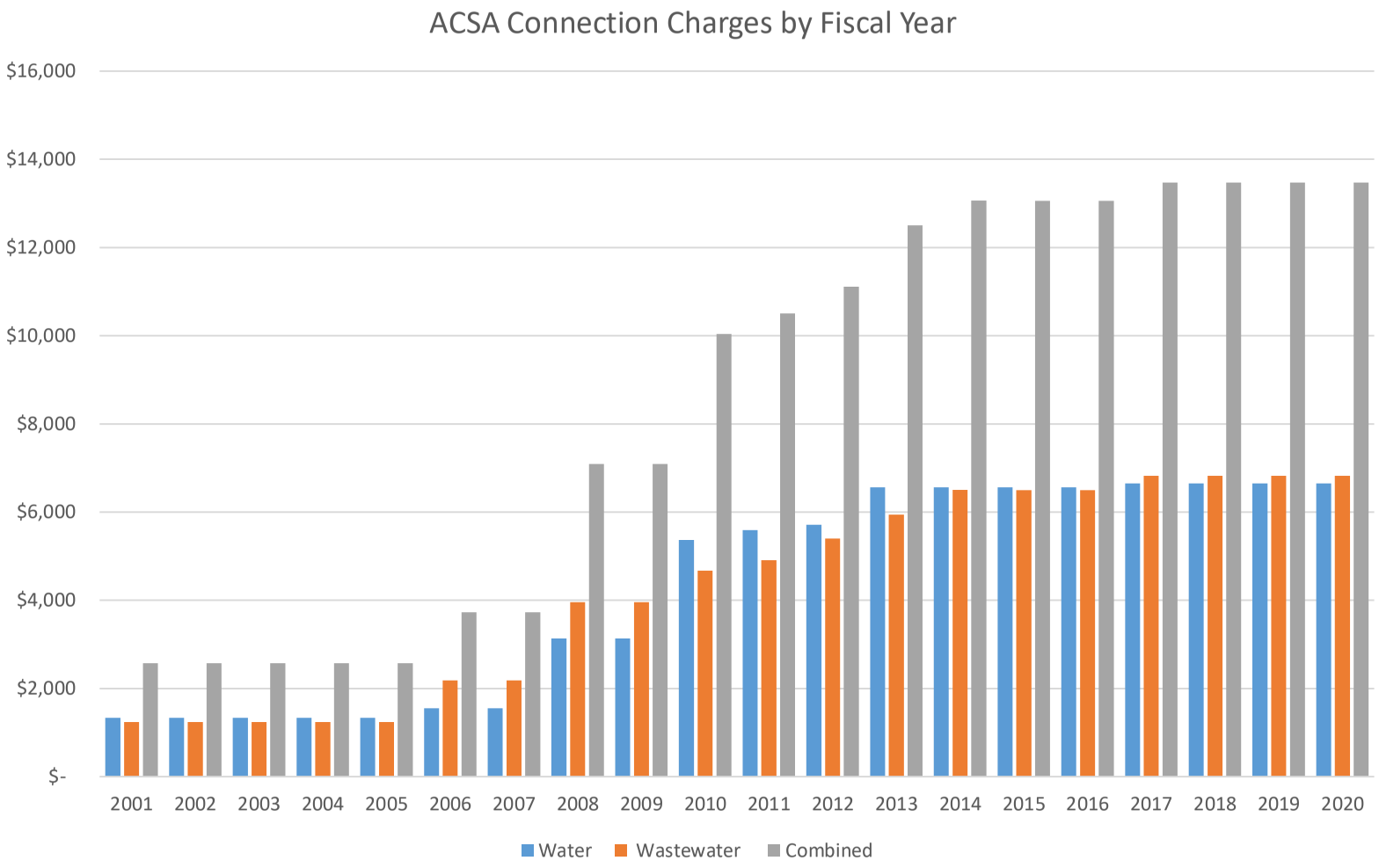
- "Growth Paying for Growth" policy
- Establishment of reserves to fund growth related expenses in future years, to help keep customer rates lower
- Identification of growth related expenses/capital projects, mostly RWSA
  - Debt service costs passed on to ACSA for growth related projects from RWSA
  - Growth related capital project costs incurred under the ACSA's CIP program.

