JOHN O. MOORE
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DEPARTMENT OF PUBLIC SERVICE
166 S. High St., Room 201
Akron, OH 44308-1657

August 7, 2015

Susan Hedman
Administrator
USEPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Subject: Akron CSO Program, Akron Waterways Renewed!, Integrated Plan

Dear Ms. Hedman,

The City of Akron is pleased to submit the attached *City of Akron Integrated Plan* dated July 31, 2015 and *Financial Capability Assessment* dated August 7, 2015. Combined, both plans serve as the basis for future improvements to Akron's current Consent Decree and Long Time Control Plan.

Akron has developed its Integrated Plan in accordance with the USEPA guidelines and presents the key findings of Akron's integrated planning efforts with a goal of developing an "equal or better environmental plan at a more affordable cost". This plan was developed in concert with our City Council, IP Stakeholders, and environmental partners.

We appreciate your review and look forward to an opportunity to provide an overview in person to USEPA, the State of Ohio EPA, and the Department of Justice.

Respectfully,

John O. Moore
Service Director
City of Akron

Attachments: Akron Integrated Plan and Financial Capabilities Analysis Update

Mayor
Jeff Fusco

Service Director
John O. Moore

Deputy Service Director
Phillip J. Montgomery

City of Akron

2015 Baseline Financial Capability Assessment with Integrated Plan Scenario

August 7, 2015

AkronWaterways Renewed!

Revision	Date	Detail
0	July 16, 2014	Initial Draft: *2014 Baseline Financial Capability Assessment*
1	Sept. 11, 2014	Revised Draft (WARi™ analysis added): *2014 Baseline Financial Capability Assessment – Enhanced Methodology*
2	Aug. 7, 2015	Update 2015, Incorporation of Master Meter customer information: *2015 Baseline Financial Capability Assessment with Integrated Plan Scenario*

TABLE OF CONTENTS

Figures

Tables

Appendices

ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
AIS	Annual Informational Statement
Akron	City of Akron
AWWA	American Water Works Association
CAFR	Comprehensive Annual Financial Report
CD	Consent Decree
CIP	Capital Improvement Program
City	City of Akron
CMOM	Capacity, Management, Operations, and Maintenance
CPH	cost per household
CPI	Consumer Price Index
CSO	Combined Sewer Overflow
CWA	Clean Water Act
USEPA Guidance	USEPA's 1997 *CSO Guidance for Financial Capability Assessment and Schedule Development*
FCA	Financial Capability Assessment for Municipal Clean Water Act Requirements
Fitch	Fitch Ratings
GIS	Geographic Information System
HCF	hundred cubic feet
Integrated Planning Framework	Integrated Municipal Stormwater and Wastewater Planning Approach Framework
LTCP	Long Term Control Plan
MHI	Median Household Income
MIS	Moody Investors Service
MM	Master Meter
Moody's	Moody Investors Service
O&M	Operations and Maintenance
OCIT	Ohio Canal Interceptor Tunnel
Ohio EPA	Ohio Environmental Protection Agency
OWDA	Ohio Water Development Authority
PAYGO	pay-as-you-go
R&R	rehabilitation and replacement
S&P	Standard and Poor's Corporation
Typical Year	adjusted 1994 Typical Year
USCM	U.S. Conference of Mayors
USEPA	U.S. Environmental Protection Agency
WARi	Weighted Average Residential Index
WEF	Water Environment Federation
WPCLF	Water Pollution Control Loan Fund
WPCS	Water Pollution Control Station

1.0 INTRODUCTION

This 2015 baseline analysis presents discussion and measurements of the City of Akron's ("City" or "Akron" in this report) financial capability to undertake water quality related capital improvements as presented in its 2010 Combined Sewer Overflow (CSO) Long-Term Control Plan (LTCP) Update. The purpose of the LTCP is to comply with regulatory requirements of U.S. Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (Ohio EPA). The Financial Capability Assessment follows USEPA's 1997 CSO Guidance for Financial Capability Assessment and Schedule Development (herein referred to as USEPA Guidance).[1] The current state of affordability as evaluated under the USEPA Guidance for the City's residential customers of the 2010 LTCP is updated for current cost estimates for 2015. The purpose of this report is to provide an assessment of the baseline 2015 LTCP Update's financial burden on the City. In addition, an assessment of the City's financial capability under the Integrated Plan Scenario 2040 is presented.

In this report, Baseline Scenario 2040 is the original set of LTCP projects with a compliance schedule extended by 13 years to 2040, and current City non-LTCP projects for wastewater and stormwater infrastructure needs. The Integrated Plan Scenario 2040 is a set of current and alternative LTCP projects with current City non-LTCP projects for wastewater and stormwater infrastructure needs.

It is important to note that the City's use of the USEPA Guidance in the preparation of this Financial Capability Assessment is not an acknowledgment that the City believes the methodology in the USEPA Guidance accurately predicts a community's financial capability to meet its Clean Water Act (CWA) and other regulatory obligations. The assessment of financial capability as described in USEPA Guidance is a general snapshot of affordability and does not present a true picture of the unreasonable financial burden currently existing for the City's retail customers. Section 6 of this report provides a better indication of the true impact of CWA requirements on the City's customers.

In response to USEPA's Financial Capability Assessment Framework for Municipal Clean Water Act Requirements released in 2014,[2] this report includes a detailed assessment that provides a more complete and accurate picture of the City's financial capability.

In summary, when faced with a Consent Decree (CD) and LTCP that was found to have increased in cost from $870 million to $1.14 billion in 2014 dollars, the City decided to take advantage of USEPA's June 2012 Integrated Planning Framework (IPF) to develop an alternative program that meets the City's CWA responsibilities. From a financial standpoint, the alternative plan was required because detailed financial analysis and this FCA report determined that the current 2027 baseline program would require an additional 48 percent increase in the next 13 years. This is beyond the 269 percent increase that the ratepayers have seen over the last ten years. Figure 1-1 depicts sewer rates per hundred cubic feet (HCF) and annual increases through 2015.

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[1] USEPA. March 1997. Office of Water. *CSO Guidance for Financial Capability Assessment and Schedule Development*, EPA 832-B-97-004.

[2] On November 24, 2014, EPA issued a new financial capability assessment framework that builds on USEPA Guidance with examples of additional information that better characterizes residential impacts and financial strength. [USEPA. November 2014. K. Kopocis and C. Giles. Memorandum: Financial Capability Assessment Framework for Municipal Clean Water Act Requirements. Washington, D.C.]

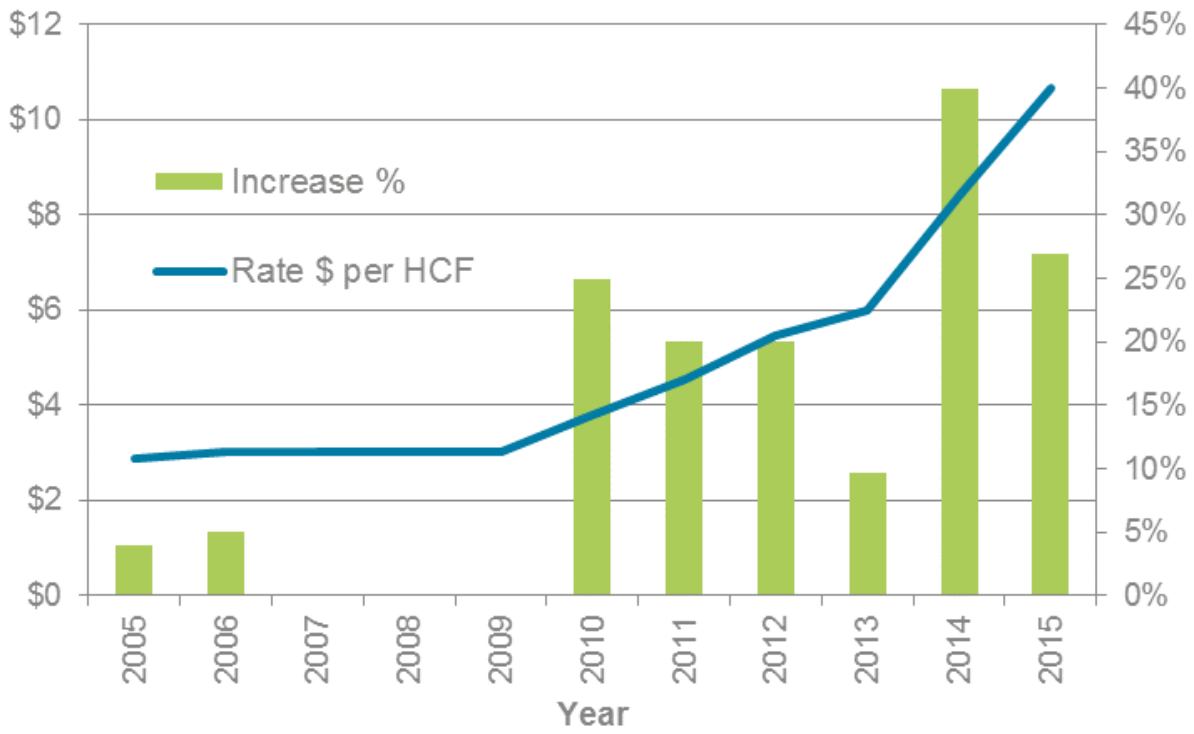


Figure 1-1. City of Akron Sewer Rate Increases

The baseline program costs generated a Residential Indicator that was substantially greater than USEPA Guidance threshold of 2 percent and therefore was more unaffordable. Akron's Integrated Planning effort studied whether a schedule extension to 2040 with the current baseline LTCP projects would be possible. The financial analysis performed in addition to the FCA in this report indicated that an 80 percent cumulative rate increase from 2021 through 2040 would be required. Given that the analysis showed the current program as unaffordable, the option of simply extending the compliance schedule was not financially feasible. Therefore, the City developed the Integrated Plan Scenario 2040, which took advantage of newly updated hydraulic model information and newest technologies in terms of real time controls, green infrastructure, optimized conveyance, and in-line storage. The resulting Integrated Plan Scenario 2040 as presented in this FCA analysis only requires a 49 percent cumulative rate increase from 2021 to 2040 and is therefore less unaffordable. Residential Indicators resulting from each of these programs are compared below in Table 1-1.

Table 1-1. Summary of FCA Residential Indicators

	Baseline 2027	Baseline 2040	Integrated Plan 2040
Residential Indicator - Service Area	2.46%	2.64%	2.34%

1.1 CSO Control History and Prospective Baseline Scenario 2040 Costs

Akron has been investing in CSO control facilities and infrastructure improvements, both to comply with federal and state policy and regulations, and to satisfy its own commitment to public health and environmental protection. For these purposes, Akron has spent over $335 million on sewer infrastructure capital through 2014.

Moving forward Akron will, to the extent of its financial capability, continue to strive to meet state and federally mandated goals and requirements. As such, Akron will continue to invest in capital projects including CSO controls, wastewater collection and treatment projects, water pollution control station (WPCS) improvements, CD-required capacity, management, operations, and maintenance (CMOM), annual rehabilitation and replacement (R&R, also referred to as "renewal") projects, and other non-CD projects. Table 1-2 shows the Baseline Scenario 2040 CD-related LTCP costs.

The base year values included in Table 1-2, and throughout this report, are expressed in 2015 dollars, with few exceptions. Project costs presented in this FCA report begin in 2015 and exclude expenditures prior to 2015, such as design and planning costs for select projects.

Table 1-2. Long Term Control Plan Costs in 2015 $ - Baseline Scenario 2040

Project Category	Cost
CSO Projects	$841,502,449
WPCS Projects	$142,217,311
CD-Related CMOM	$169,000,000
Total(1)	**$1,152,719,760**
(1) Excludes costs expended prior to 2015	

With a population in Akron (city only) of approximately 197,859,[3] the City's LTCP capital requirement of $1.15 billion equates to about $5,826 per person. For 80,067 households in the City only, this equates to approximately $14,300 per household.[4]

The values for CSO control and wastewater collection and treatment projects shown in Table 1-1 are sums of 25 individual but related projects. Additional projects include the City's non-LTCP improvements to its WPCS and conveyance systems and anticipated wastewater and stormwater system renewal and replacement projects (also referred as asset management-related projects). Non-LTCP expenditures and annual projects are expected to total approximately $22 million annually.

[3] The population in the City of Akron, OH was estimated by the U.S. Census Bureau to be 197,859 in 2014. [U.S. Census Bureau. Population Estimates, City and Town Totals: Vintage 2014, Akron City OH].]
[4] See number of households referenced in Section 1.3.

1.2 Socio-Economic Setting in Akron

When considering financial capability and affordability, it is beneficial to understand the historical trends and current socio-economic setting of a community. Understanding the socio-economic setting for the City of Akron provides clarity on the current fiscal burden facing citizens of Akron and continuing into the future. Specifically when analyzing affordability, understanding social and economic characteristics helps provide a comprehensive depiction of a community with diverse characteristics like Akron. By any reasonable measure, the economic setting in the City is financially stressed. The following paragraphs include some striking data concerning the City's economic conditions.

1.2.1 Population

The population in Akron reported in the 2010 census was 199,110.[5] This was a decrease of 8.2 percent from the 2000 Census, which reported population of 216,899. Since 2010, the population in the City has continued to decrease by an average of 300 people each year to arrive at a population of 197,859 in 2014. Figure 1-2 presents the population trend in the City over the last 10 years.

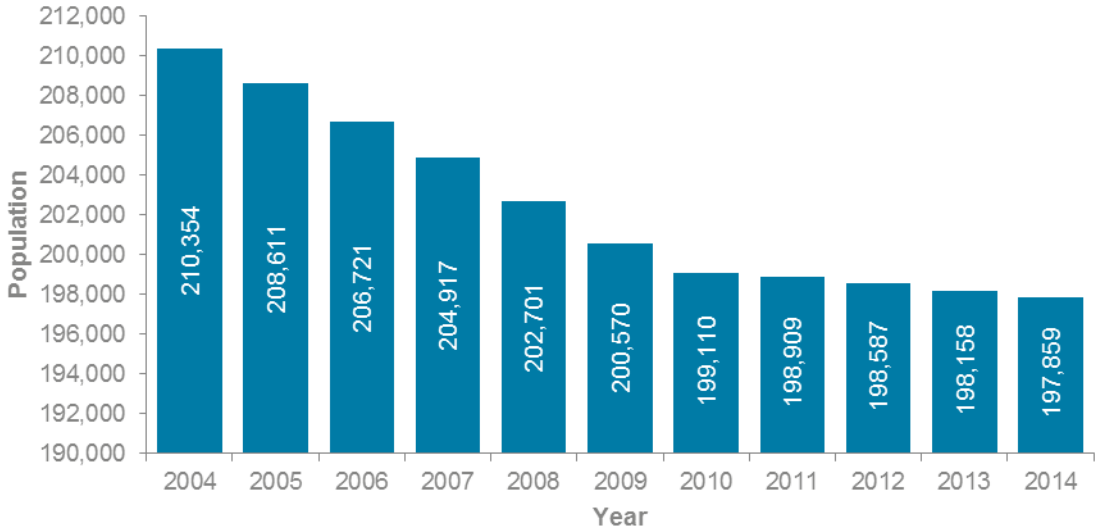


Figure 1-2. City of Akron Population Trend

[5] U.S. Census Bureau. Population Estimates, City and Town Totals: Vintage 2014, Akron City OH.

In recent years, the rate of decrease in population has slowed. Between the 2010 census and the 2014 estimate, the population in the City has declined by 0.6 percent. Akron's population began to recede after 1960 due to the decline of the rubber industry along with the national trend toward greater suburbanization.[6] Even though Akron's population decline has slowed in recent years, the downward trend has not reversed. In contrast, the population in the state of Ohio has grown by 0.5 percent and the population for the nation has grown by 3.3 percent since 2010.[7]

Communities with declining populations are faced with a host of economic challenges. These challenges often have serious impacts to local business and residents residing within the community. Declining populations can also impact governmental funding. A 2007 study found that approximately $435.7 billion of federal grant and direct assistance money is distributed annually based on U.S. Census population and income data.[8]

1.2.2 Unemployment

Like many cities across the nation, Akron has suffered from high unemployment rates in recent years. Over the last ten years, the unemployment rate has ranged from 5.2 to 13.7 percent at its peak.[9] Simply put, when local unemployment reached 13.7 percent in January 2010, more than 1 in 10 people living in the City were unemployed. Figure 1-3 displays the monthly unemployment rate in the City between January 2005 and December 2014.

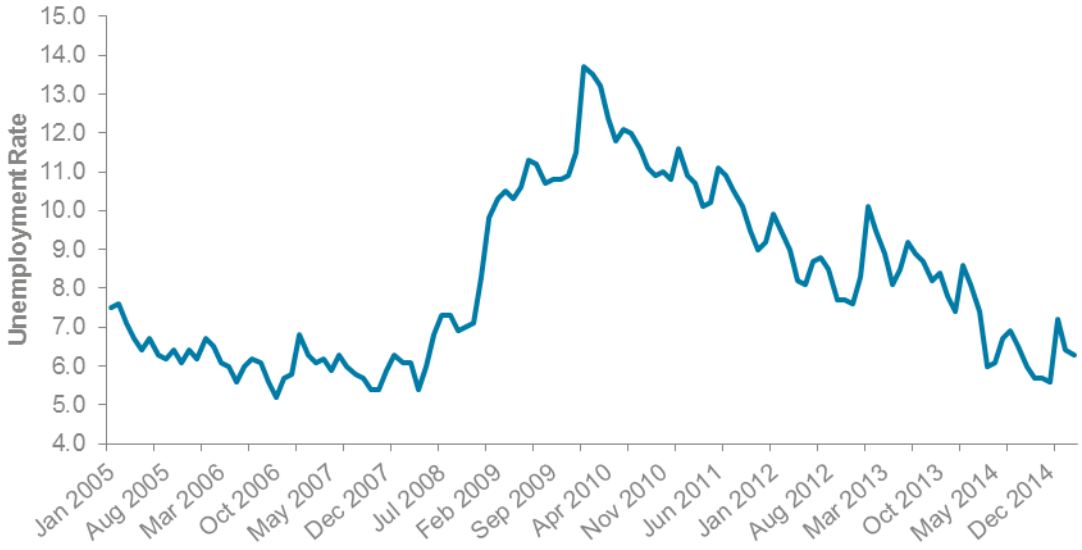


Figure 1-3. City of Akron Historical Unemployment Rates

[6] L. Ledebur and J. Taylor. 2008 *.A Restoring Prosperity Case Study: Akron, Ohio*. Brookings Institution Press..
[7] U.S. Census Bureau. Population Estimates, National Totals: Vintage 2014.
[8] U.S. Census Bureau. Governments Division Report Series. Uses of Population and Income Statistics in Federal Funds Distribution – With a Focus on Census Bureau Data. June 23, 2009.
[9] Bureau of Labor Statistics. Local Area Unemployment Statistics 2005-2014, Akron City OH.

The unemployment rate has decreased since 2010 to an annual average of 6.6 percent in 2014, but still remains higher than the national average. The unemployment rate for the Akron metropolitan area and Summit County was slightly lower, reporting an average annual unemployment rate of 5.8 percent in 2014.

Figure 1-4 shows the average annual unemployment rate in the City, Ohio, and the United States between 2008 and 2014.

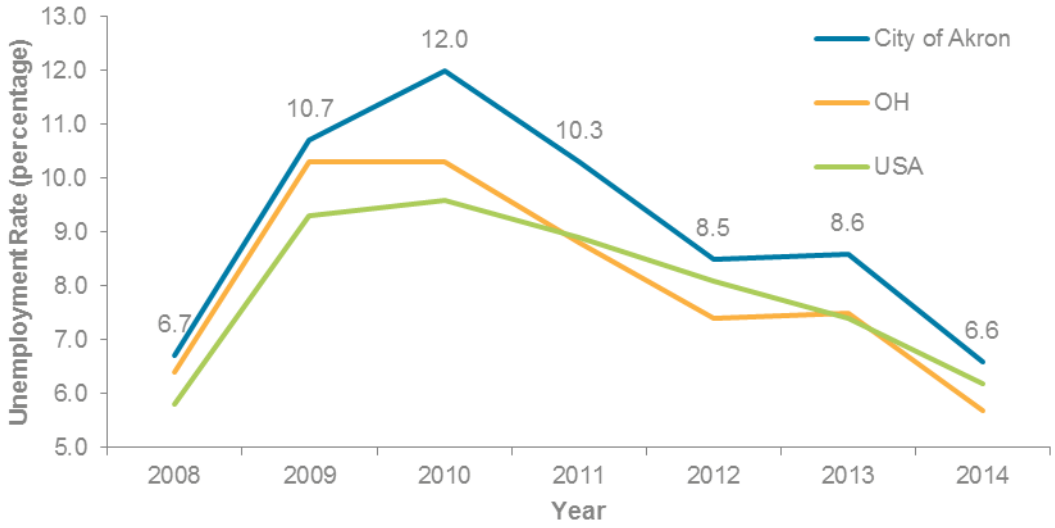


Figure 1-4. Unemployment Rate Comparison

Much of the decline in unemployment in the City is due to the improving economy and new jobs created in the City. However, a portion of the decrease in unemployment is due to citizens leaving the labor force. There has been a steady decline in the labor force since 2009 as illustrated in Figure 1-5, which is often the result of people who have stopped looking for work.

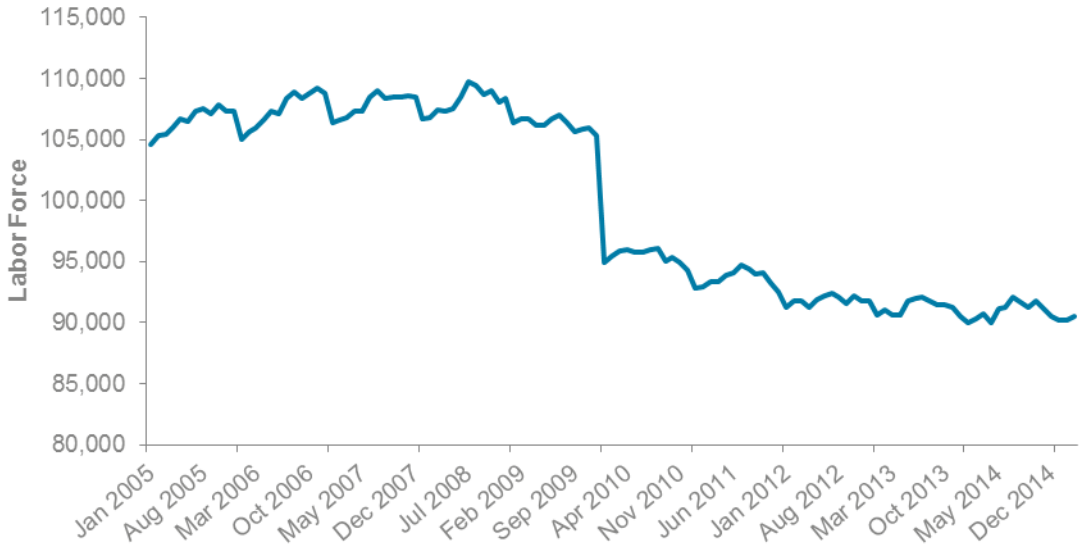


Figure 1-5. City of Akron Labor Force

1.2.3 Poverty

Poverty rates in the City have been relatively high in recent years as well. The U.S. Census Bureau defined the poverty threshold for a family of four at $23,834 in 2013.[10] In 2013 under those criteria, 27.8 percent of the population in the City was reported below the poverty level, including 41.3 percent of children under the age of 18 years old.[11] In the same year, the percentage of the population below poverty level for the entire United States was 15.9 percent, 12 percentage points lower than the City. Between 2008 and 2013, poverty rates within the City increased by 5.8 percent, an average increase of 1.2 percent each year. Overall the poverty rate in the City has been and continues to be significantly higher than poverty rates in Ohio and the United States. A comparison is presented in Figure 1-6.

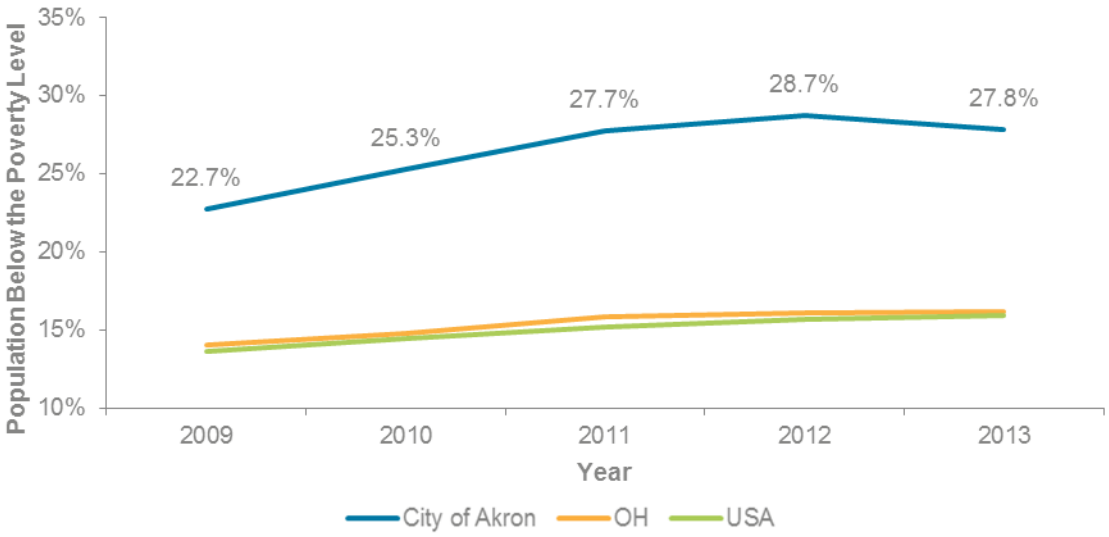


Figure 1-6. Poverty Rate Trend

[10] U.S. Census Bureau. Social Economic and Housing Statistics Division, Poverty Thresholds for 2013.
[11] U.S. Census Bureau. 2011-2013 ACS 3-Year Estimates, Table S1701, Akron City OH.

1.2.4 Median Household Income

Median Household Income (MHI) has remained fairly consistent in recent years. The City's MHI ranks lower than national and state MHI. In 2013, the MHI in the City was $33,209 according to the American Community Survey (ACS) 3 year estimate.[12] In the same year, the City's MHI was $18,967 lower than the national MHI of $52,176. The City's MHI was also $23,812 lower than the MHI recorded ($57,021) for the City's Master Meter (MM) customers that discharge to Akron's system.[13]

MHI is an economic statistic that divides the income distribution into two equal groups, half having income above that amount and half having income below that amount. Thus, half of the households in the City earned less than the $33,209 reported in 2013. A comparison of the MHI trend in Akron, Ohio, and the United States since 2009 is shown in Figure 1-7.

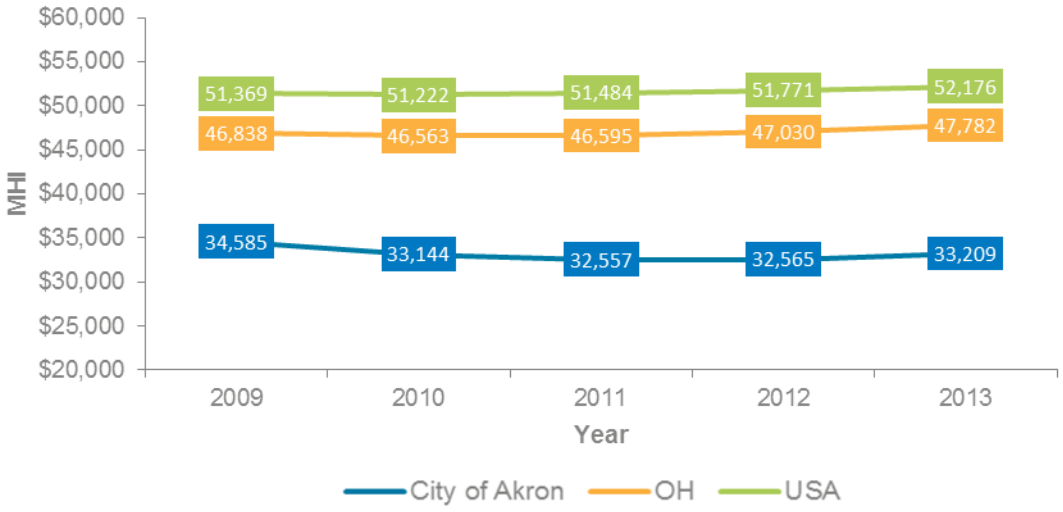


Figure 1-7. MHI Trend

[12] U.S. Census Bureau. 2011-2013 ACS 3-Year Estimates, Table DP03, Akron City OH.
[13] MHI weighted for households of Master Meter customers discharging to the City's wastewater system. See further details in appendices.

1.2.5 Income Distribution

When studying household income, it is important to understand how people within a community fall into each of the income distribution groups. Many cities have incomes that are less centered on the median than across the United States. This is very important because more households are adversely impacted by increasing wastewater bills if the income distribution is unevenly distributed toward lower levels. The distribution of income in the City is higher in lower income groups and lower in higher income groups when compared to the United States. In 2013, 24 percent of the population in the City had an annual income of less than $15,000.[14] On the other end of the distribution, only 2.9 percent of the population in the City made over $150,000. Figure 1-8 shows a comparison of income distribution in 2013.

Figure 1-8. Household Income Distribution

Another way of illustrating income distribution is with income quintiles. Table 1-3 shows a comparison of income quintile upper limits in the City and the United States. All quintiles for the City are considerably lower than the United States, signifying that incomes on both the low end and the high end of the spectrum are lower than the national average. The City's upper limit for the lowest quintile is only $12,661, signifying the lowest 20 percent of households earn less than $12,661 per year.[15] The top 5 percent of earners in Akron have a lower limit of $124,523, which is over $70,000 lower than the top 5 percent for the United States. Once again this shows that incomes in Akron fall far below the national average for both low income and high income groups.

[14] U.S. Census Bureau. 2011-2013 ACS 3-Year Estimates, Table B19001, Akron City OH.
[15] U.S. Census Bureau. 2011-2013 ACS 3-Year Estimates, Table B19080, Akron City OH.

Table 1-3. Household Income Quintile Upper Limits

Quintile Upper Limits	Akron City	United States
Lowest Quintile	$12,661	$21,304
Second Quintile	$25,967	$40,924
Third Quintile	$42,352	$65,609
Fourth Quintile	$66,064	$105,451
Lower Limit of Top 5 percent	$124,523	$196,328

1.2.6 Senior Household Income Distribution

Understanding senior income distribution can give insight into financial situations of a specific portion of the population. Many senior households are on fixed incomes and are impacted significantly by rising costs. In this analysis, households older than 65 years of age are considered senior households. Senior households in Akron account for 22 percent of all households, compared to 23 percent of all households in the United States. 49 percent of all senior households have income lower than $30,000 a year.[16] A comparison of all households and senior households in Akron in 2013 is shown in Figure 1-9.

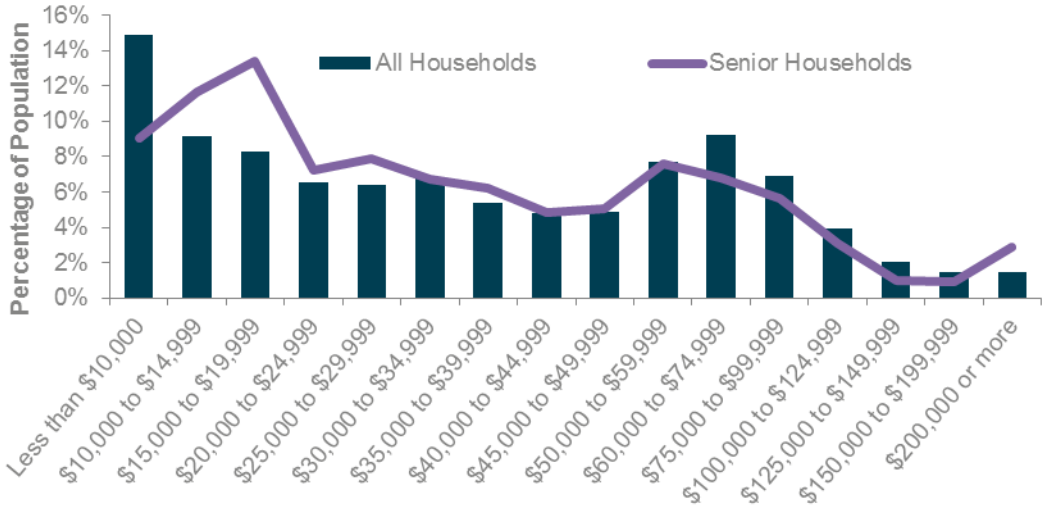


Figure 1-9. City of Akron Senior Household Income Distribution

[16] U.S. Census Bureau. 2011-2013 ACS 3 Year Estimate, Table B19037, Akron City OH

1.3 Wastewater Service Area and Population

A map of the service area is shown on Figure 1-10.

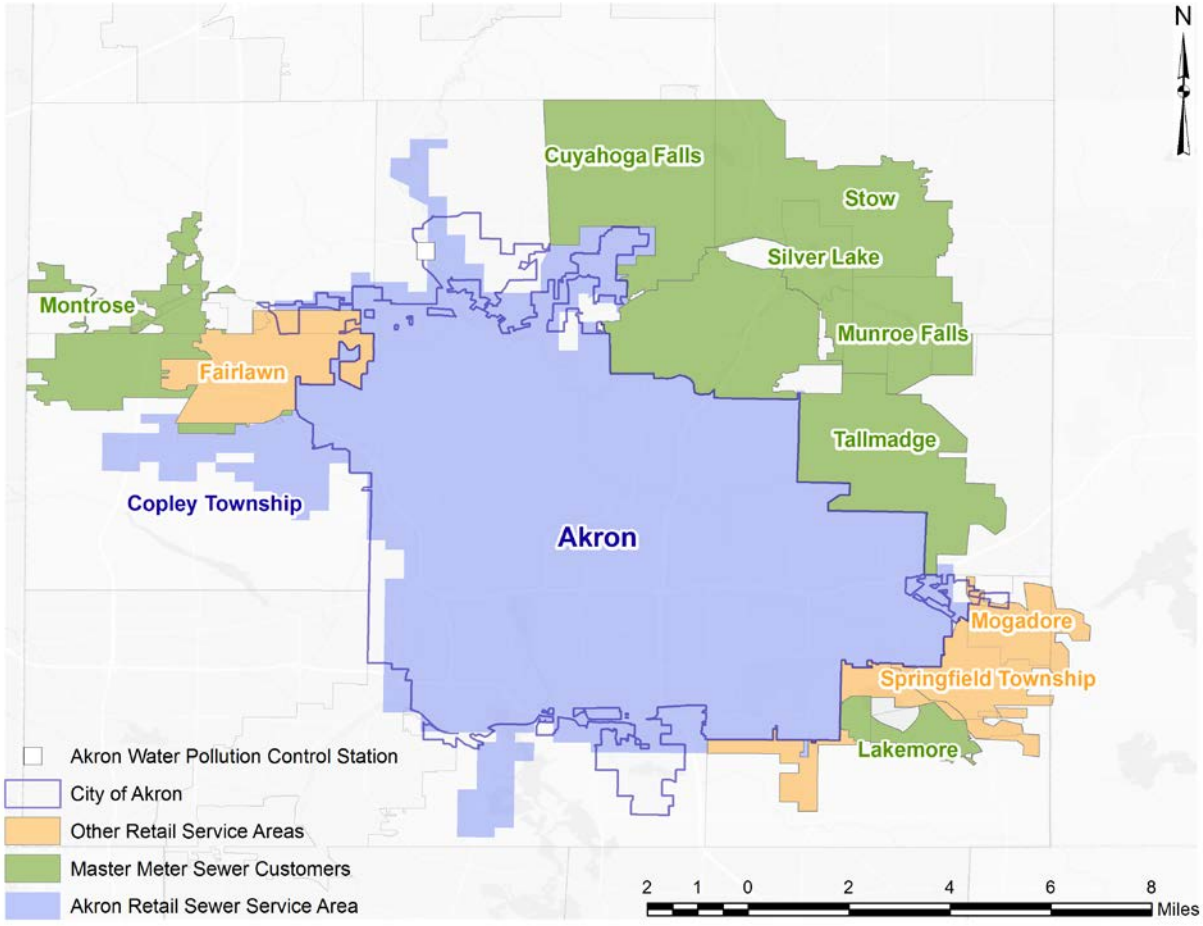


Figure 1-10. Wastewater Service Area

1.3.1 City Retail Service Area

As mentioned earlier, the population in the City of Akron in 2013 was estimated by the U.S. Census Bureau to be 197,859. Within the Akron Retail Sewer Service Area and Other Retail Service Areas, approximately 88,664[17] households are provided wastewater collection and treatment by the City.

[17] Details on this calculation can be found in Section 3.1 and Appendix A of this report. Number excludes septic systems within the City retail service area.

1.3.2 Jurisdictions Served Outside City

The City also provides limited wastewater collection and treatment services to five Master Meter (MM) communities. These communities are identified in Figure 1-10 as the green shaded areas. Each of these communities owns, operates, and maintains its own local collection systems. End users residing in these communities are subject to the communities' rate schedules and are billed by the MM communities. The City charges MM communities for metered discharges based on negotiated contracts. Approximately 32,629[18] households in the MM communities discharge wastewater to the City's system. Current local collection system costs, households discharging wastewater to City, and MHI data for the City's MM communities are included in this financial capability assessment.[19]

[18] *Ibid.*

[19] While MM customer data are included in this FCA, the actual allocation of Akron wastewater system costs to MM customers is based on contracts currently under negotiation. Household value excludes septic systems in MM communities.