System Connection Charges

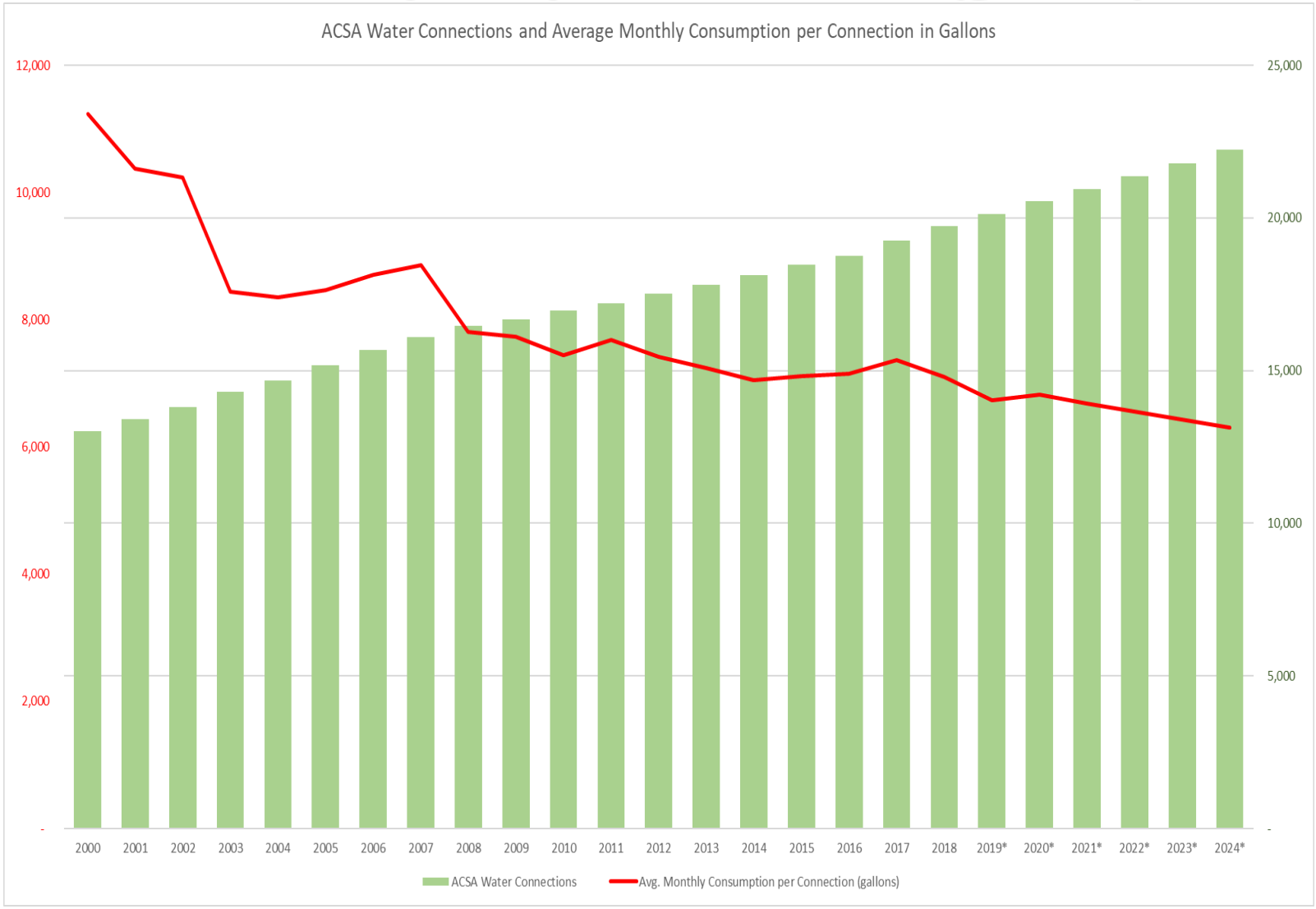
		FY 2019	FY 2020
ACSA System Development Charge	Water Wastewater	$1,890* $2,970*	$1,890* $2,970*
RWSA Capacity Charge	Water Wastewater	$4,760* $3,850*	$4,760* $3,850*
	Total	$13,470*	$13,470*
		*per ERC (equivalent residential connection)	

Based on update of the rate model, no changes are recommended for FY 2020.