2.0 REGULATORY FRAMEWORK

Among other things, USEPA regulates point-source discharges, including CSOs, into bodies of water. In 1989 USEPA issued a National CSO Control Strategy, which was supplemented in 1994 when USEPA issued its CSO Control Policy.[20] One of the intentions of the CSO Control Policy was to provide guidance to Permittees with CSOs and to federal and state water quality permitting and enforcement authorities. A key expectation of the CSO Control Policy is that Permittees shall produce LTCPs to address CSO discharges. According to USEPA's CSO Guidance for Long-Term Control Plan:[21]

> *As part of LTCP development, the ability of the municipality to finance the final recommendations should be considered. The CSO Control Policy "…recognizes that financial considerations are a major factor affecting the implementation of CSO controls… [and]…allows consideration of…financial capability in connection with the [LTCP] effort…and negotiation of enforceable schedules." The CSO Control Policy also specifically states that "…schedules for implementation of the CSO controls may be phased based on…financial capability."*

USEPA's CSO Control Policy addresses the relative importance of financial issues when developing implementation schedules for CSO controls. The Policy states that an implementation schedule "may be phased based on the relative importance of adverse impacts upon Water Quality Standards and designated uses, priority projects identified in a long-term plan, and on a Permittee's financial capability."[22] Thus, an important purpose of this baseline assessment is to provide meaningful financial capability information concerning the City to the Ohio EPA and USEPA for re-evaluating the current LTCP plan and implementation schedule.

Due to the importance of financial capability in determining a municipality's capacity to construct CSO control assets, and to undertake a less unaffordable schedule within which construction of those assets will occur, USEPA published the USEPA Guidance, mentioned above.

Importantly, the USEPA Guidance encourages Permittees to provide additional financial and economic information beyond the analyses of the above indicators, as stated at page 7 of the USEPA Guidance, to provide a better reflection of financial capability:

> *Since flexibility is an important aspect of the CSO Policy, Permittees are encouraged to submit any additional documentation that would create a more accurate and complete picture of their financial capability.*

[20] USEPA. April 1994. 59 Federal Regulations 18688.
[21] USEPA. September 1995. Office of Water, EPA 832-B-95-002, p.3-66.
[22] Cited in USEPA *CSO Guidance for Long-Term Control Plan*, p.6.

2.1 USEPA Guidance Analysis Protocol

USEPA Guidance indicates that financial capability can be assessed using two phases. Phase 1 estimates the present value of proposed capital and operational costs of CSO controls and wastewater collection and treatment improvements, coupled with costs of existing wastewater collection and treatment system facilities and procedures. The residential share of that cost is measured against household income. This computation determines the "Residential Indicator."

If the Residential Indicator measure is equal to or greater than 1 percent of median household income, the second phase is completed. Phase 2 examines six parameters intended to measure background or underlying financial capacity of the community, collectively called the "Permittee Financial Capability Indicators." Two financial capability indicators address existing debt, two concern socio-economic conditions, and two concern property tax data. These six parameters are compared with benchmark figures (nationwide data, for example) or against specific criteria provided by USEPA. The Residential Indicator is intended to represent the prospective financial burden, and the Permittee Financial Capability Indicators are intended to represent the existing financial capacity to accommodate additional financial burden. This 2015 LTCP Update baseline report provides computations of the Phase 1 Residential Indicator and the Phase 2 Permittee Financial Capability Indicators in accordance with the methods set forth in USEPA Guidance.

The analyses provided in this report directly reflect USEPA Guidance in form and content. Additional information to more accurately and completely describe the City's financial capability is also included in this report.

2.2 Limitations of USEPA Guidance Methodology

For several decades, permittees have found many issues concerning the USEPA Guidance methodology when reviewing and assessing affordability. In particular, the practice of applying an MHI metric to an entire service area has been questioned. In 2013, an issue brief regarding the assessment of affordability was published by the U.S. Conference of Mayors (USCM), American Water Works Association (AWWA), and Water Environment Federation (WEF).[23] One of the central issues brought to light in this publication was that MHI can be a highly misleading indicator of a community's financial capability and it may not be best to use a community-wide MHI as the primary measure of affordability.

[23] USCM, AWWA, and WEF. 2013. Assessing the Affordability of Federal Water Mandates – An Issue Brief.

2.3 New 2014 USEPA FCA Framework

On November 24, 2014, USEPA issued the Financial Capability Assessment for Municipal Clean Water Act Requirements (FCA). This new framework states that USEPA will continue to be guided by the USEPA Guidance as the baseline to ensure general consistency, but the FCA Guidance also encourages permittees "to submit any additional documentation that would create a more accurate and complete picture of their financial capability." This framework references the June 2012 Integrated Municipal Stormwater and Wastewater Planning Approach Framework, (Integrated Planning Framework)[24] and incorporates elements learned from talking with communities about their actual financial capabilities. This additional critical information based on local financial impacts provides additional information for negotiating LTCP schedules.

2.4 Integrated Planning Framework

Historically, USEPA and OEPA have focused on compliance with individual CWA requirements for wastewater, combined sewer, and stormwater discharges. As a result, municipalities and utility owners struggled to balance competing CWA priorities with a limited financial capability. In 2012, USEPA published guidance memoranda allowing for integrated planning approaches to allow flexibility in how CWA requirements are achieved.

USEPA's Integrated Planning Framework provides the flexibility to implement the most cost-effective CWA solutions in a sequence which will prioritize projects such that the most serious water quality and system issues can be addressed sooner. Integrated Planning does not lower water quality compliance standards. Rather, it allows agencies to consider a municipality/utility owner's financial capability for meeting all CWA requirements and prioritizing infrastructure improvements. It facilitates planning for CWA compliance in a responsible manner with a focus on asset management (renewal and replacement); balancing an agency's most pressing problems in a manner that addresses health and environmental protection issues first; consideration of community impacts and disproportionate financial burdens; and shows support for innovative and sustainable technologies such as green infrastructure.

This report presents the City's financial capability assessment for the Integrated Plan Scenario 2040 and compares results with the Baseline Scenario 2040.

[24] USEPA. June 2012. N. Stoner and C. Giles. Memorandum: Integrated Municipal Stormwater and Wastewater Planning Approach Framework.

3.0 PHASE 1 ASSESSMENT: THE RESIDENTIAL INDICATOR

USEPA Guidance provides recommendations on how to conduct a CSO control program financial capability analysis. This section presents the results for Phase 1 of that analysis, the Residential Indicator, including replicas of the specific worksheet/forms contained in the USEPA Guidance. The intention of the Residential Indicator is to measure "…financial impact of the current and proposed WWT ['wastewater treatment' in the broader sense of 'wastewater management'] and CSO controls on residential users." The USEPA Guidance does not indicate why measurement of the impact on non-residential sectors of the communities, such as commercial, industrial, institutional, and agricultural is neglected in the analysis. Those sectors certainly pay wastewater rates and charges and are essential elements of the economic dynamics of any community. For example, in Akron, the non-residential customer base provides approximately 30 percent of the annual billed sewer flow, excluding Master Meter customers. Any loss of commercial/industrial accounts would have serious impacts on the revenue base, as well as on unemployment, wages, and taxes.

Existing and future CSO and wastewater collection and treatment system costs attributable to the residential sector are identified. The cost value is divided by the number of contributing households to determine Cost per Household (CPH). Once this figure is determined, the CPH is divided by MHI to determine the Residential Indicator (CPH as a percentage of MHI).

Table 3-1 shows USEPA's Residential Indicator criteria. If the CPH is less than 1 percent of MHI then this cost related factor is assigned a low Financial Impact value. If the CPH is between 1 and 2 percent of MHI then this factor is assigned a mid-range Financial Impact value. If CPH is more than 2 percent of MHI then this factor is assigned a high Financial Impact value.

Table 3-1. Phase 1 Criteria

Financial Impact	Cost per Household
Low	Less than 1.0 percent of MHI
Mid-Range	1.0 – 2.0 percent of MHI
High	Greater than 2.0 percent of MHI

These financial impact ratings are used in the Financial Capability Matrix presented later in this section. The Financial Capability Matrix brings together the Residential Indicator with the six Permittee Financial Capability Indicators developed in the Phase 2 Evaluation. The first step of the Phase 1 Evaluation, then, is to determine CPH.

3.1 Costs per Household

The CPH evaluation considers existing and projected costs of wastewater collection and treatment, including existing CSO control facilities, and other costs directly associated with the wastewater collection and treatment system. The ratio of residential wastewater flow to total flow is used to estimate residential share of total costs. The residential share of costs divided by number of households yields the CPH, in accordance with USEPA Guidance protocol. USEPA Guidance Worksheet 1 form is shown in Table 3-2. Additional details regarding the calculations in Table 3-2 are included in Appendix A, Baseline Scenario 2040 – Supporting Calculations.

Table 3-2. Costs per Household Determination –Baseline Scenario 2040

Row	Item	Unit	Value
Current Costs			
100	Annual O&M Costs	($s)	$ 63,296,540
101	Annual Capital and Debt Service	($s)	24,880,719
102	Subtotal	($s)	$ 88,177,258
Projected Costs			
103	Estimated Annual O&M Costs	($s)	$ 4,918,599
104	Estimated Annual Capital and Debt Service	($s)	88,610,217
105	Subtotal	($s)	$ 93,528,816
106	Total Current and Projected Costs	($s)	$ 181,706,074
107	Residential share of total costs	($s)	$ 139,323,636
108	Total number of Households in Service Area		121,293
109	Cost Per Household	($s)	$ 1,150

Row 100 of Table 3-2 includes annual operations and maintenance (O&M) costs for the City's wastewater and stormwater systems and O&M costs for MM customers' wastewater collection systems. MM customers' system costs represent additional burden on residential customers located outside the City that discharge to Akron's treatment system. Wastewater O&M costs of $30,043,740 for retail and $30,252,800 for MM customers, plus $3,000,000 of stormwater O&M costs equal $63,296,540 shown on row 100. More detailed calculations of costs are provided in Appendix A, Baseline Scenario 2040 – Supporting Calculations.

It must be noted that all cost data included in the CPH determination are present worth numbers. The USEPA Guidance process appears to result in the determination of what engineering economists call "equivalent uniform annual costs," which is a way to convert capital costs to annual costs (typically done for comparison of project alternatives), using terms that are derived from public finance. Thus it is very important not to infer that starting next year that the City will require $88.6 million in additional revenue to pay debt service on new facilities, some of which may not be built for dozens of years.

Although Akron may intend to finance the bulk of projects proposed in the LTCP, the implementation period to accommodate available financing and debt service will extend many years. The costs included in the CPH determination are all present worth costs, and are not intended to be thought of as real / escalated future costs. Likewise, debt service in the CPH context is not intended to be thought of as annual principal and interest payments on real borrowed funds, but rather a sum of estimated annual debt services plus annually recurring capital outlays.

Row 101 of Table 3-2 includes annual costs of $18,413,671 of existing City wastewater system debt service plus $6,467,047 in MM customer existing debt service and capital outlay. The number shown on Row 101 includes the actual sum of debt service the City will pay on 41 issues in 2015, plus the 2014 debt service payments obligated for MM customers' individual issues, as well as MM customer existing capital improvement costs. Table 3-3 provides a

summary of the City's outstanding debt issues and the amount of debt service to be paid in 2015.

Table 3-3. Debt Service 2015

Item	Value
1998-B-REV-SEWER 1998	$ -
2005-B-REV-SEWER 2005	5,078,750
SUMMIT COUNTY-MUDBROOK SEWER	31,293
OPWC-L-WATER OUTFALL SWR(CH006)	45,363
OPWC-L-WPCS ACT TREAT(CH804)	21,310
OPWC-L-WILLOW RD SWR(CH09A)	29,750
OPWC-L-BARCELONA SWR LINING(CH10I)	9,133
OWDA-L-WWTP COMPUTERIZATION(2658)	1,176,439
OWDA-L-HAWKINS-WILLOW RUN(2659)	1,371,789
OWDA-L-WATER METER REPLACEMENT(4160)	997,645
OWDA-L-STORAGE BASIN RACK 41-30(4218)	-
OWDA-L-WATER METER REPLACEMENT(4997)	184,872
OWDA-L-SAND RUN SEWER RECON(5577)	67,660
OWDA-L-MILL ST SEWER REPAIR(5578)	10,969
OWDA-L-WWTP INFLUENT SCREEN(5581)	1,168
OWDA-L-WPC CONTROL SYSTEM(5582)	48,790
OWDA-L-WWTP PRIMARY ROOF REP(5583)	5,932
OWDA-L-LAKE OF THE WOODS PUMP STATION(5849)	65,844
OWDA-L-MASSILON RD SEWER(5850)	189,850
OWDA-L-2ND STREET PUMP STATION(5851)	30,657
OWDA-L-GOODYEAR CSO RETENTION TANK(5939)	13,750
OWDA-L-SHULLO PUMP STATION DESIGN(5994)	16,898
OWDA-L-WEATHERVANE PUMP STATION DESIGN(5995)	16,898
OWDA-L-MAIN OUTFALL SEWER PLANNING(6020)	149,726
OWDA-L-LARGE DIAMETER PIPE INSPECTION(6078a)	360,010
OWDA-L-LARGE DIAMETER PIPE INSPECTION(6078b)	566,814
OWDA-L-CSO RACK 8 SEWER SEP(6079)	196,077
OWDA-L-WATER WALL(6080)	155,909
OWDA-L-SANITARY SWR RECON 2011(6081)	59,282
OWDA-L-WPCS STEP FEED PH1(6108)	1,598,113
OWDA-L-CSO RACK 25 SEPARATION(6109)	84,008
OWDA-L-NORTHSIDE INTERCEPTOR REHAB(6110)	64,613
OWDA-L-CSO OHIO CANAL TUNNEL DESIGN(6202a)	1,584,440
OWDA-L-WPCS HIGH RATE TREATMENT(6203)	455,424
OWDA-L-LARGE DIAMETER PIPE INSPECT 2012(6316)	161,783
OWDA-L-CSO RACK 21 SEWER SEP(6319)	67,376
OWDA-L-MUD RUN TRUNK SWR LINING(6322)	72,723
OWDA-L-MUD RUN PUMP STATION(6402)	448,694
OWDA-L-LITTLE CUY. INTERCEPTOR REP(6414)	329,000
OWDA-L-CSO DESIGN PROGRAM MGT(6417)	1,288,957
OWDA-L-RACK 15 STORAGE BASIN DESIGN(6418)	164,084
OWDA-L-AKRON SWR I&I STUDY(6419)	82,044
OWDA-L-2013 LARGE DIAM PIPE CLEAN(6473)	1,109,836
MAIN OUTFALL SEWER REHABILITATION (Loan 6483)	-
Total	$ 18,413,671

Row 103 of Table 3-2 includes $4,918,599 of projected costs for future O&M. The future O&M costs projected comprises costs to cover supplies, equipment, and staff associated with new assets built for the LTCP. The number shown on Row 103 is derived from the product of 0.5 percent of total LTCP costs. More detail is shown in Table 3-4.

Table 3-4. Estimated Future O&M from New Facilities – Baseline Scenario 2040

Item	Value
Camp Brook Storage Basin (CSO Rack 12)	$ 148,276
Carpenter Sewer Separation (CSO Rack 30)	14,026
Cascade Village Storage Basin (CSO Rack 15)	32,606
Dan Sewer Separation (CSO Rack 13)	20,656
Forge Field Storage Basin (CSO Rack 14)	81,094
Hazel Storage Basin (CSO Rack 10 & 11)	116,304
Howard Storage Basin (CSO Rack 22)	88,467
Kelly Storage Basin (CSO Rack 3)	98,028
Main Outfall Relief Sewer	274,732
Memorial Storage Basin (CSO Rack 26 & 28)	101,509
Merriman Storage Basin (CSO Rack 36)	66,691
Middlebury Storage Basin (CSO Rack 5 & 7)	97,147
Mud Run District Capacity Improvements	20,318
Mud Run District I/I Rehabilitation	20,678
Mud Run District I/I Repairs	19,289
Mud Run Pump Station and Storage Basin	44,293
Northside Interceptor Tunnel	1,159,267
Ohio Canal Interceptor Tunnel	1,357,786
Ohio Canal Interceptor Tunnel - EHRT	339,454
Ohio Canal Interceptor Tunnel Otto Street Pump Station	2,462
Old Main Sewer Separation (CSO Rack 21)	22,818
Uhler Storage Basin (CSO Rack 27 & 29)	81,610
WPCS Phase 2, Part 1	225,000
WPCS Phase 2, Part 2	486,087
Total	$ 4,918,599

Row 104 of Table 3-2 includes capital outlay or annual pay-as-you-go (PAYGO) for WPCS-related expenditures and projected annual renewal and replacement projects. Projected annual debt service of the prospective CSO and wastewater collection and treatment capital improvement program (CIP) projects is included in the total new CIP for CSO and wastewater projects through 2040. The estimated capital costs of the CIP included in Table 1-2 are in present worth (2015 cost basis) dollar values. To determine annual debt service (meaning equivalent uniform annual cost) according to the USEPA Guidance, State Revolving Fund Loan interest rates are used.

Akron's capitalization plan is to fully fund the LTCP capital requirement using Water Pollution Control Loan Fund (WPCLF) loans administered by the Ohio Water Development Authority (OWDA) and available cash. The terms of WPCLF state revolving fund loans are more attractive than revenue bonds, and Akron intends to optimize that capital resource. For the calculation on row 104, it was assumed that 92 percent of the total CIP is for the LTCP and will be funded with WPCLF loans; 8 percent will be funded with cash. This ratio of CIP projects paid with loans and

cash was determined using the proportion of total CIP costs comprised of LTCP projects less CD-required CMOM projects plus the City's Sanitary Sewer Reconstruction projects for the Baseline Scenario 2040. The actual proportion of WPCLF loans will vary from year to year as the City implements the LTCP; however, for purposes of this snapshot USEPA analysis, the overall total costs of the City's CIP funded with debt are calculated here. The portion of CIP funded by WPCLF loans was assumed to have an interest rate of 3.41 percent, maturity of 30 years, and 0.35 percent cost of issuance.[25] These financing factors were used to convert the estimated present values of CSO and wastewater collection and treatment capital costs into annual debt service amounts.

The total estimated CIP in 2015 terms for the CSO control and wastewater collection and treatment projects is indicated in Table 1-2 plus non-LTCP improvements and annual renewal and replacement projects. Out of total CIP expenditures through 2040, $169,000,000 is related to CD- required CMOM projects. CMOM costs will not be funded through loans and have been considered separately as cash funded costs, similar to projected annual PAYGO costs. Spreading the CMOM costs over 26 years equates to an annual payment of $6,500,000 that is included in the total on row 104.

After removing CMOM costs, the remaining CIP is assumed to be split between debt and cash. 92 percent of this number factored into annual costs using the previously mentioned financing terms yields an annual cost of $77,563,245 in annual debt service payments for CSO and wastewater collection and treatment projects and annual sewer renewal projects. Row 104 also includes 8 percent of the total CIP less CMOM costs that will be funded with cash. These annual PAYGO capital costs were determined by dividing $118,221,268 or 8 percent of the total, by the 26 years remaining in the LTCP schedule (2015 through 2040). This results in annual PAYGO costs of $4,546,972. The annual CMOM costs, annual debt service payments, and annual PAYGO costs are added to yield $88,610,217 in estimated annual capital and debt service in Row 104.

Row 105 shows $93,528,816 of projected O&M, capital and debt service costs.

Row 106 shows $181,706,074 of existing/current O&M, capital and debt service plus the projected O&M, capital and debt service costs.

Row 107 of Table 3-2 shows the Residential Share of total current and future O&M, capital and debt service costs. USEPA Guidance prescribes that this value is calculated by dividing the residential share of wastewater flow by the total flow. Akron's retail residential flow plus the residential portion of MM flow in 2014 was 76.7 percent of total flow as shown in Table 3-5.

[25] Reported loan interest rates and terms from OWDA in May 2015. Interest rates and terms vary for OWDA Market Rate Program and WPCLF loans. Program likely for City of Akron will be determined at time of loan application.

Table 3-5. Residential Share of Wastewater Flow

	2014 Billed Discharge (flow MG/year)			
	Res	**Com**	**Ind**	**Total**
Total Volume Treated @ WPCS				**26,954.6**
Total Billed Flow				**10,261.1**
Total Retail Flow	3,986.4	1,193.0	511.2	5,690.6
Akron Customers	3,565.6	1,011.1	459.1	5,035.8
Suburban Customers	420.8	181.9	52.1	654.8
Total Master Meter Flow	3,881.3	689.2		4,570.5
Total Unbilled Flow: 100% volume based				**16,693.5**
Total Allocated Flow	12,799.8	3,062.1	831.7	
Total Adjusted Flow	**20,667.5**	**4,944.2**	**1,342.9**	**26,954.6**
Residential share of total volume	**76.7%**			

The calculation of the residential share of total flows combines billed flows and allocates unbilled wastewater flows. Unbilled flows were allocated based on the proportion of billed / metered flows for all customers. Additional notes regarding these figures are included in Appendix A, Baseline Scenario 2040 – Supporting Calculations.

Row 108 of Table 3-2 presents the number of households in the service area. U.S. Census data and census tract information were used to determine the number of households served by the City.[26] Within the City of Akron, total households in 2013 were 80,067. For households outside the City of Akron, approximately 11,359 suburban residential households are provided retail wastewater services by the City. MM communities' households that discharge flows to the City's system equal 32,949. Out of the total inside-City customers, suburban retail, and MM households identified by census data, approximately 3,082 were identified as being connected to septic tanks rather than a municipal sewer system.[27] Subtracting septic tanks from total households, 121,293 households receive wastewater service from the City as shown on row 108.

Row 109 of Table 3-2 shows the final computation of CPH: the residential share of costs divided by number of households to derive CPH is $1,150.

[26] U.S. Census Bureau. 2013 American Community Survey 5 Year Estimate, Table DP03
[27] A. Nemura and E. Campbell. 2015. Septic Systems in City of Akron, OH. Memorandum. Oak Brook, Illinois: Geosyntec.

3.1.1 Master Meter Communities Cost Assumptions

Following USEPA Guidance and recommendations, the total cost per household for Akron's service area should include MM communities. Annual O&M costs, debt service payments, capital outlay expenses, estimated replacement and rehabilitation expenses, and stormwater expenses from the City's five MM communities (Lakemore, Tallmadge, Cuyahoga Falls, Mudbrook, and Montrose) are included in the cost per household calculation to reflect the full financial burden on the service area.

Costs for each MM community were determined based on actual 2014 data and proportion of households in each community whose flow is treated by Akron. Local O&M costs include treatment related expenses, administration costs, supplies and materials, and etc. incurred by each MM community. Treatment expenses charged to MM communities by Akron are excluded from the calculation as these costs are accounted for in the City's current and projected wastewater system costs.

3.2 Residential Indicator

The Residential Indicator computation divides CPH, as determined above, by MHI. This is shown in Table 3-6.

Table 3-6. Residential Indicator Determination – Baseline Scenario 2040

Row	Item	Unit	Value
Median household income			
201	MHI in 2013	($)	$ 42,160
202	CPI adjustment factor - to 2015	(%)	1.03
203	Adjusted MHI	($)	$ 43,563
204	Annual cost per household	($)	$ 1,150
205	Residential indicator		
	CPH as a percentage of adjusted MHI	(%)	2.64%

Row 201 of Table 3-6 shows the MHI to be $42,160 for Akron's service area in 2013. In order to accurately reflect the MHI for all customers within the Akron's service area, including those in MM communities, a weighted average MHI was calculated. Source data were collected from ACS five-year estimates published by the U.S. Census Bureau on the American FactFinder website.[28] Additional details regarding the calculation of the weighted average MHI are included in Appendix A of this report.

The USEPA Guidance suggests that the MHI figure be adjusted to the baseline year of the analysis, which in this case is 2015. The adjustment is to be made using the five-year average of the change in Consumer Price Index (CPI).[29]

[28] U.S. Census Bureau. American Factfinder. [http://factfinder2.census.gov/]
[29] U.S. Department of Labor. [http://www.bls.gov/cpi/]

Row 204 of Table 3-6 is the CPH as determined in Table 3-2. The Residential Indicator is thus determined to be 2.64 percent of MHI as indicated on Row 205 of Table 3-6. Because the CPH is greater than 2 percent of MHI, the Residential Indicator is judged to be of "High" Financial Impact as indicated by the USEPA Guidance criteria presented in Table 3-1.

To provide a more accurate picture of the CPH impact on lower income households, it is beneficial to calculate the Residential Indicator by income distribution.[30] Table 3-7 shows the Residential Indicator calculated by income distribution. Using the midpoint of the income distribution as the basis for each group, the residential indicator is calculated using the CPH of $1,150 as shown in Table 3-2. Calculating the Residential Indicator by income distribution reveals that 67 percent of the households within Akron would pay more than 2 percent of their income, nearly 52 percent of households would pay more than 3 percent, and nearly 15 percent of households would pay over 10 percent.

The analysis identifies a disparate impact on Akron's lower income population that may not be experienced in another community with similar MHI but differently distributed incomes. Therefore, this approach shows a greater adverse impact on the community than what is reflected in the traditional Residential Indicator.

Table 3-7. Residential Indicator by Income Distribution - Baseline Scenario 2040

Income Distribution	Households	% of Total Households	Midpoint of Income Dist	CPI Adj	Adj Midpoint of Income Dist	Cost per Household	RI by Income Dist
Less than $10,000	12,266	14.9%	$10,000	1.00	$10,000	$1,150	11.50%
$10,000 to $14,999	7,574	9.2%	$12,500	1.04	$12,999	$1,150	8.85%
$15,000 to $24,999	12,220	14.8%	$20,000	1.04	$20,799	$1,150	5.53%
$25,000 to $34,999	10,920	13.2%	$30,000	1.04	$31,199	$1,150	3.69%
$35,000 to $49,999	12,514	15.2%	$42,500	1.04	$44,199	$1,150	2.60%
$50,000 to $74,999	13,986	16.9%	$62,500	1.04	$64,999	$1,150	1.77%
$75,000 to $99,999	5,733	6.9%	$87,500	1.04	$90,999	$1,150	1.26%
$100,000 to $149,999	4,952	6.0%	$125,000	1.04	$129,999	$1,150	0.88%
$150,000 to $199,999	1,231	1.5%	$175,000	1.04	$181,999	$1,150	0.63%
$200,000 or more	1,196	1.4%	$200,000	1.00	$200,000	$1,150	0.58%

3.3 Summary of Baseline Scenario 2040

The City's Baseline Scenario 2040 discussed up to this point includes the original set of LTCP projects meeting current CD milestone dates along with current City CIP projects, termed either non-LTCP projects or annual projects, for wastewater and stormwater infrastructure needs. The baseline LTCP meets a performance level of zero overflows per year from CSOs under an adjusted 1994 Typical Year's (Typical Year) rainfall pattern.

Baseline CD projects are defined directly in the negotiated 2009 City of Akron Consent Decree and the 2011 LTCP Update. In addition to CD projects, the Baseline Scenario 2040 includes the City's CIP project list and asset management projects required to reinvest in the City's wastewater and stormwater infrastructure. The asset management-focused projects are based on a percentage replacement value to estimate annual R&R project needs.

[30] U.S. Census Bureau, 2013 American Community Survey 3 Year Estimate, Table DP03, Akron City OH.

Overall, the Baseline Scenario 2040 results in a high financial impact on the City's ratepayers. Without consideration of the Integrated Plan Scenario 2040, Akron's future capital investment to meet CWA obligations poses an unreasonable burden on its customers.

3.4 Integrated Plan Scenario 2040

The Integrated Plan Scenario 2040 represents an alternative set of projects that meets the same performance measures of zero overflows per year from CSOs under a Typical Year's rainfall patterns; however, an optional performance measure of three overflows per year is met at the Ohio Canal Interceptor Tunnel (OCIT). The enhanced three overflows per year at OCIT provide equivalent water quality enhancements at a less unaffordable cost. This scenario includes the same additional City CIP projects (non-LTCP and annual projects). The total CIP comprises $774.67 million of LTCP costs and $22 million of annual non-LTCP and annual system capital costs. LTCP costs for the Integrated Plan Scenario 2040 are approximately $378 million less than the Baseline Scenario from 2015 through 2040. Table 3-8 shows a summary of the LTCP costs. It is important to note that costs reported in this FCA analysis exclude costs incurred prior to 2015 as these costs are assumed to be included in existing debt service payments.

Table 3-8. Long Term Control Plan Costs – Integrated Plan Scenario 2040

Project Category	Cost
CSO Projects	$ 592,868,383
WPCS Projects	83,000,000
CD-Related CMOM	98,800,000
Total[1]	**$774,668,383**

[1]Excludes costs incurred prior to 2015

With a reduced capital improvement projects costs, cost per household is reduced to $1,020. Table 3-9 shows the calculation of cost per household.

Table 3-9. Costs per Household Determination- Integrated Plan Scenario 2040

Row	Item	Unit	Value
Current Costs			
100	Annual O&M Costs	($s)	$ 63,296,540
101	Annual Capital and Debt Service	($s)	24,880,719
102	Subtotal	($s)	$ 88,177,258
Projected Costs			
103	Estimated Annual O&M Costs	($s)	$ 3,379,342
104	Estimated Annual Capital and Debt Service	($s)	69,302,007
105	Subtotal	($s)	$ 72,681,349
106	Total Current and Projected Costs	($s)	$ 160,858,607
107	Residential share of total costs	($s)	$ 123,338,783
108	Total number of Households in Service Area		121,293
109	Cost Per Household	($s)	$ 1,020

Even though the cost per household is lower in the Integrated Plan Scenario 2040, financial impact on the City's customers is still considered high with a Residential Indicator of 2.34 percent. It is an improvement from the Baseline Scenario 2040, however. Table 3-10 summarizes the calculation below and is supported by worksheets in Appendix B, Integrated Plan Scenario 2040 – Supporting Calculations.

Table 3-10. Residential Indicator Determination – Integrated Plan Scenario 2040

Row	Item	Unit	Value
Median household income			
201	MHI in 2013	($)	$ 42,160
202	CPI adjustment factor - to 2015	(%)	1.03
203	Adjusted MHI	($)	$ 43,563
204	Annual cost per household	($)	$ 1,020
205	Residential indicator CPH as a percentage of adjusted MHI	(%)	2.34%

4.0 PHASE 2 ASSESSMENT: PERMITTEE FINANCIAL CAPABILITY INDICATORS

As stated previously in Section 1.5, there are six Permittee Financial Capability Indicators:

- Debt Indicators
  - Bond Ratings
  - Overall Net Debt as a Percent of Full Market Property Value
- Socioeconomic Indicators
  - Unemployment Rate
  - MHI
- Financial Management Indicators
  - Property Tax Revenue Collection Rate
  - Property Tax Revenues as a Percent of Full Market Property Value

Table 4-1 shows the EPA's Financial Capability criteria used to evaluate the six Indicators. Indicators are shown in the left-most column. Each of the Permittee's financial indicators will be assessed to be "Strong," "Mid-Range" or "Weak" depending on the Permittee's actual data compared with criteria shown in the cells of the table.

Table 4-1. Financial Capability Indicator Criteria and Benchmarks

Indicator	*Strong*	*Mid-Range*	*Weak*
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB (S&P) or Baa (MIS)	BB-D (S&P) or Ba-C (MIS)
Net Debt/Property Value	Below 2%	2% - 5%	Above 5%
Unemployment Rate	>1% below National Ave.	±1% of National Ave.	>1% above National Ave.
Median Household Income	>25% above adj. Nat'l MHI	±25% of adj. Nat'l MHI	>25% below adj. Nat'l MHI
Prop. Tax/Property Value	Below 2%	2% - 4%	Above 4%
Prop. Tax Collection Rate	Above 98%	94% - 98%	Below 94%

4.1 Debt Indicators

The two Debt Indicators are Bond Ratings and Net Debt. USEPA Guidance states that these indicators "…were selected to assess current debt burden conditions and ability to issue new debt". Ratings and total amount of outstanding debt are important parameters associated with undertaking additional debt. However, they are not the only parameters for determination of sustainable financial affordability, and in many cases may not be the most important parameters. There are a number of alternatives for structuring long-term debt for large capital projects. Typically, wastewater and wastewater-related system capital projects are financed by the sale of revenue bonds or by undertaking state sponsored loans, both of which are secured by the promises that the borrower will continue to produce ample direct operating revenue (sewer user charges) in the future.

Because revenue production is the critical factor in the ability of an issuer to service revenue bond debt (i.e., annually pay principal and interest on the bonds), the history and reasonable forecast of net revenue production is the key factor used by rating agencies to evaluate credit worthiness – that is, to assess ability to undertake additional debt and the cost of that debt. USEPA Guidance recognizes the distinction between revenue bonds and GO bonds in the discussion of the "Bond Rating" financial capability indicator.

The second of the "Debt Indicators" is "Overall Net Debt as a Percent of Full Market Property Value." The USEPA Guidance provides, "Overall net debt is debt repaid by property taxes in the permittee's service area." Net debt is interesting as an indicator of the overall stress of

community debt on constituents, but has little to do with the capability to issue revenue bonds for CSO control facility financings. The important parameter for the assessment of projected financial capability to undertake project financings is how net revenues are forecast to produce sufficient revenue to service the debt, and how many and to what levels will rate increases have to be to achieve projected revenue requirements. In rare cases, debt is limited by statute or ordinance; more frequently, the issuance of bonds is limited by the political will to enact rate increases that are deemed unaffordable.

4.1.1 Bond Ratings

There are several credit rating agencies used by local governments to assess credit worthiness ratings of bonds. The City has used Moody's Investors Service (Moody's or MIS) and Standard and Poor's Corporation (S&P) to rate the credit of their bonds. Fitch Ratings (Fitch) is another credit rating company that some issuers use. All three rating agencies rate long-term, fixed-rate, tax-exempt bonds with more ratings than appear in Table 4-1.

In February 2014, Akron was issued a draft credit report by Standard & Poor's. The City was given an AA-, or stable, review. The credit profile issued by S&P noted good financial management and very strong liquidity in Akron; however, the City's strengths were offset by a "weak economy, with below-average incomes." These findings are consistent with the analysis of the FCA and highlight the understanding that as rates increase, the growing level of unaffordable sewer bills will spread and deepen throughout the community while the prospects of economic recovery remain unseen.

The City has borrowed from Ohio's state revolving loan funds and has sold bonds. Loans provided by the OWDA and the WPCLF are subordinated debt and are not rated. Overall the credit of the City's bonds is judged to be "strong" (favorable investment attributes). This is indicated in Table 4-2, which replicates the form provided in the USEPA Guidance.

Since the most recent revenue bond rating for Akron is AA- and falls in the "Strong" category the Summary Bond Rating is "Strong."

Table 4-2. Bond Ratings Worksheet

Row	Item	Value
301	Most Recent General Obligation Bond Rating Akron GO Standard & Poor's, 2014	AA-
302	Most Recent Revenue Bonds Series 2005 Bond Insurance: Yes Moody's, 2005	Aaa
303	Summary Bond Rating (Most recent rating, per USEPA Guidance)	AA-

4.1.2 Net Debt

Net debt is the amount of outstanding tax-backed bond debt of the community. It includes debt that is generally unrelated to wastewater and environmental systems.

The City's 2013 Comprehensive Annual Financial Report (CAFR) and 2013 Annual Informational Statement (AIS) provided the data included in Table 4-3.

Table 4-3. Net Debt

	Value
City of Akron, OH	
Governmental Activities	
General Obligation	$ 215,139,753
OPWC Loans	9,241,963
Ohio Development Services Agency Loans	5,482,636
Non-Tax Revenue	48,475,000
Income Tax Revenue	244,487,135
Special Revenue	27,165,000
Special Assessment	6,220,758
SIB Loans	1,742,279
Internal Service Income Tax Revenue	1,615,000
Capital Leases (COPs)	75,510,213
Business-type Activities	
General Obligation	$ 631,556
Mortgage Revenue	33,835,000
Revenue	15,385,000
OWDA	73,495,595
OPWC	1,542,762
Capital Leases (COPs)	321,250
Subtotal	$ 760,290,900
Net, not incl. rev. bonds or SRF loans	$ 620,014,907
Other Taxing Agencies	
Summit County	$ 11,030,360
Summit County Library District	12,218,266
Copley-Fairlawn City School District	67,568
Revere Local School District	236,899
Woodridge Local School District	2,653,949
Coventry Local School District	2,660,999
Springfield Local School District	119,952
METRO Regional Transit Authority	70,230
Subtotal, Overlapping Debt	$ 29,058,223
Total Net Debt	$ 649,073,130

Because the Net Debt indicator is a ratio of debt to property value, and because property value is the basis for ad valorem taxation that is used to pay general obligation debt, the USEPA Guidance suggests the total debt figure to be net of revenue bond debt, as that form of debt is not paid by property taxes. The City's OWDA loan debt is also paid by utility revenues, not property taxes. The total City debt, less revenue bond debt and OWDA loan debt is

$620,014,907. Other jurisdictions and taxing agencies that have outstanding debt partially paid by Akron have also been provided in Table 4-3.

Table 4-4 shows the computation of Net Debt according to USEPA's requirements. The debt values of Table 4-3 are included on lines 401 and 402 in Table 4-4. The City reports property taxable value (estimated actual value) in the annual CAFR. The estimated value for 2014 was $7,123,217,000. Because the ratio of net debt to property value, 9.1 percent, is greater than 5 percent (reference criteria in Table 4-1), this parameter indicates "Weak" financial capability.

Table 4-4. Net Debt Worksheet

Row	Item	Unit	Value
401	Direct net debt	($s)	620,014,907
402	Debt of overlapping entities	($s)	29,058,223
403	Overall net debt	($s)	649,073,130
404	Market value of property	($s)	7,123,217,000
405	Overall net debt as a percent of full market property value	(%)	9.1%

4.2 Socioeconomic Indicators

The two Socioeconomic Indicators are Unemployment and Household Income.

4.2.1 Unemployment

The unemployment indicator is determined as shown in Table 4-5.

Table 4-5. Unemployment Worksheet

Row	Item	Unit	Value
501	Unemployment rate of permittee	(%)	6.6%
	Benchmark:		
503	Average national unemployment rate	(%)	6.2%
	Comparison of permittee with benchmark	(%)	+ 0.4%

The unemployment rate for the City and the United States[31] for the year 2014 were obtained from the Bureau of Labor Statistics. Note the unemployment rate for the City does not include the full metropolitan area, which is different from recently reported statistics.

[31] Bureau of Labor Statistics. 2014 Annual Unemployment Rate [http://www.bls.gov/]

Because unemployment in the City falls between 1 percent above or below the national average (i.e., greater than 0.5 percent), this ratio indicates "Mid-range" Financial Capability, according to the criteria of Table 4-1.