ACSA Development/ RWSA Capacity Charges

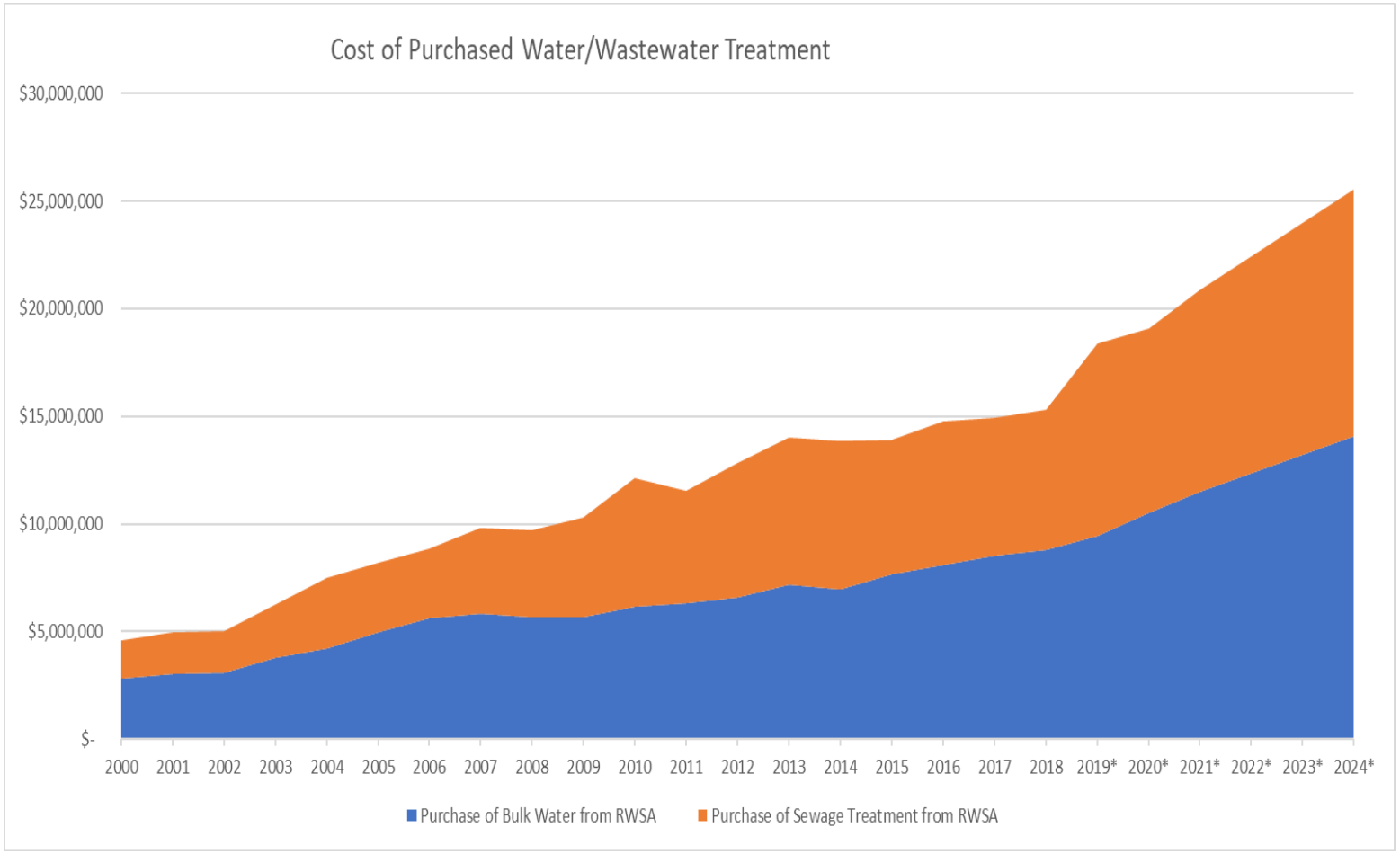


ACSA Water Connections and Average Monthly Consumption per Connection (gallons)