4.2.2 Household Income

The Household Income Indicator is related to the Residential Indicator in that both incorporate MHI. While the Residential Indicator compares MHI to cost per household, here the Household Income Indicator compares local MHI to national MHI, as a measurement of relative wealth or poverty. Median household income is an important statistic that is tracked by the U.S. Census Bureau. As shown in Table 3-7, impacts on the community based on income distribution show a greater adverse impact than the Household Income Indicator.

As discussed previously in Section 3.2, the weighted average MHI for the City of Akron's service area in 2013 was $42,160. The CPI based adjustment of MHI to the 2015 year is $43,563 is shown in Table 4-6.[32]

The U.S. Census Bureau reports that the median income of households in the United States in 2013 was $53,046.[33] Applying the same CPI based adjustment to the national MHI to estimate 2015 MHI yields an adjusted figure of $54,812 as shown.

Because local MHI is more than 25 percent below the national MHI, according to USEPA criteria included on Table 4-1, this ratio indicates "Weak" Financial Capability.

Table 4-6. Household Income Worksheet

Row	Item	Unit	Value
601	MHI of permittee, adjusted to 2015	($)	43,563
	Benchmark:		
602	National MHI, adjusted to 2015	($)	54,812
	Comparison of permittee with benchmark	(%)	25.8%

[32] Adjusting MHI by historical CPI does not accurately represent actual MHI demonstrated by the bulk of the City's customers bearing the burden of CWA requirements. For example, 2013 MHI for the City alone was more than $10,000 lower than the value used to determine the CPH: $33,209 versus the adjusted and weighted value of $43,563.

[33] U.S. Census Bureau. 2013 American Community Survey 5 Year Estimate, Table B19013.

4.3 Financial Management Indicators

The two Financial Management Indicators are property tax revenues and property tax collection efficiency.

4.3.1 Property Tax Revenues

Property value and property tax revenue are included in Table 4-7.

Because the ratio of property tax revenue as a percentage of full market property value is below 2 percent (see criteria in Table 4-1), this Indicator indicates “Strong” financial capability.

Table 4-7. Property Tax Revenues Worksheet

Row	Item	Unit	Value
701	Full market value of real property	($s)	7,123,217,000
702	Property tax revenue	($s)	27,002,819
703	Property tax rev. as a percentage of full market property value	(%)	0.38%

4.3.2 Tax Collection Efficiency

The last of the USEPA Guidance financial capability indicators to review is property tax revenue collection rate. Computation of this indicator is shown in Table 4-8.

Data used for this indicator are derived from the City’s 2013 CAFR, as were the data for the previous indicator as shown in Table 4-7. Because Akron’s collections are above 98 percent of the amount levied, this ratio indicates “Strong” Financial Capability, according to the criteria of Table 4-1.

Table 4-8. Tax Collection Efficiency Worksheet

Row	Item	Unit	Value
801	Property tax revenue collected	($s)	27,002,819
802	Property taxes levied	($s)	27,419,596
803	Property tax revenue collection rate	(%)	98.48%

4.4 Summary of Phase 2 Financial Capability Indicators

The Indicator values and scores of the six Financial Capability Indicators are compiled in Table 4-9. The USEPA Guidance provides that for each “Weak” financial capability indicator shall be assigned a numeric value of “1”. Similarly, “Mid-Range” indicators are assigned “2” and “Strong” indicators are assigned “3.” Akron scored a “1” on two of the indicators, a “2” on one of the indicators, and a “3” on three of the indicators. The simple arithmetic average of the six indicators for Akron is 2.17.

Table 4-9. Summary of Financial Capability Indicators

Row	Item	Value	Score
901	Bond rating	AA-	3
902	Net debt percent of property value	9.1%	1
903	Unemployment rate compared with national average	+ 0.4%	2
904	Median household income compared with national average	25.8%	1
905	Property tax revenue percent of property value	0.38%	3
906	Property tax revenue collection rate	98.48%	3
907	Permittee indicator score		2.17

This simple average following the USEPA Guidance evenly weights a bond rating level to attain future debt against the unemployment rate and level of median household income. This simple calculation blends the factors and ultimately hides the true impact to a utilities' customer base.

Table 4-10 shows the same table as is in Table 4-1, color coded to show Akron's scores indicated in Table 4-9.

Table 4-10. Financial Capability Scores

Indicator	*Strong*	*Mid-Range*	*Weak*
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB (S&P) or Baa (MIS)	BB-D (S&P) or Ba-C (MIS)
Net Debt/Property Value	Below 2%	2% - 5%	Above 5%
Unemployment Rate	>1% below National Ave.	±1% of National Ave.	>1% above National Ave.
Median Household Income	>25% above adj. Nat'l MHI	±25% of adj. Nat'l MHI	>25% below adj. Nat'l MHI
Prop. Tax/Property Value	Below 2%	2% - 4%	Above 4%
Prop. Tax Collection Rate	Above 98%	94% - 98%	Below 94%

"S&P" means Standard & Poors Corp. "MIS" means Moody's Investors Service

Key: = City of Akron, OH score

5.0 SUMMARY OF AKRON'S FINANCIAL CAPABILITY ASSESSMENT

Table 5-1 provides the Financial Capability Matrix pursuant to the USEPA Guidance for both the Baseline Scenario 2040 and Integrated Plan Scenario 2040. The table shows the Phase 2 Permittee Financial Capability Indicators to be in the "Mid-Range" category, and is so color coded. This is because the average scores of the indicators (2.17 as indicated in Table 4-9) are between 1.5 and 2.5. The Phase 1 Residential Indicator is determined to be in the "High" category since the score is greater than 2 percent (2.64 and 2.34 percent as indicated in Table 3-6 and Table 3-10, respectively). The intersection of the Phase 1 and Phase 2 determinations shows that the overall assessment is "High Burden."

Table 5-1. Financial Capability Matrix

Permittee Financial Capability Indicators Score (Socioeconomic, Debt & Financial Indicators)	Residential Indicator (Cost per Household as a percentage of MHI)		
	Low (below 1.0 %)	Mid-Range (between 1.0 and 2.0 %)	High (greater than 2.0 %)
Weak (Below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (Between 1.5 and 2.5)	Low Burden	Medium Burden	High Burden
Strong (Above 2.5)	Low Burden	Low Burden	Medium Burden

Key: = City of Akron, OH score

6.0 ADDITIONAL CONSIDERATIONS REGARDING FINANCIAL CAPABILITY

As mentioned previously in this report, USEPA Guidance encourages utilities to provide additional documentation that helps create a more accurate and complete picture of their financial capability. USEPA published a memorandum in January 2013 acknowledging the economic challenges facing local governments and willingness to seek new approaches to achieve CWA goals.[34]

> *As programs to improve water quality and attain CWA objectives are implemented, many state and local government partners find themselves facing difficult economic challenges. We recognize these challenging conditions and are working with states and local governments to develop and implement new approaches that will achieve water quality goals at lower costs and in a manner that addresses the most pressing problems first.*
>
> *It is essential that long-term approaches to meeting CWA objectives are sustainable and within a community's financial capability. A community's financial capability and other relevant factors are important when developing appropriate compliance schedules that ensure human health and environmental protection.*

The primary objective of this section is to provide additional considerations that are not explicitly outlined in USEPA Guidance, which has been followed very closely in this report to this point. The following considerations are intended to bring clarity on the limitations of existing indicators currently used by USEPA and to provide a more complete picture of the City's financial capability.

Two additional approaches to determining the financial impact of the City's LTCP on its customers are presented in this section. Regardless of the approach, results indicate the baseline plan is a high financial impact on the service area and therefore should be taken into consideration with the City of Akron Integrated Plan.

6.1 Residential Indicators for Akron Only

While USEPA Guidance requires the inclusion of the City's MM communities in the FCA, it does not reflect the fact that LTCP costs are overwhelmingly borne by the City's retail customers. MM communities do not share proportionately in the City's total wastewater system costs; rather, they share proportionately in the City's trunk sewer and treatment systems. To demonstrate the impact on the City's retail service area, Residential Indicators were calculated for both scenarios.

This section presents the results for the Phase 1 analysis of the Residential Indicator calculation for both Baseline Scenario 2040 and Integrated Plan Scenario 2040 specifically for the City of Akron and retail suburban communities.

[34] USEPA. Assessing Financial Capability for Municipal Clean Water Act Requirements, January 18, 2013

The residential share of costs divided by number of households yields the CPH, in accordance with USEPA Guidance protocol. USEPA Guidance Worksheet 1 form is shown in Table 6-1 for both scenarios. The calculation is supported by Appendix C, Akron Only Baseline Scenario 2040 – Supporting Calculations, and Appendix D - Akron Only Integrated Plan Scenario 2040 – Supporting Calculations.

Table 6-1. Costs per Household Determination for Akron Retail Only

Row	Item	Unit	Baseline Scenario 2040	Integrated Plan Scenario 2040
Current Costs				
100	Annual O&M Costs	($s)	$ 33,043,740	$ 33,043,740
101	Annual Capital and Debt Service	($s)	18,413,671	18,413,671
102	Subtotal	($s)	$ 51,457,411	$ 51,457,411
Projected Costs				
103	Estimated Annual O&M Costs	($s)	$ 4,918,599	$ 3,379,342
104	Estimated Annual Capital and Debt Service	($s)	88,610,217	69,302,007
105	Subtotal	($s)	$ 93,528,816	$ 72,681,349
106	Total Current and Projected Costs	($s)	$ 144,986,227	$ 124,138,760
107	Residential share of total costs	($s)	$ 97,758,530	$ 83,701,900
108	Total number of Households in Service Area		88,664	88,664
109	Cost Per Household	($s)	$ 1,100	$ 940

The Residential Indicator computation divides CPH, as determined above, by MHI. This is shown in Table 6-2.

Table 6-2. Residential Indicator Determination for Akron Retail Only

Row	Item	Unit	Baseline Scenario 2040	Integrated Plan Scenario 2040
Median household income				
201	MHI in 2013	($)	$ 36,580	$ 36,580
202	CPI adjustment factor - to 2015	(%)	1.03	1.03
203	Adjusted MHI	($)	$ 37,798	$ 37,798
204	Annual cost per household	($)	$ 1,100	$ 940
205	Residential indicator			
	CPH as a percentage of adjusted MHI	(%)	2.91%	2.49%

6.2 Limitations of Current EPA Indicators for Financial Capability

As referenced in Section 2.3, the issue brief regarding the assessment of affordability published by USCM, AWWA, and WEF brought attention to the fact that MHI can be a highly misleading indicator of a community's ability to pay and it may not be best to use a community-wide MHI as the primary measure of affordability. This point is supported with five criticisms found in the issue brief.[35] These criticisms of the currently calculated Residential Indicator that is strongly dependent on MHI are identified as follows:

1. *MHI is a poor indicator of economic distress and bears little relationship to poverty or other measures of economic need within a community*
2. *MHI does not capture impacts across diverse populations*
3. *MHI provides a snapshot that does not account for the historical and future trends of a community's economic demographic and/or social conditions*
4. *MHI does not capture impacts to landlords and public housing agencies*
5. *The Residential Indicator does not fully capture household economic burdens*

The brief goes on to encourage alternative metrics for considering affordability, limitations of the financial indicators (phase 2), and weighing mandate-driven expenditures.

Conversations started by USCM, AWWA, and WEF have been the catalyst for many others to weigh in on the limitations of current USEPA Guidance and way of assessing financial capability. When considering financial capability in the City, there are three critical areas that are currently overlooked and need to be considered:

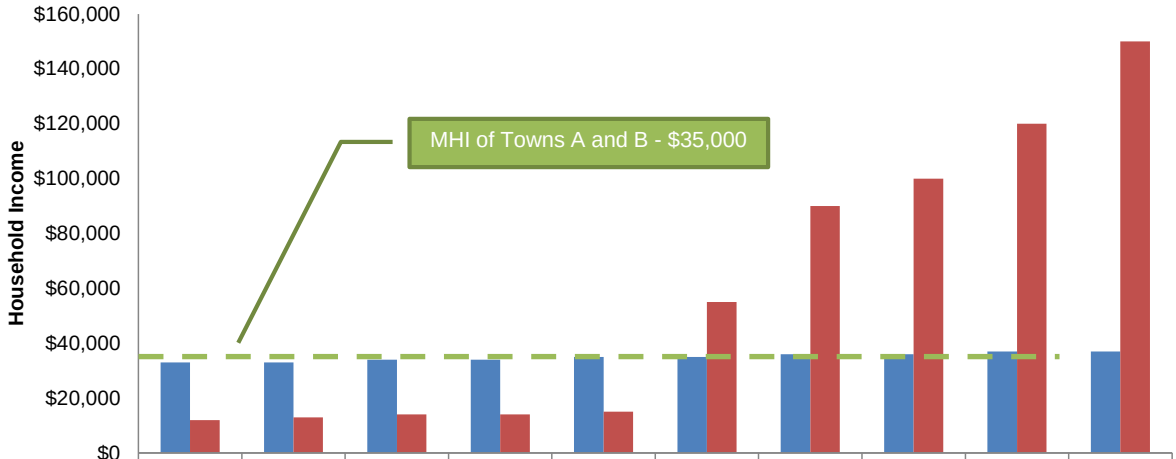
- Income distribution and skew
- Neighborhoods
- Actual bills

6.2.1 Income Distribution

The Residential Indicator considers the cost per household as a percent of MHI for the entire community, but falls short in considering the sometimes disproportionate distribution of incomes within that community. Figure 6-1 clearly illustrates that incomes within Akron do not fall in an equal distribution around the median. In 2013, MHI in the City was $33,209 and 24 percent of all households made less than $15,000. Thus, nearly half of incomes that fall below the median are under $15,000 and are far from MHI reported for the community. Another term to describe the distribution of income in the City is that it is skewed;[36] meaning a disproportionate amount of the population is not just below median household income, but far below the median. Using median income for an entire community misrepresents the true picture of incomes and could overlook communities with incomes skewed away from the median.

[35] See note 21.
[36] In statistics, skew refers to the asymmetry of a data distribution.

To illustrate, imagine there are two towns, Town A and Town B. Both towns have an identical MHI of $35,000, but the income distributions are very different. As shown in Figure 6-1, the majority of incomes in Town A fall between $33,000 and $37,000, while in Town B a large portion of households have incomes below $15,000 and a large portion above $55,000. Although MHI would be the same in both towns, affordability in Town A and Town B would look very different as rates increase.



	Household 1	Household 2	Household 3	Household 4	Household 5	Household 6	Household 7	Household 8	Household 9	Household 10
Town A	$33,000	$33,000	$34,000	$34,000	$35,000	$35,000	$36,000	$36,000	$37,000	$37,000
Town B	$12,000	$13,000	$14,000	$14,000	$15,000	$55,000	$90,000	$100,000	$120,000	$150,000

Figure 6-1. MHI Income Distribution Example

For the City, looking at a community-wide MHI ignores incomes below the median that are very low (almost one quarter of the population in 2013) and are impacted significantly more by increasing costs. EPA's Guidance for Preparing Economic Analyses (2000)[37] recognizes the legitimacy of assessing impacts to all households across the income distribution, although the agency provides no direction or methodology for doing so. A strategic and tactical correction to the Residential Indicator by converting it to more of a household affordability measurement which focuses at the level where citizens, elected officials and utility managers are concerned is in order.

6.2.2 Neighborhoods

Throughout a community, clusters of neighborhoods tend to exhibit various incomes and socioeconomic characteristics. When using MHI as the indicator for an entire community, characteristics of individual neighborhoods are ignored. These data are easily accessible using census tract data published by the U.S. Census Bureau. In the City, reviewing neighborhoods by census tracts reveals that MHI ranges from $10,233 to $104,245. This is a difference of $94,012 between the highest and lowest MHI neighborhoods in the City. Figure 6-2 illustrates various MHIs within neighborhoods of Akron.

[37] USEPA. 240-R-00-003. September 2000.

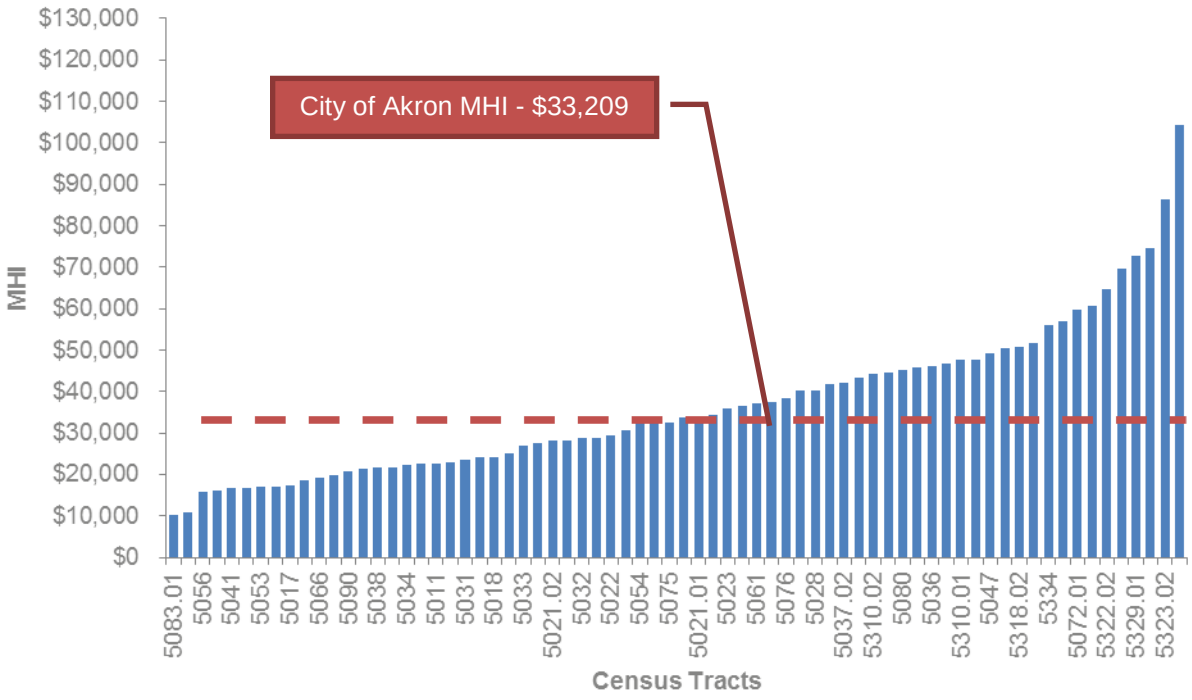


Figure 6-2. City of Akron 2013 MHI by Census Tract

In addition to MHI, income distribution within each of these census tracts also varies widely. When considering the Residential Indicator using one MHI number for the entire community, affordability for both the highest income and lowest income neighborhoods is not accurately represented.

6.2.3 Actual Bills

The current Residential Indicator calculation determines a uniform cost for all residents served by the utility. It assumes that each customer is represented fairly by using average cost per household for the entire community. In reality, customers throughout the service area have different usage patterns and have different average bills. Using a uniform cost per household does not consider that some residents of the community have higher bills and will pay for relatively more of the costs. Actual characteristics of customers compiled from City billing data and communities in which customers reside are used to reasonably estimate which neighborhoods have higher and lower average bills. It is a relatively simple matter to cross reference customer account addresses from the City's billing data with individual census tracts using geocode data. Thus, obtaining actual bills for a census tract and determining an average bill in that tract is obtainable information that should be used whenever possible.

6.3 A More Detailed Approach: The Weighted Average Residential Index

To properly account for income distribution, individual neighborhoods, and actual bills of the City's service area, a detailed approach is required. Using a Weighted Average Residential Index (WARi™),[38] income skew in the City is resolved and is easily applied to each neighborhood or census tract. The WARi approach uses actual customer billing data calculated for each census tract resulting in a more accurate depiction of the real financial impacts of individual households in neighborhoods over time as rates increase.

MWH developed the WARi approach after considering the concerns expressed by AWWA, WEF, and the USCM about limitations of the USEPA Guidance with respect to measuring a community's financial capability. It has been specifically designed to use more of the data points available in the census information and in an individual community's billing records to address the specific shortcomings of the current USEPA Guidance. Specifically, WARi more accurately takes into account and is more sensitive to MHI in individual census tracts (i.e. neighborhoods) and actual bill records for those census tracts. For its part, the USCM is championing an approach to affordability assessments that includes census tract and income distribution throughout neighborhoods in the community. WARi encompasses all of these elements.

To calculate WARi, the following steps are completed:

1. Census tract data for the community is gathered to understand MHI and income distribution within each census tract.

2. Using the City's actual billing records, an average bill by census tract is calculated.

3. A Residential Indicator is calculated for each census tract by dividing the average bill for the tract by its own median household income.

4. The distribution of households and financial impact by income group are multiplied together to get a weighted average of financial impact for each census tract.

5. All calculations are repeated for each income group and for each census tract to determine the WARi for the City's service area. The Residential Index for the service area is calculated by weighting the Residential Indicator from each tract by the number of households; summing the total weighted Residential Indicator results in a weighted average residential index for the service area.[39]

A comparison of current USEPA Guidance and WARi are summarized in Table 6-3.

[38] WARi is a trademark of MWH Global, Inc.
[39] Note that WARi can be calculated without considering individual income bins in each census tract to more closely compare with USEPA Guidance. Both measures approach the calculation of financial impact differently yet both still result in high financial impact for the City, even when weighting the impact on each census tract.

Table 6-3. USEPA Guidance and WARi

	Current USEPA Guidance	WARi
Measures Central Tendency?	Population median only	Population weighted by 16 income groups
Includes all neighborhoods?	No	All census tracts in the service area
Uses actual bills?	No	Actual bills cross-referenced to census tracts

When calculating WARi for the City, it is important to understand the Residential Indicator as outlined by USEPA Guidance and discussed in Section 3.2 (2.64 percent for the Baseline Scenario 2040) and how it compares to WARi. First, consider USEPA's affordability threshold of 2 percent, used as the starting point for an annual wastewater bill to be considered unaffordable for the community. Using the weighted average and adjusted MHI for 2015 for the City's service area (retail and MM) of $43,563, 2 percent of MHI equates to a maximum cost per household of $871.[40] When an average bill of $871 is compared to the median income of every census tract in the Akron Sewer Service Area, the weighted average impact is 2.38 percent rather than the 2 percent that was determined using population MHI. In this case, population median ignores skew in income distribution resulting in a false indication of affordability and a higher financial impact per household than would have been calculated using full census tract information.

When this same approach is applied to the amounts calculated previously in the Baseline Scenario 2040 FCA, a CPH of $1,150 applied to the MHIs in each of the census tracts increases the Residential Indicator from 2.64 percent to 3.14 percent. Thus, based purely on the differences between population MHI (EPA Guidance) and a detailed analysis of population and income of each census tract, the financial impact of LTCP costs are materially different.

Although considering MHIs of each neighborhood in the City's service area provides some additional granularity and represents an improvement in measuring affordability, it still falls short in answering the fundamental problem of considering income distribution and skew. With full implementation of WARi, a new Residential Indicator is produced in each census tract by creating a weighted average of population and income levels, and also applies the actual average bills for each tract. The WARi result for the Baseline Scenario 2040 is 4.24 percent.

Finding the weighted average of census tract burden and income distribution in Akron's service area provides an alternative methodology that gives insight on specific groups within the City that have a high fiscal impact. A more accurate picture of the entire community is provided with this approach.

[40] Costs above this level would be considered a "High Financial Impact."

Acknowledging that WARi is inherently different than the Residential Indicator outlined by USEPA Guidance, revised thresholds for financial impacts to households are needed. Using the fully implemented WARi methodology and applying a CPH of $733 (2 percent of Residential Indicator using census tract details) to all census tracts yields a WARi threshold of 3.56 percent. This WARi threshold is unique to the City and is based on its specific economic characteristics. When considering affordability in the City, a WARi of 3.56 percent or greater is considered unaffordable and is the equivalent of the "High Financial Impact" threshold applicable under EPA Guidelines. Using the criteria outlined in Table 3-1 as a base, the low, mid-range, and high financial impacts of WARi are illustrated in Table 6-4.

Table 6-4. WARi Affordability Criteria

Financial Impact	EPA Guidance	WARi Guidance
Low	CPH less than 1.0 percent of MHI	WARi less than 1.78 percent
Mid-Range	CPH between 1.0 - 2.0 percent of MHI	WARi between 1.78 - 3.56 percent
High	CPH greater than 2.0 percent of MHI	WARi greater than 3.56 percent

In the maps shown on subsequent pages of this report and in Appendix E, the colors and thresholds shown in Table 6-5 should be used as key for affordability and financial impact. Green areas on tables and maps indicate low financial impact, orange areas indicate high financial impact, and red areas indicate extremely high impact.

In summary, the benefits of applying WARi include:

- Influence of City service area-specific income distributions.
- Ability to provide more granular analysis of financial impacts.
- Flexibility to view affordability annually throughout the LTCP schedule.

6.4 Projecting Affordability Impacts Over Time with Financial Planning

In addition to solving the issues of neighborhoods and income distribution, WARi uses actual bills by census tract to provide a forecast of affordability over time, rather than only giving a snapshot of one year like the current Residential Indicator following USEPA Guidance. The current average bill based on actual billing data is used as the basis for the first year. For years following the current average bill, bills are increased based on projected rate increases discounted by annual inflation. Projected rate increases are the projected nominal increases needed to meet the City's revenue requirements each year. Discounting annual rate increases results in future average bills in 2015 dollars. This provides a more complete picture of projected impacts on neighborhoods within a community over time and identifies communities with bills that become unaffordable as costs increase.

Rate increases used to analyze affordability over time were projected in a long-term financial plan developed for the City.

MM customers' bills were calculated by applying each community's rate structure to an average monthly billed sewer use of 5 HCF.[41] A residential customer's average bill was separated into two parts: the Akron treatment component and the MM community's local cost component. The Akron treatment component was escalated over time based on rate increases determined in the long-term financial plan developed for the City. As future plans for MM communities' costs are unknown, MM local cost components were escalated based on an average rate of 3 percent per year. These increases were also discounted to 2015 dollars by adjusting for inflation.

6.4.1 Basics of Financial Plans

A comprehensive long-term financial plan was developed to analyze future cash flows of revenues, debt service requirements, bond and loan proceeds, and capital project costs. One of the primary uses of the financial plan is to determine revenue requirements of the City's wastewater utility. Revenue requirements are the total operating and capital costs the City must recover from its rates to properly operate, maintain, and develop the infrastructure for the wastewater system, including LTCP program costs. The cash-needs approach used for the City means total revenue requirements are annual expenditures necessary to meet operating and maintenance costs, debt service requirements, minimum reserve requirements, and any cash-funded capital expenditures.

6.4.2 Sources of Funds

Sources of funds for the City's wastewater utility include all cash inflows, such as retail and MM (or wholesale) rate revenues, debt proceeds, reserve funds for capital, interest income, and other miscellaneous income. The primary source of funds comes from rate revenues. Due to the large amount of projects in the LTCP, rate increases are projected each year beginning in 2021 in the long-term financial plan.

6.4.3 Uses of Funds

Uses of funds for the City's wastewater utility include operating and capital expenditures, outstanding and projected debt service payments, reserve requirements, and increases to meet fund balance requirements. Over the next 26 years, the majority of costs for the City will be related to capital projects.

6.4.4 Changes in Rate Revenues

The sources and uses of funds are compared on an annual basis over the study period. Deficits in sources of funds required to cover uses of funds determine rate revenue increases necessary to run the utility. Projected rate revenue adjustments are applied to the average bill in 2013 to determine the average bill for each period through the end of the LTCP construction period. Rate revenue increases projected in the financial plan consider debt service coverage ratios and minimum fund balance requirements, items not considered when determining CPH following USEPA Guidance.

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[41] Actual billing data for MM communities' residential customers was not available; therefore median monthly use in City of Akron was used as a proxy.

The financial plan developed to project average bill increases was designed to match the assumptions used in the USEPA Guidance CPH calculation, such as:

- Debt financing interest rate and term.
- Annual stormwater costs.
- Future O&M from LTCP projects.
- Annual R&R expenditures.

The financial plan used in this analysis may be different than the financial plan used by the City's financial management team. Items like debt financing interest rates may be different to reflect future actual borrowing terms. Stormwater costs, which are currently at a minimal level, are also items that may not be currently considered in the financial management team's financial plan.

The rate increases presented in the financial plan include an inflationary adjustment. To analyze the financial impacts of rate increases over time and compare to the USEPA Guidance results, nominal rate increases are discounted by the expected inflation throughout the construction period. This presents the rate increase and affordability over time, while keeping everything in 2015 dollars.

The WARi affordability model assumptions used rates adopted by the City, which included a 27 percent increase in 2015. In the period of 2021 through 2040, rate increases were set to match the rate revenue increases that would be required by the utility as calculated in the financial plan.

The average bill at the end of the LTCP construction period calculated using WARi and financial plan projections will differ from the CPH of $1,150 discussed previously in this report. Most importantly, the CPH of $1,150 is an amount calculated following current USEPA Guidance and has nothing to do with the actual bills currently paid by the City's customers.

A summary of work papers, calculations, and other materials regarding the projected affordability over time have been included in Appendix E, City of Akron Weighted Average Residential Index – Supporting Calculations.

Using advanced Geographic Information System (GIS) analysis, maps of affordability by neighborhood or census tract can be generated to demonstrate the feasibility of a CSO control program over time for the community. Figure 6-3 and 6-4 clearly show specific locations within the service area that are affected more by annual bills (demonstrated by orange and red areas as identified by the map key in Table 6-5) than others (demonstrated by green areas). The overall WARi process increases the level of granularity by which affordability issues can be studied.

Table 6-5. WARi Affordability Table and Map Key

Financial Impact		Color
Low	Less than 1.78%	
Mid	1.78% to 3.56%	
High	3.56% to 5.33%	
Very High	5.33% to 7.11%	
Extreme	Greater than 7.11%	

Baseline - 2040

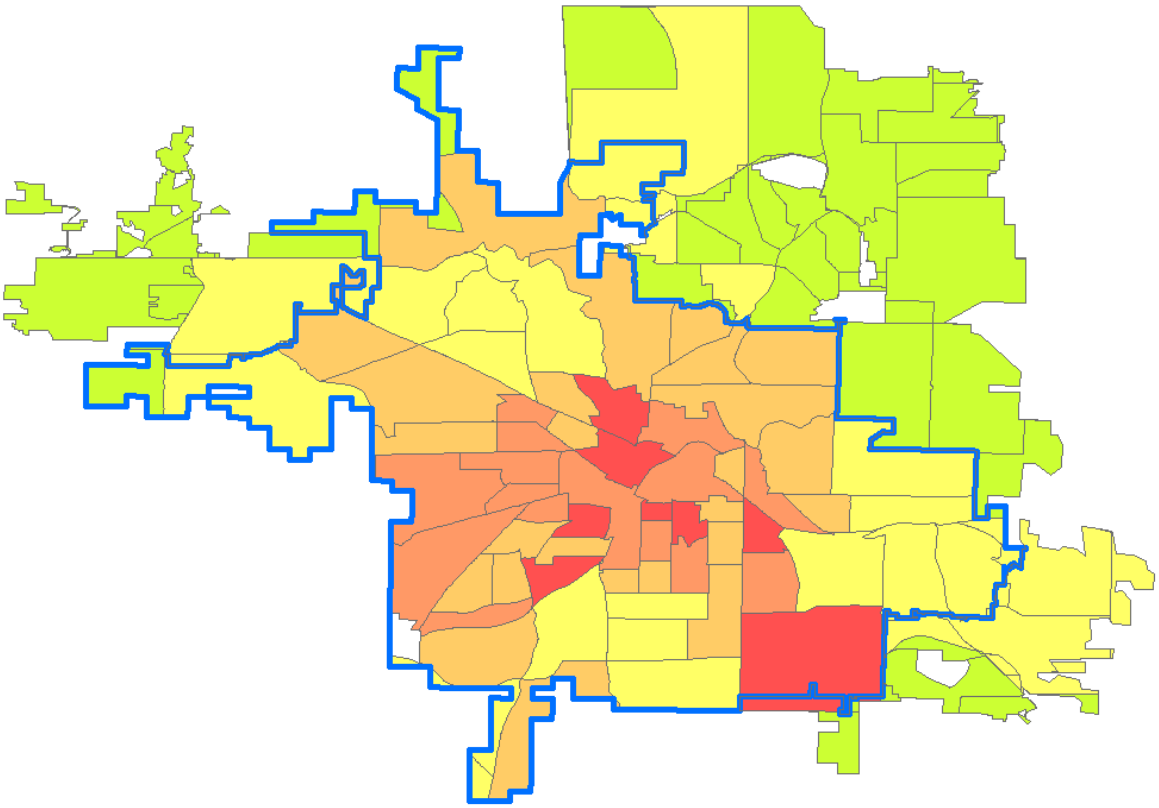

Figure 6-3. City of Akron Projected Affordability by Census Tract in 2040 – Baseline Scenario 2040

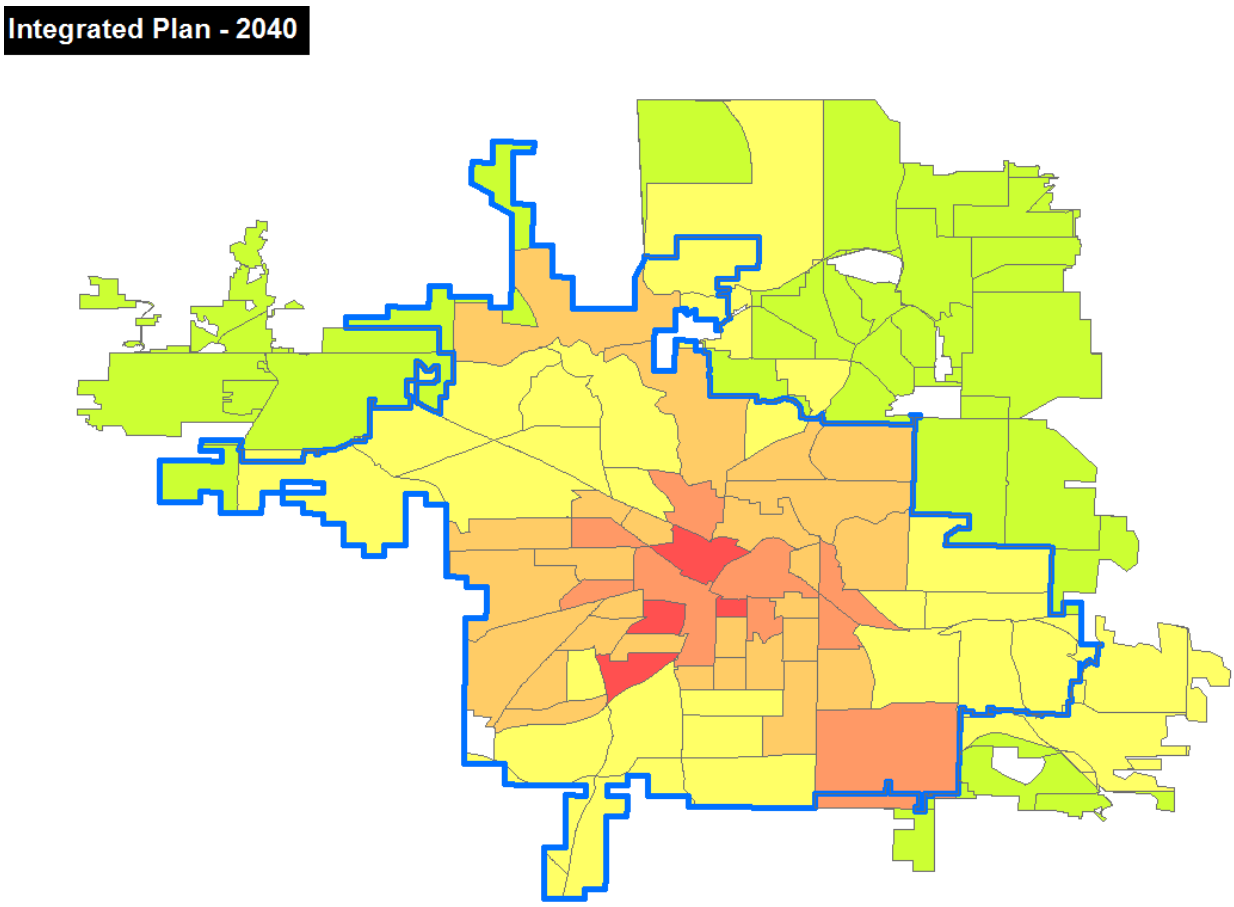

Figure 6-4. City of Akron Projected Affordability by Census Tract in 2040 – Integrated Plan Scenario 2040

6.5 Conclusion

As USEPA has recognized, the financial impact of CSO control programs can create difficult challenges for local governments, which is the case in the City. This report presents a new approach to measuring financial capability of a community. USEPA Guidance recommends that communities provide documentation presenting a more complete picture of financial capability. USEPA further recommends that communities with higher burdens receive longer schedules for completing the LTCP.

The current LTCP presents a high burden for the community; therefore, USEPA Guidance encourages the City to present analysis of other local conditions demonstrating the financial capability in its service area. CSO program costs will have a disproportionate burden on lower and fixed income households in the City. USEPA Guidance adopts the approach used for assessing substantial and widespread economic and social impacts of water pollution control projects under 40 CFR 131.10(g)(6). The conclusions and analysis presented in this report indicates that current costs exceed this standard.

The WARi methodology is proposed to describe the true financial impact on the entire community. It addresses fundamental issues of current USEPA Guidance and identifies and assimilates much more of available data related to income distribution and neighborhoods

specific to a community. WARi differs from current USEPA Guidance by looking at the utility's service area on a census tract level, across 16 standard income groups in each census tract, and is population-weighted to more accurately depict income distribution. In addition, actual residential customer data is collected from client billing data and an average bill is calculated within each census tract. These average bills are then matched to census tracts where they can be compared to income levels in each tract. The average bills are indexed annually by projected rate increases during the study period on a current dollar basis. Average bills in current year dollars for every future year are projected for the LTCP period.