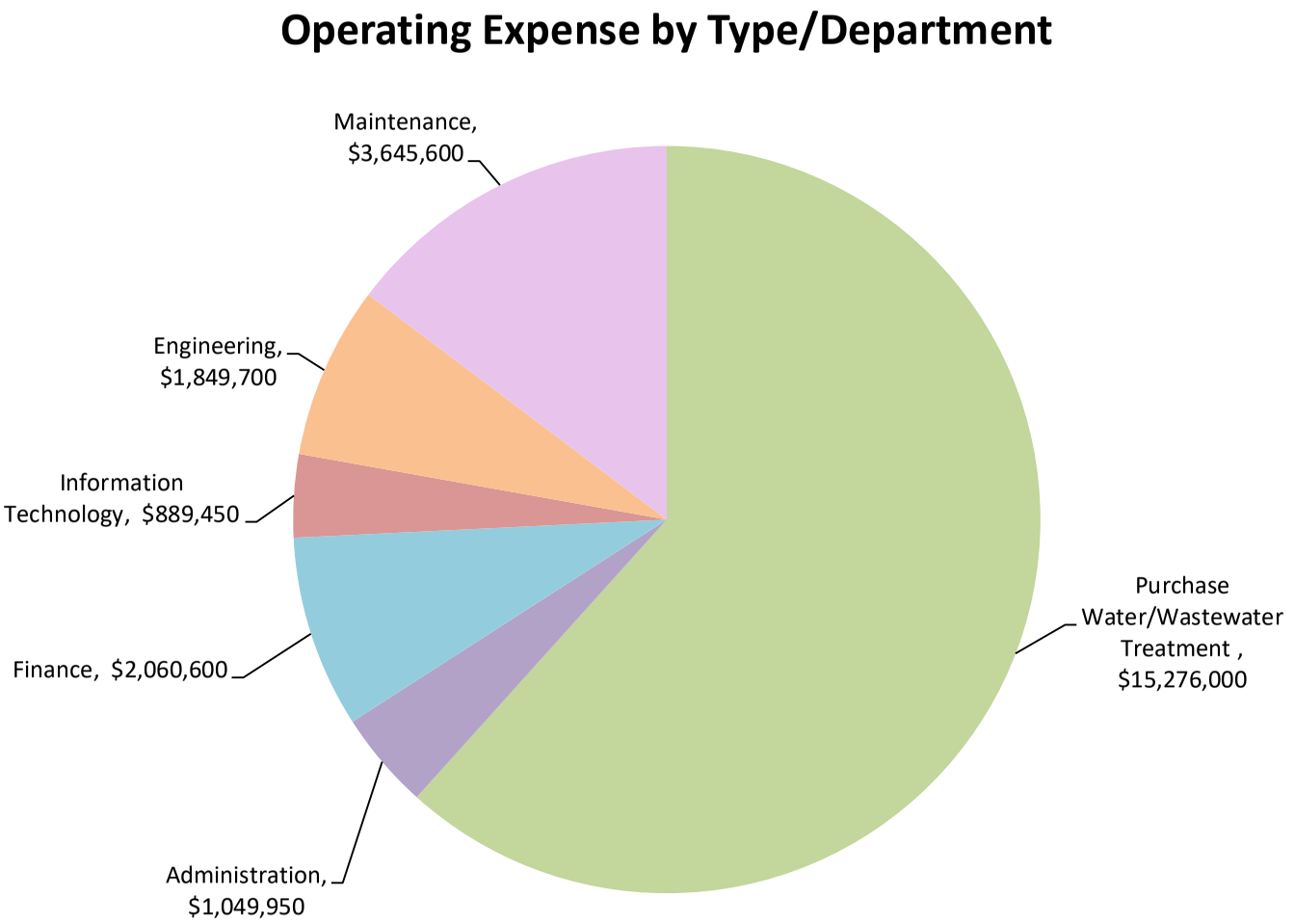
* -- Budgeted/projected

Cost of Water/Sewer Treatment (Actual from FY 00-FY18)



* -- FY 19 expenses projected for remainder of fiscal year. Amounts shown for FY 2021-2024 estimated based on information from the RWSA.