The fundamental principle of a financial capability assessment is based on the understanding and perspectives that while the Permittee is the utility, the ability of the utility to meet CWA objectives while remaining sustainable and affordable rests on the financial capability of individual households. These households make up the community and collectively are the owners of public utilities and are responsible for the fiscal support of all public services and public infrastructure through rates, fees, and taxes. WARi is an improved methodology that more accurately assesses economic burden on a community. It is apparent from the WARi analysis that the City's retail customers bear the greater portion of LTCP impacts. Using WARi in communities such as the City provides a more detailed picture of financial capability and should be considered by USEPA when negotiating LTCP project priorities and schedules.

In summary, when faced with a Consent Decree (CD) and LTCP that was found to have significantly increased in cost, the City decided to take advantage of USEPA's June 2012 Integrated Planning Framework (IPF) to develop an alternative program that meets its CWA responsibilities. From a financial standpoint, the alternative plan was required because detailed financial analysis and this FCA report determined that the current baseline program would require an additional 48 percent increase in the next 13 years beyond the 269 percent increase that the ratepayers have seen over the last ten years. The baseline program costs generated a Residential Indicator that was substantially greater than USEPA Guidance threshold of 2 percent and therefore was unaffordable. Akron's IP plan studied whether a schedule extension to 2040 with the current baseline LTCP projects would be possible. The financial analysis performed in addition to the FCA in this report indicated that an 80 percent cumulative rate increase from 2021 through 2040 would be required. Given that the analysis showed the current program as unaffordable, the option of simply extending the compliance schedule was not financially feasible. Therefore, the City developed the Integrated Plan Scenario 2040 which took advantage of newly updated hydraulic model information and newest technologies in terms of real time controls, green infrastructure, optimized conveyance, and in-line storage. The resulting Integrated Plan Scenario 2040 as presented in this FCA analysis only requires a 49 percent cumulative rate increase from 2021 to 2040 and is therefore less unaffordable.

APPENDIX A – BASELINE SCENARIO 2040 – SUPPORTING CALCULATIONS

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table A-1. Cost per Household, Worksheet 1 of USEPA Guidance

Row	Item	Unit	Value	Notes
Current Costs				(1)
100	Annual O&M Costs	($s)	$ 63,296,540	
101	Annual Capital and Debt Service	($s)	24,880,719	
102	Subtotal	($s)	$ 88,177,258	
Projected Costs				(1)
103	Estimated Annual O&M Costs	($s)	$ 4,918,599	
104	Estimated Annual Capital and Debt Service	($s)	88,610,217	
105	Subtotal	($s)	$ 93,528,816	
106	Total Current and Projected Costs	($s)	$ 181,706,074	
107	Residential share of total costs	($s)	$ 139,323,636	
108	Total number of Households in Service Area		121,293	(2)
109	Cost Per Household	($s)	$ 1,150	

(1) Additional details associated with the cost per household calculation are included in the following pages of this appendix
(2) Total number of households per US Census data was used for the City of Akron, suburban communities, and Master Meter Customers ACS 2013 5 Year Estimate, Table DP03

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table A-2. Residential Indicator, Worksheet 2 of USEPA Guidance

Row	Item	Unit	Value	Notes
Median household income				
201	MHI in 2013	($)	$ 42,160	(1)
202	CPI adjustment factor - to 2015	(%)	1.03	(2)
203	Adjusted MHI	($)	$ 43,563	
204	Annual cost per household	($)	$ 1,150	
205	Residential indicator CPH as a percentage of adjusted MHI	(%)	2.64%	(3)

(1) MHI is weighted based on various communities served by the City of Akron, see additional details in the following pages of this appendix
(2) MHI was adjusted using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix
(3) Per EPA Guidance, permittees with a residential indicator equal to or greater than 1.0% are suggested to proceed to the second phase analysis

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-3. Bond Rating, Worksheet 3 of USEPA Guidance

Row	Item	Value
301	Most Recent General Obligation Bond Rating Akron GO Standard & Poor's, 2014	AA-
302	Most Recent Revenue Bonds Series 2005 Bond Insurance: Yes Moody's, 2005	Aaa
303	Summary Bond Rating (Most recent rating, per USEPA Guidance)	AA-

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-4. Overall Net Debt as a Percent of Full Market Property Value

Row	Item	Unit	Value	Notes
401	Direct net debt	($s)	620,014,907	(1)
402	Debt of overlapping entities	($s)	29,058,223	(1)
403	Overall net debt	($s)	649,073,130	
404	Market value of property	($s)	7,123,217,000	(2)
405	Overall net debt as a percent of full market property value	(%)	9.1%	

(1) Additional details regarding debt is provided in Table 4-3
(2) 2014 Estimated actual value of real property, 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-5. Unemployment Rate, Worksheet 5 of USEPA Guidance

Row	Item	Unit	Value	Notes
501	Unemployment rate of permittee	(%)	6.6%	(1)
	Benchmark:			
503	Average national unemployment rate	(%)	6.2%	(2)
	Comparison of permittee with benchmark	(%)	+ 0.4%	

(1) Bureau of Labor Statistics, Local Area Unemployment Statistics, 2014 Annual Unemployment Rate, Akron city, OH, http://www.bls.gov/lau/
(2) Bureau of Labor Statistics, Current Population Survey, 2014 Annual Unemployment Rate, http://www.bls.gov/cps/

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-6. Median Household Income, Worksheet 6 USEPA Guidance

Row	Item	Unit	Value	Notes
601	MHI of permittee, adjusted to 2015	($)	43,563	
	Benchmark:			
602	National MHI, adjusted to 2015	($)	54,812	(1) (2)
	Comparison of permittee with benchmark	(%)	25.8%	

(1) ACS 2013 5 Year Estimate, Table B19013
(2) Adjusted to 2015 using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-7. Property Tax Revenues as a Percent of Full Market Property Value, Worksheet 7 USEPA Guidance

Row	Item	Unit	Value	Notes
701	Full market value of real property	($s)	7,123,217,000	(1)
702	Property tax revenue	($s)	27,002,819	(1)
703	Property tax rev. as a percentage of full market property value	(%)	0.38%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-8. Property Tax Revenue Collection Rate, Worksheet 8 USEPA Guidance

Row	Item	Unit	Value	Notes
801	Property tax revenue collected	($s)	27,002,819	(1)
802	Property taxes levied	($s)	27,419,596	(1)
803	Property tax revenue collection rate	(%)	98.48%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table A-9. Summary of Financial Capability Indicators, Worksheet 9 USEPA Guidance

Row	Item	Value	Score
901	Bond rating	AA-	3
902	Net debt percent of property value	9.1%	1
903	Unemployment rate compared with national average	+ 0.4%	2
904	Median household income compared with national average	25.8%	1
905	Property tax revenue percent of property value	0.38%	3
906	Property tax revenue collection rate	98.48%	3
907	Permittee indicator score		2.17

City of Akron, OH

CSO Financial Capability Assessment 2015

Financial Capability Assessment Summary

Table A-10. Financial Capability Matrix Score, Worksheet 10 USEPA Guidance

Row	Item	Value
1001	Residential indicator score	2.64
1002	Permittee financial capability indicators score	2.17
1003	Financial capability matrix category	High Burden

City of Akron, OH

CSO Financial Capability Assessment 2015

CPH Worksheet

Table A-11. CPH Worksheet –Baseline Scenario 2040

Item		Value		Notes
Current WW Costs (2015 dollars)				
O&M costs				
2015 O&M, budget	$	30,043,740		
Annual Storm Water O&M		3,000,000		
Master Meter O&M		16,936,303		(1)
Master Meter Renewal and Replacement Costs		12,047,499		
Master Meter Stormwater O&M Costs		1,268,998		
Subtotal, O&M	$	63,296,540		
Annual capital including debt service				
Existing debt service	$	18,413,671		
Master Meter existing debt service	$	3,272,973		(1)
Annual PAYGO capital requirement		0		
Master Meter capital outlay		3,194,074		(1)
Subtotal, annual capital	$	24,880,719		
Total, current costs	$	88,177,258		
Projected (new facility) costs (2015 dollars)				
Estimated annual O&M expenses (excluding depreciation)	$	4,918,599		(2)
Estimated annual capital including debt service				
CMOM Annual Costs	$	6,500,000		
Debt service on new facilities				
Total new CIP for CSO & WW Projects	$	1,555,941,028		(2)
Escalated to 2015				
Assumed capitalization (%loans)		92%		(3)
Assumed loan term, bond maturity		30	yr	
Assumed interest rates		3.41	%	
Assumed issuance costs		0.35	%	
Equal annual "payments"		77,563,245		
PAYGO annual costs		4,546,972		
Total, estimated annual debt service & PAYGO	$	88,610,217		
Total projected CSO & WW costs	$	93,528,816		
Total, current and projected annual cost (2015 dollars)	$	181,706,074		

(1) 2014 Budget information from Master Meter customers
(2) Additional details are included in the following pages of this appendix
(3) Ratio of LTCP projects costs with total CIP costs excluding JEDD project costs

City of Akron, OH

CSO Financial Capability Assessment 2015

Master Meter Worksheet

Table A-12. Master Meter Worksheet

Item	Value	Notes
Current O&M Costs (2014 dollars)		
Lakemore	92,575	
Tallmadge	587,027	
Cuyahoga Falls	4,277,420	
Mudbrook & Montrose	11,979,281	
Total current O&M Costs	16,936,303	
Existing Debt Service		
Lakemore	-	
Tallmadge	76,686	
Cuyahoga Falls	571,576	
Mudbrook & Montrose	2,624,712	
Total Existing debt service	3,272,973	
Capital Outlay		
Lakemore	-	
Tallmadge	219,600	
Cuyahoga Falls	215,180	
Mudbrook & Montrose	2,759,294	
Total Capital Outlay	3,194,074	
Renewal and Replacement Expenses		(1)
Lakemore	859,312	
Tallmadge	2,318,560	
Cuyahoga Falls	2,441,395	
Mudbrook & Montrose	6,428,233	
Total Renewal and Replacement Expenses	12,047,499	
Stormwater Expenses		(2)
Lakemore	-	
Tallmadge	290,729	
Cuyahoga Falls	488,848	
Mudbrook & Montrose	489,421	
Total Stormwater Expenses	1,268,998	

(1) Renewal & Replacement (R&R) expenses estimated based on Akron's R&R cost per million gallons treated

(2) Stormwater budgets estimated for communities without data

City of Akron, OH

CSO Financial Capability Assessment 2015

Customer Data

Table A-13. Residential Share Calculation

	2014 Billed Discharge (flow MG/year)				
	Res	**Com**	**Ind**	**Total**	**Notes**
Total Volume Treated @ WPCS				**26,954.6**	(1)
Total Billed Flow				**10,261.1**	
Total Retail Flow	3,986.4	1,193.0	511.2	5,690.6	
Akron Customers	3,565.6	1,011.1	459.1	5,035.8	
Suburban Customers	420.8	181.9	52.1	654.8	
Total Master Meter Flow	3,881.3	689.2		4,570.5	
Total Unbilled Flow: 100% volume based				**16,693.5**	(2)
Total Allocated Flow	12,799.8	3,062.1	831.7		
Total Adjusted Flow	**20,667.5**	**4,944.2**	**1,342.9**	**26,954.6**	
Residential share of total volume	**76.7%**				

(1) Total Annual Flow reported in the 2014 Sewer Bureau Water Reclamation Facility Report

(2) Difference of total volume treated and recorded billed flows (provided by Akron Utilities Business Office Division)

City of Akron, OH

CSO Financial Capability Assessment 2015

Weighted Average MHI

Table A-14. Weighted Average MHI Calculation

Jurisdiction	[A] MHI (1)	Number of Households (2)	[B] Weight	[A] x [B] Weighted MHI (3)
Akron city, Ohio	33,909	78,427	64.66%	
Fairlawn city, Summit County, Ohio	62,662	3,483	2.87%	
Copley township, Summit County, Ohio	73,398	1,139	0.94%	
Mogadore village, Summit County, Ohio	50,972	2,448	2.02%	
Coventry township, Summit County, Ohio	47,993	1,503	1.24%	
Springfield township, Summit County, Ohio	49,049	290	0.24%	
Bath township, Summit County, Ohio	96,585	61	0.05%	
Lakemore village, Summit County, Ohio	40,982	782	0.64%	
Tallmadge city, Summit County, Ohio	53,913	4,017	3.31%	
Cuyahoga Falls city, Summit County, Ohio	49,438	15,017	12.38%	
Mudbrook, Summit County, Ohio	61,147	11,810	9.74%	
Montrose, Ohio	95,956	2,316	1.91%	
		Weighted MHI for Akron Service Area		**42,160**

(1) ACS 2013 5 Year Estimate, Table DP03

(2) Total number of households per US Census (ACS 2013 5 Year Estimate, Table DP03)

(3) Weighted MHI is calculated as described in EPA Guidance documentation

City of Akron, OH

CSO Financial Capability Assessment 2015

CPI & Adjustment Factors

Table A-15. Consumer Price Index

Consumer Price Index

U.S. Department of Labor, Bureau of Labor Statistics

	CPI	Percent Change
2009	214.537	
2010	218.056	1.64%
2011	224.939	3.16%
2012	229.594	2.07%
2013	232.957	1.46%
2014	236.736	1.62%
2015 (April)	236.599	-0.06%
5 Year Avg CPI % Change		1.65%

MHI Adjustment Factor

Used to adjust MHI to current dollars

Census Year	2013
Base Year	2015
# of Years	2
MHI Adjustment Factor	1.03

O&M Inflation Factor

Used to adjust historical costs to the present value

2010 CPI	218.06
2015 (April) CPI	236.60
Cost Adjustment Factor	1.085

Sources to determine the CPI:

General information regarding the CPI, http://www.bls.gov/cpi/

A listing of historical CPI can be found in the CPI Detailed Report, Table 24, http://www.bls.gov/cpi/#tables

Document used to identify the CPI in April 2014, http://www.bls.gov/cpi/cpid1404.pdf

City of Akron, OH

CSO Financial Capability Assessment 2015

Capital Improvement Program and Costs (1)

Table A-16. Capital Improvement Program – 2015 $ - Baseline Scenario 2040

Item	Type	Value 2015-2040
Activated Gallery Boiler Replacement	Non-LTCP	$ 100,000
Annual Plant & Pump Station Renewal	Annual	130,000,000
Annual Sewer Renewal	Annual	285,000,000
Camp Brook Storage Basin (CSO Rack 12)	LTCP	29,655,221
Carpenter Sewer Separation (CSO Rack 30)	LTCP	2,805,225
Cascade Village Storage Basin (CSO Rack 15)	LTCP	6,521,293
CMOM 5-Year Cycle	LTCP	169,000,000
Dan Sewer Separation (CSO Rack 13)	LTCP	4,131,124
Erosion-Streambanks-Restoration Stormwater Project Improvements	Annual	12,000,000
Flow Monitoring Rain Gauge	Annual	1,300,000
Forge Field Storage Basin (CSO Rack 14)	LTCP	16,218,868
Hazel Storage Basin (CSO Rack 10 & 11)	LTCP	23,260,702
Howard Storage Basin (CSO Rack 22)	LTCP	17,693,369
Kelly Storage Basin (CSO Rack 3)	LTCP	19,605,576
Local Flooding Pipe Projects	Annual	24,000,000
Logan Sanitary Sewer Extension	Non-LTCP	18,003
Main Outfall Relief Sewer	LTCP	54,946,415
Memorial Storage Basin (CSO Rack 26 & 28)	LTCP	20,301,749
Merriman Storage Basin (CSO Rack 36)	LTCP	13,338,188
Middlebury Storage Basin (CSO Rack 5 & 7)	LTCP	19,429,415
Misc. Collection System Improvements	Annual	11,700,000
Mud Run District Capacity Improvements	LTCP	4,063,640
Mud Run District I/I Rehabilitation	LTCP	4,135,660
Mud Run District I/I Repairs	LTCP	3,857,845
Mud Run Pump Station and Storage Basin	LTCP	8,858,504
Northside Interceptor Tunnel	LTCP	231,853,496
Ohio Canal Interceptor Tunnel	LTCP	271,557,246
Ohio Canal Interceptor Tunnel - EHRT	LTCP	67,890,865
Ohio Canal Interceptor Tunnel Otto Street Pump Station	LTCP	492,375
Old Main Sewer Separation (CSO Rack 21)	LTCP	4,563,614
Sanitary Sewer Reconstruction 2016 - 2018	Non-LTCP	25,000,000
Seiberling Street Sewer	Non-LTCP	2,493,000
Sevilla Trunk Sewer Reconstruction	Non-LTCP	1,249,615
Sewer Maintenance Yard Relocation and Maintenance Vehicle Building	Non-LTCP	2,075,000
Shullo Drive & Weathervane Lane Pump Station Replacement	Non-LTCP	156,000
Sustainability Initiatives	Annual	26,000,000
Stormwater Maintenance Ditches	Annual	12,000,000
Tallmadge Avenue Sanitary Sewer Lining	Non-LTCP	2,440,000
Uhler Storage Basin (CSO Rack 27 & 29)	LTCP	16,322,060
White Pond Drive & Sourek Pump Station Replacement	Non-LTCP	1,314,650
WPCS Phase 2, Part 1	LTCP	45,000,000
WPCS Phase 2, Part 2	LTCP	97,217,311
WPCS 69 kV Substation Improvements	Non-LTCP	375,000
WPCS Headworks Improvements	Non-LTCP	35,000,000
Total Baseline		$ 1,724,941,028

(1) Costs as of July 17, 2015; 2015 dollars, subject to change

APPENDIX B – INTEGRATED PLAN SCENARIO 2040 – SUPPORTING CALCULATIONS

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table B-1. Cost per Household, Worksheet 1 of USEPA Guidance

Row	Item	Unit	Value	Notes
Current Costs				(1)
100	Annual O&M Costs	($s)	$ 63,296,540	
101	Annual Capital and Debt Service	($s)	24,880,719	
102	Subtotal	($s)	$ 88,177,258	
Projected Costs				(1)
103	Estimated Annual O&M Costs	($s)	$ 3,379,342	
104	Estimated Annual Capital and Debt Service	($s)	69,302,007	
105	Subtotal	($s)	$ 72,681,349	
106	Total Current and Projected Costs	($s)	$ 160,858,607	
107	Residential share of total costs	($s)	$ 123,338,783	
108	Total number of Households in Service Area		121,293	(2)
109	Cost Per Household	($s)	$ 1,020	

(1) Additional details associated with the cost per household calculation are included in the following pages of this appendix
(2) Total number of households per US Census data was used for the City of Akron, suburban communities, and Master Meter Customers ACS 2013 5 Year Estimate, Table DP03

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table B-2. Residential Indicator, Worksheet 2 of USEPA Guidance

Row	Item	Unit	Value	Notes
Median household income				
201	MHI in 2013	($)	$ 42,160	(1)
202	CPI adjustment factor - to 2015	(%)	1.03	(2)
203	Adjusted MHI	($)	$ 43,563	
204	Annual cost per household	($)	$ 1,020	
205	Residential indicator			
	CPH as a percentage of adjusted MHI	(%)	2.34%	(3)

(1) MHI is weighted based on various communities served by the City of Akron, see additional details in the following pages of this appendix
(2) MHI was adjusted using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix
(3) Per EPA Guidance, permittees with a residential indicator equal to or greater than 1.0% are suggested to proceed to the second phase analysis

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-3. Bond Rating, Worksheet 3 of USEPA Guidance