ACSA Operating Budget

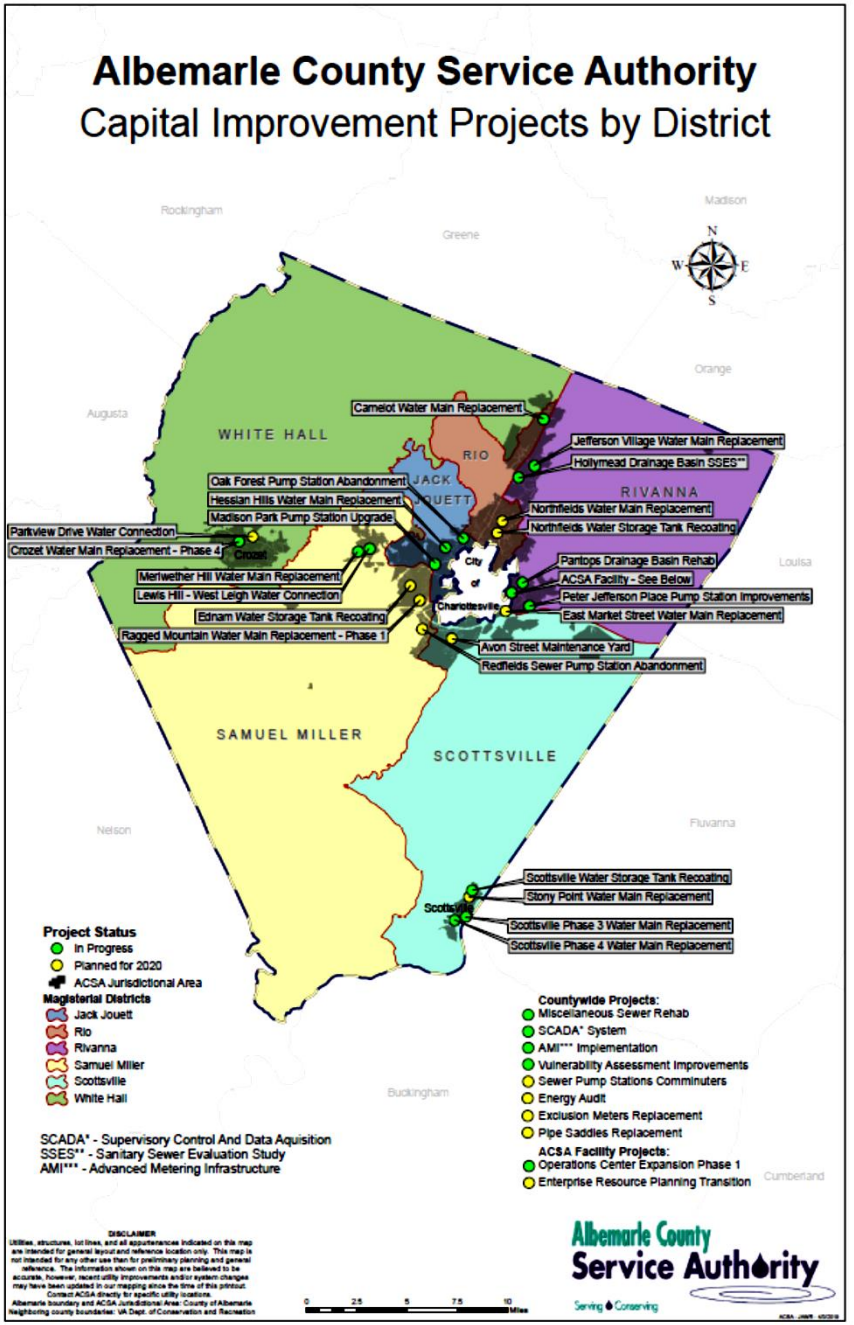


Capital Improvement Program (CIP)

Proposed FY 2020

Project Type	Proposed Cost
Water Projects	$ 7,296,925
Wastewater Projects	3,100,375
Total	$ 10,397,300

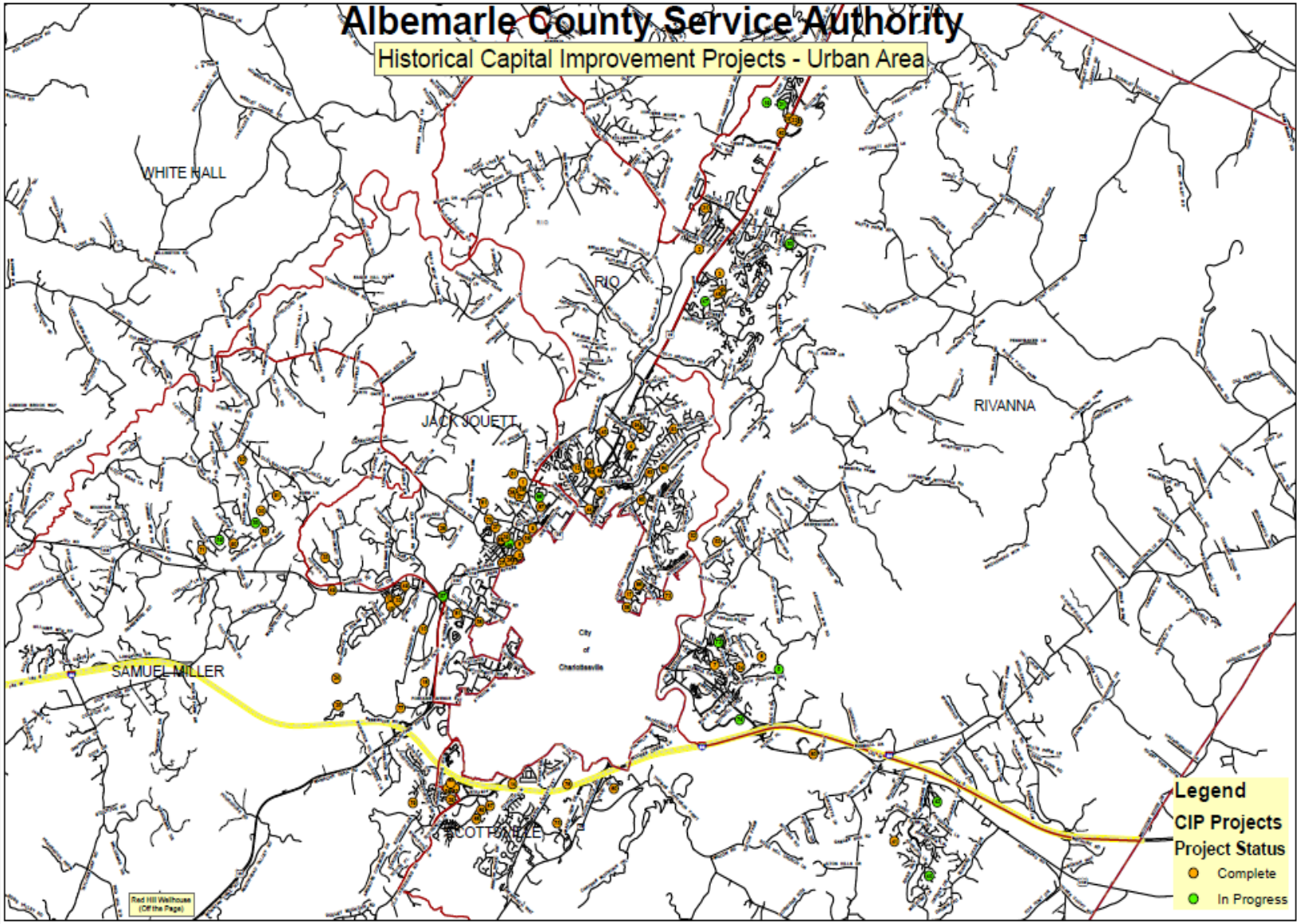
- CIP Map


Albemarle County Service Authority
Capital Improvement Projects by District
Rockingham
Madison
Greene
Orange
Augusta
Louisa
Nelson
Fluvanna
Buckingham
Cumberland
WHITE HALL
RIO
JACK JOUETT
RIVANNA
SAMUEL MILLER
SCOTTSVILLE
Camelot Water Main Replacement
Jefferson Village Water Main Replacement
Hollymead Drainage Basin SSES**
Oak Forest Pump Station Abandonment
Hessian Hills Water Main Replacement
Madison Park Pump Station Upgrade
Northfields Water Main Replacement
Northfields Water Storage Tank Recoating
Parkview Drive Water Connection
Crozet Water Main Replacement - Phase 4
Crozet
Pantops Drainage Basin Rehab
ACSA Facility - See Below
Meriwether Hill Water Main Replacement
Lewis Hill - West Leigh Water Connection
Peter Jefferson Place Pump Station Improvements
East Market Street Water Main Replacement
Ednam Water Storage Tank Recoating
Ragged Mountain Water Main Replacement - Phase 1
Avon Street Maintenance Yard
Redfields Sewer Pump Station Abandonment
City of Charlottesville
Scottsville Water Storage Tank Recoating
Stony Point Water Main Replacement
Scottsville
Scottsville Phase 3 Water Main Replacement
Scottsville Phase 4 Water Main Replacement
Project Status
In Progress
Planned for 2020
ACSA Jurisdictional Area
Magisterial Districts
Jack Jouett
Rio
Rivanna
Samuel Miller
Scottsville
White Hall
Countywide Projects:
Miscellaneous Sewer Rehab
SCADA* System
AMI*** Implementation
Vulnerability Assessment Improvements
Sewer Pump Stations Comminuters
Energy Audit
Exclusion Meters Replacement
Pipe Saddles Replacement
ACSA Facility Projects:
Operations Center Expansion Phase 1
Enterprise Resource Planning Transition
SCADA* - Supervisory Control And Data Aquisition
SSES** - Sanitary Sewer Evaluation Study
AMI*** - Advanced Metering Infrastructure
DISCLAIMER
Albemarle County Service Authority
Serving Conserving

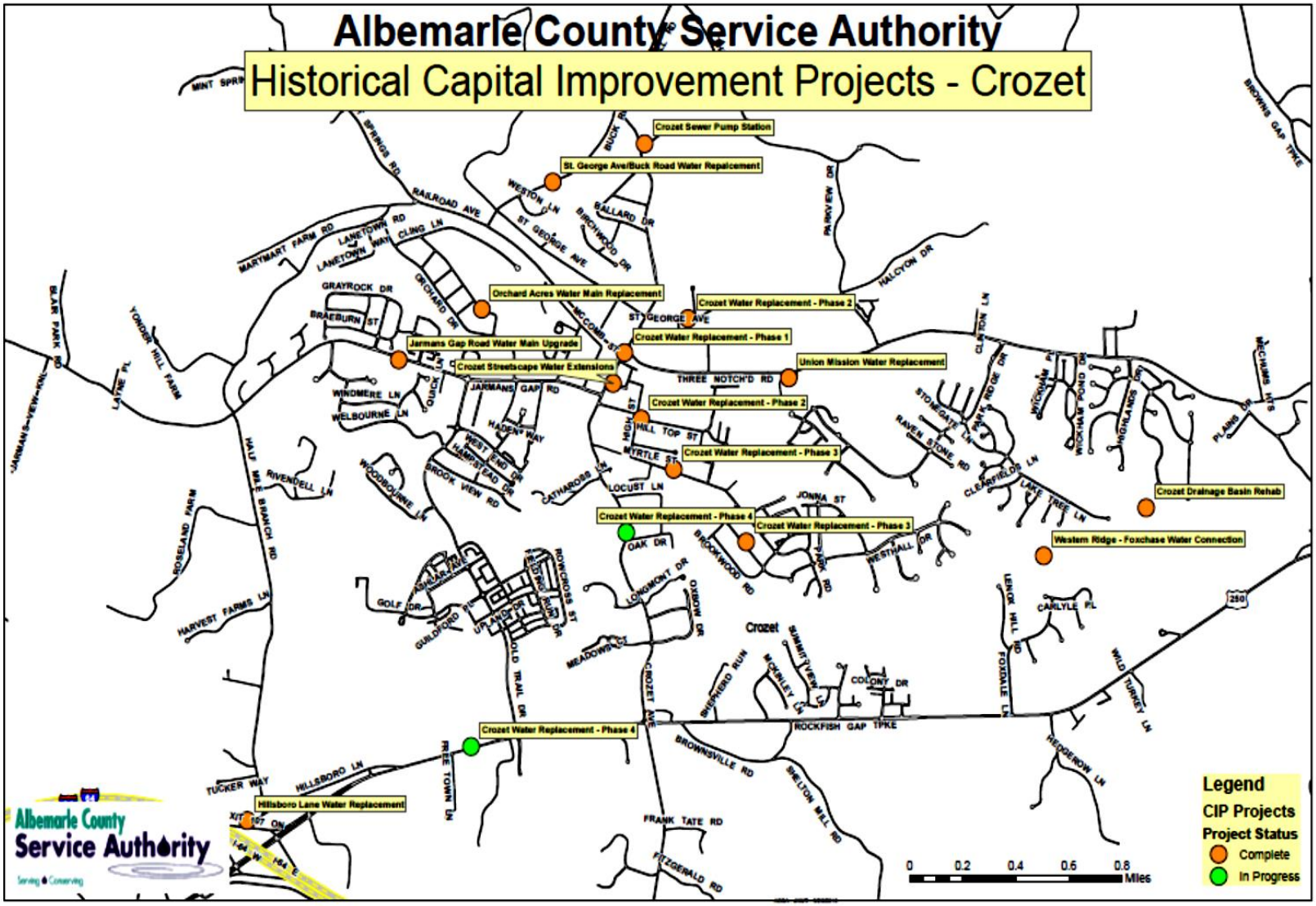
- **ACSA Capital Projects Investments**
  - Nearly $80 million ($79.731m)
  - Urban Area, Crozet and Scottsville
  - Keeping the Infrastructure Up-to-date
  - Major Component of each Annual Budget

Albemarle County Service Authority
Serving Conserving

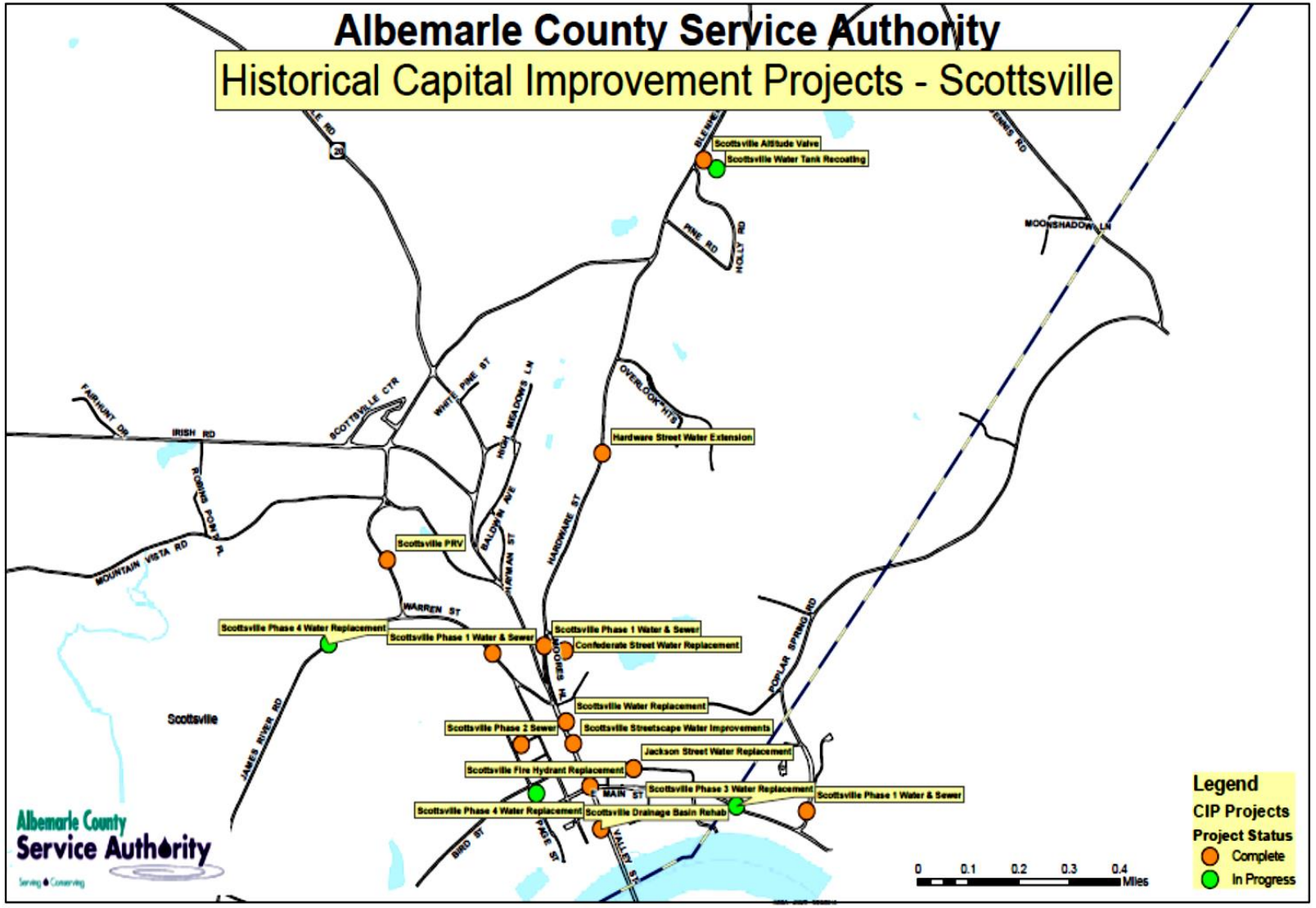
5-Year CIP Investment Map for Urban Area



CIP Investment Area For Crozet



CIP Investment Area for Scottsville



Questions?