Row	Item	Value
301	Most Recent General Obligation Bond Rating Akron GO Standard & Poor's, 2014	AA-
302	Most Recent Revenue Bonds Series 2005 Bond Insurance: Yes Moody's, 2005	Aaa
303	Summary Bond Rating (Most recent rating, per USEPA Guidance)	AA-

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-4. Overall Net Debt as a Percent of Full Market Property Value

Row	Item	Unit	Value	Notes
401	Direct net debt	($s)	620,014,907	(1)
402	Debt of overlapping entities	($s)	29,058,223	(1)
403	Overall net debt	($s)	649,073,130	
404	Market value of property	($s)	7,123,217,000	(2)
405	Overall net debt as a percent of full market property value	(%)	9.1%	

(1) Additional details regarding debt is provided in Table 4-3
(2) 2014 Estimated actual value of real property, 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-5. Unemployment Rate, Worksheet 5 of USEPA Guidance

Row	Item	Unit	Value	Notes
501	Unemployment rate of permittee	(%)	6.6%	(1)
	Benchmark:			
503	Average national unemployment rate	(%)	6.2%	(2)
	Comparison of permittee with benchmark	(%)	+ 0.4%	

(1) Bureau of Labor Statistics, Local Area Unemployment Statistics, 2014 Annual Unemployment Rate, Akron city, OH, http://www.bls.gov/lau/
(2) Bureau of Labor Statistics, Current Population Survey, 2014 Annual Unemployment Rate, http://www.bls.gov/cps/

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-6. Median Household Income, Worksheet 6 USEPA Guidance

Row	Item	Unit	Value	Notes
601	MHI of permittee, adjusted to 2015	($)	43,563	
	Benchmark:			
602	National MHI, adjusted to 2015	($)	54,812	(1) (2)
	Comparison of permittee with benchmark	(%)	25.8%	

(1) ACS 2013 5 Year Estimate, Table B19013
(2) Adjusted to 2015 using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-7. Property Tax Revenues as a Percent of Full Market Property Value, Worksheet 7 USEPA Guidance

Row	Item	Unit	Value	Notes
701	Full market value of real property	($s)	7,123,217,000	(1)
702	Property tax revenue	($s)	27,002,819	(1)
703	Property tax rev. as a percentage of full market property value	(%)	0.38%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-8. Property Tax Revenue Collection Rate, Worksheet 8 USEPA Guidance

Row	Item	Unit	Value	Notes
801	Property tax revenue collected	($s)	27,002,819	(1)
802	Property taxes levied	($s)	27,419,596	(1)
803	Property tax revenue collection rate	(%)	98.48%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table B-9. Summary of Financial Capability Indicators, Worksheet 9 USEPA Guidance

Row	Item	Value	Score
901	Bond rating	AA-	3
902	Net debt percent of property value	9.1%	1
903	Unemployment rate compared with national average	+ 0.4%	2
904	Median household income compared with national average	25.8%	1
905	Property tax revenue percent of property value	0.38%	3
906	Property tax revenue collection rate	98.48%	3
907	Permittee indicator score		2.17

City of Akron, OH

CSO Financial Capability Assessment 2015

Financial Capability Assessment Summary

Table B-10. Financial Capability Matrix Score, Worksheet 10 USEPA Guidance

Row	Item	Value
1001	Residential indicator score	2.34
1002	Permittee financial capability indicators score	2.17
1003	Financial capability matrix category	High Burden

City of Akron, OH

CSO Financial Capability Assessment 2015

CPH Worksheet

Table B-11. CPH Worksheet Scenario - Integrated Plan Scenario 2040

Item	Value		Notes
Current WW Costs (2015 dollars)			
O&M costs			
2015 O&M, budget	$ 30,043,740		
Annual Storm Water O&M	3,000,000		
Master Meter O&M	16,936,303		(1)
Master Meter Renewal and Replacement Costs	12,047,499		
Master Meter Stormwater O&M Costs	1,268,998		
Subtotal, O&M	$ 63,296,540		
Annual capital including debt service			
Existing debt service	$ 18,413,671		
Master Meter existing debt service	$ 3,272,973		(1)
Annual PAYGO capital requirement	0		
Master Meter capital outlay	3,194,074		(1)
Subtotal, annual capital	$ 24,880,719		
Total, current costs	$ 88,177,258		
Projected (new facility) costs (2015 dollars)			
Estimated annual O&M expenses (excluding depreciation)	$ 3,379,342		(2)
Estimated annual capital including debt service			
CMOM Annual Costs	$ 3,800,000		
Debt service on new facilities			
Total new CIP for CSO & WW Projects	$ 1,248,089,651		(2)
Escalated to 2015			
Assumed capitalization (%loans)	91%		(3)
Assumed loan term, bond maturity	30	yr	
Assumed interest rates	3.41	%	
Assumed issuance costs	0.35	%	
Equal annual "payments"	60,955,035		
PAYGO annual costs	4,546,972		
Total, estimated annual debt service & PAYGO	$ 69,302,007		
Total projected CSO & WW costs	$ 72,681,349		
Total, current and projected annual cost (2015 dollars)	$ 160,858,607		

(1) 2014 Budget information from Master Meter customers
(2) Additional details are included in the following pages of this appendix
(3) Ratio of LTCP projects costs with total CIP costs excluding JEDD project costs

City of Akron, OH

CSO Financial Capability Assessment 2015

Master Meter Worksheet

Table B- 12. Master Meter Worksheet

Item	Value	Notes
Current O&M Costs (2014 dollars)		
Lakemore	92,575	
Tallmadge	587,027	
Cuyahoga Falls	4,277,420	
Mudbrook & Montrose	11,979,281	
Total current O&M Costs	16,936,303	
Existing Debt Service		
Lakemore	-	
Tallmadge	76,686	
Cuyahoga Falls	571,576	
Mudbrook & Montrose	2,624,712	
Total Existing debt service	3,272,973	
Capital Outlay		
Lakemore	-	
Tallmadge	219,600	
Cuyahoga Falls	215,180	
Mudbrook & Montrose	2,759,294	
Total Capital Outlay	3,194,074	
Renewal and Replacement Expenses		(1)
Lakemore	859,312	
Tallmadge	2,318,560	
Cuyahoga Falls	2,441,395	
Mudbrook & Montrose	6,428,233	
Total Renewal and Replacement Expenses	12,047,499	
Stormwater Expenses		(2)
Lakemore	-	
Tallmadge	290,729	
Cuyahoga Falls	488,848	
Mudbrook & Montrose	489,421	
Total Stormwater Expenses	1,268,998	

(1) Renewal & Replacement (R&R) expenses estimated based on Akron's R&R cost per million gallons treated

(2) Stormwater budgets estimated for communities without data

City of Akron, OH

CSO Financial Capability Assessment 2015

Customer Data

Table B-13. Residential Share Calculation

	2014 Billed Discharge (flow MG/year)				
	Res	**Com**	**Ind**	**Total**	**Notes**
Total Volume Treated @ WPCS				**26,954.6**	(1)
Total Billed Flow				**10,261.1**	
Total Retail Flow	3,986.4	1,193.0	511.2	5,690.6	
Akron Customers	3,565.6	1,011.1	459.1	5,035.8	
Suburban Customers	420.8	181.9	52.1	654.8	
Total Master Meter Flow	3,881.3	689.2		4,570.5	
Total Unbilled Flow: 100% volume based				**16,693.5**	(2)
Total Allocated Flow	12,799.8	3,062.1	831.7		
Total Adjusted Flow	**20,667.5**	**4,944.2**	**1,342.9**	**26,954.6**	
Residential share of total volume	**76.7%**				

(1) Total Annual Flow reported in the 2014 Sewer Bureau Water Reclamation Facility Report

(2) Difference of total volume treated and recorded billed flows (provided by Akron Utilities Business Office Division)

City of Akron, OH

CSO Financial Capability Assessment 2015

Weighted Average MHI

Table B-14. Weighted Average MHI Calculation

Jurisdiction	[A] MHI (1)	Number of Households (2)	[B] Weight	[A] x [B] Weighted MHI (3)
Akron city, Ohio	33,909	78,427	64.66%	
Fairlawn city, Summit County, Ohio	62,662	3,483	2.87%	
Copley township, Summit County, Ohio	73,398	1,139	0.94%	
Mogadore village, Summit County, Ohio	50,972	2,448	2.02%	
Coventry township, Summit County, Ohio	47,993	1,503	1.24%	
Springfield township, Summit County, Ohio	49,049	290	0.24%	
Bath township, Summit County, Ohio	96,585	61	0.05%	
Lakemore village, Summit County, Ohio	40,982	782	0.64%	
Tallmadge city, Summit County, Ohio	53,913	4,017	3.31%	
Cuyahoga Falls city, Summit County, Ohio	49,438	15,017	12.38%	
Mudbrook, Summit County, Ohio	61,147	11,810	9.74%	
Montrose, Ohio	95,956	2,316	1.91%	
		Weighted MHI for Akron Service Area		**42,160**

(1) ACS 2013 5 Year Estimate, Table DP03

(2) Total number of households per US Census (ACS 2013 5 Year Estimate, Table DP03)

(3) Weighted MHI is calculated as described in EPA Guidance documentation

City of Akron, OH

CSO Financial Capability Assessment 2015

CPI & Adjustment Factors

Table B-15. Consumer Price Index

Consumer Price Index

U.S. Department of Labor, Bureau of Labor Statistics

	CPI	Percent Change
2009	214.537	
2010	218.056	1.64%
2011	224.939	3.16%
2012	229.594	2.07%
2013	232.957	1.46%
2014	236.736	1.62%
2015 (April)	236.599	-0.06%
5 Year Avg CPI % Change		1.65%

MHI Adjustment Factor

Used to adjust MHI to current dollars

Census Year	2013
Base Year	2015
# of Years	2
MHI Adjustment Factor	1.03

O&M Inflation Factor

Used to adjust historical costs to the present value

2010 CPI	218.06
2015 (April) CPI	236.60
Cost Adjustment Factor	1.085

Sources to determine the CPI:

General information regarding the CPI, http://www.bls.gov/cpi/

A listing of historical CPI can be found in the CPI Detailed Report, Table 24, http://www.bls.gov/cpi/#tables

Document used to identify the CPI in April 2014, http://www.bls.gov/cpi/cpid1404.pdf

City of Akron, OH

CSO Financial Capability Assessment 2015

Capital Improvement Program and Costs (1)

Table B-16. Capital Improvement Program – 2015 $ - Integrated Plan Scenario 2040

Item	Type	Value 2015-2040
Activated Gallery Boiler Replacement	Non-LTCP	100,000
Annual Plant & Pump Station Renewal	Annual	130,000,000
Annual Sewer Renewal	Annual	285,000,000
Camp Brook Storage Basin (CSO Rack 12)	LTCP	29,655,221
Carpenter Conveyance - Alternative (CSO Rack 30)	LTCP ALT	0
Cascade Village Storage Basin (CSO Rack 15)	LTCP	6,521,293
CMOM 10-Year Cycle	LTCP ALT	98,800,000
CSSF Control Gate Optimized Alternative	LTCP ALT	7,000,000
Dan Sewer Separation (CSO Rack 13)	LTCP	4,131,124
Erosion-Streambanks-Restoration Stormwater Project Improvements	Annual	12,000,000
Flow Monitoring Rain Gauge	Annual	1,300,000
Forge Field Storage Basin (CSO Rack 14)	LTCP	16,218,868
Hazel Storage Basin (CSO Rack 10 & 11)	LTCP	23,260,702
Kelly Optimized Alternate (CSO Rack 3)	LTCP ALT	9,820,523
Local Flooding Pipe Projects	Annual	24,000,000
Logan Sanitary Sewer Extension	Non-LTCP	18,003
Main Outfall Relief Sewer Optimized Alternative	LTCP ALT	25,000,000
Memorial Optimized Alternative (CSO Rack 26 & 28)	LTCP ALT	5,401,318
Merriman Separation - Optimized Alternative (CSO Rack 36)	LTCP ALT	12,337,332
Middlebury Separation - Optimized Alternative (CSO Rack 5 & 7)	LTCP ALT	18,823,688
Misc. Collection System Improvements	Annual	11,700,000
Mud Run District Capacity Improvements	LTCP	4,063,640
Mud Run District I/I Rehabilitation	LTCP	4,135,660
Mud Run District I/I Repairs	LTCP	3,857,845
Mud Run Pump Station and Storage Basin	LTCP	8,858,504
North Hill Separation Optimized Alternative (CSO Rack 22)	LTCP ALT	12,272,062
Northside Interceptor Tunnel Early Action Conveyance Phase 1	LTCP ALT	32,091,400
Northside Interceptor Tunnel Enhanced Alternative Phase 2	LTCP ALT	71,900,000
Ohio Canal Interceptor Tunnel EHRT Enhanced Alternative	LTCP ALT	6,400,000
Ohio Canal Interceptor Tunnel	LTCP	271,557,246
Ohio Canal Interceptor Tunnel Otto Street Pump Station	LTCP	492,375
Old Main Sewer Separation (CSO Rack 21)	LTCP	4,563,614
Removal of the Gorge Dam Along Cuyahoga River	LTCP ALT	10,000,000
Sanitary Sewer Reconstruction 2016 - 2018	Non-LTCP	25,000,000
Seiberling Street Sewer	Non-LTCP	2,493,000
Sevilla Trunk Sewer Reconstruction	Non-LTCP	1,249,615
Sewer Maintenance Yard Relocation and Maintenance Vehicle Building	Non-LTCP	2,075,000
Shullo Drive & Weathervane Lane Pump Station Replacement	Non-LTCP	156,000
Sustainability Initiatives	Annual	26,000,000
Stormwater Maintenance Ditches	Annual	12,000,000
Tallmadge Avenue Sanitary Sewer Lining	Non-LTCP	2,440,000
Uhler Conveyance Optimized Alternative (CSO Rack 27 & 29)	LTCP ALT	4,505,969
White Pond Drive & Sourek Pump Station Replacement	Non-LTCP	1,314,650
WPCS 69 kV Substation Improvements	Non-LTCP	375,000
WPCS Headworks Improvements	Non-LTCP	35,000,000
WPCS Phase 2 Part 1 Alternative	LTCP ALT	51,000,000
WPCS Phase 2 Part 2 Alternative	LTCP ALT	32,000,000
Total Integrated Plan		$ 1,346,889,651

(1) Costs as of July 17, 2015; 2015 dollars, subject to change

APPENDIX C – AKRON ONLY BASELINE SCENARIO 2040 – SUPPORTING CALCULATIONS

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table C-1. Cost per Household, Worksheet 1 of USEPA Guidance

Row	Item	Unit	Value	Notes
Current Costs				(1)
100	Annual O&M Costs	($s)	$ 33,043,740	
101	Annual Capital and Debt Service	($s)	18,413,671	
102	Subtotal	($s)	$ 51,457,411	
Projected Costs				(1)
103	Estimated Annual O&M Costs	($s)	$ 4,918,599	
104	Estimated Annual Capital and Debt Service	($s)	88,610,217	
105	Subtotal	($s)	$ 93,528,816	
106	Total Current and Projected Costs	($s)	$ 144,986,227	
107	Residential share of total costs	($s)	$ 97,758,530	
108	Total number of Households in Service Area		88,664	(2)
109	Cost Per Household	($s)	$ 1,100	

(1) Additional details associated with the cost per household calculation are included in the following pages of this appendix
(2) Total number of households per US Census data was used for the City of Akron, suburban communities, and Master Meter Customers ACS 2013 5 Year Estimate, Table DP03

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table C-2. Residential Indicator, Worksheet 2 of USEPA Guidance

Row	Item	Unit	Value	Notes
Median household income				
201	MHI in 2013	($)	$ 36,580	(1)
202	CPI adjustment factor - to 2015	(%)	1.03	(2)
203	Adjusted MHI	($)	$ 37,798	
204	Annual cost per household	($)	$ 1,100	
205	Residential indicator CPH as a percentage of adjusted MHI	(%)	2.91%	(3)

(1) MHI is weighted based on various communities served by the City of Akron, see additional details in the following pages of this appendix
(2) MHI was adjusted using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix
(3) Per EPA Guidance, permittees with a residential indicator equal to or greater than 1.0% are suggested to proceed to the second phase analysis

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-3. Bond Rating, Worksheet 3 of USEPA Guidance

Row	Item	Value
301	Most Recent General Obligation Bond Rating Akron GO Standard & Poor's, 2014	AA-
302	Most Recent Revenue Bonds Series 2005 Bond Insurance: Yes Moody's, 2005	Aaa
303	Summary Bond Rating (Most recent rating, per USEPA Guidance)	AA-

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-4. Overall Net Debt as a Percent of Full Market Property Value

Row	Item	Unit	Value	Notes
401	Direct net debt	($s)	620,014,907	(1)
402	Debt of overlapping entities	($s)	29,058,223	(1)
403	Overall net debt	($s)	649,073,130	
404	Market value of property	($s)	7,123,217,000	(2)
405	Overall net debt as a percent of full market property value	(%)	9.1%	

(1) Additional details regarding debt is provided in Table 4-3
(2) 2014 Estimated actual value of real property, 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-5. Unemployment Rate, Worksheet 5 of USEPA Guidance

Row	Item	Unit	Value	Notes
501	Unemployment rate of permittee	(%)	6.6%	(1)
	Benchmark:			
503	Average national unemployment rate	(%)	6.2%	(2)
	Comparison of permittee with benchmark	(%)	+ 0.4%	

(1) Bureau of Labor Statistics, Local Area Unemployment Statistics, 2014 Annual Unemployment Rate, Akron city, OH, http://www.bls.gov/lau/
(2) Bureau of Labor Statistics, Current Population Survey, 2014 Annual Unemployment Rate, http://www.bls.gov/cps/

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-6. Median Household Income, Worksheet 6 USEPA Guidance

Row	Item	Unit	Value	Notes
601	MHI of permittee, adjusted to 2015	($)	37,798	
	Benchmark:			
602	National MHI, adjusted to 2015	($)	54,812	(1) (2)
	Comparison of permittee with benchmark	(%)	45.0%	

(1) ACS 2013 5 Year Estimate, Table B19013
(2) Adjusted to 2015 using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-7. Property Tax Revenues as a Percent of Full Market Property Value, Worksheet 7 USEPA Guidance

Row	Item	Unit	Value	Notes
701	Full market value of real property	($s)	7,123,217,000	(1)
702	Property tax revenue	($s)	27,002,819	(1)
703	Property tax rev. as a percentage of full market property value	(%)	0.38%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-8. Property Tax Revenue Collection Rate, Worksheet 8 USEPA Guidance

Row	Item	Unit	Value	Notes
801	Property tax revenue collected	($s)	27,002,819	(1)
802	Property taxes levied	($s)	27,419,596	(1)
803	Property tax revenue collection rate	(%)	98.48%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table C-9. Summary of Financial Capability Indicators, Worksheet 9 USEPA Guidance

Row	Item	Value	Score
901	Bond rating	AA-	3
902	Net debt percent of property value	9.1%	1
903	Unemployment rate compared with national average	+ 0.4%	2
904	Median household income compared with national average	45.0%	1
905	Property tax revenue percent of property value	0.38%	3
906	Property tax revenue collection rate	98.48%	3
907	Permittee indicator score		2.17

City of Akron, OH

CSO Financial Capability Assessment 2015

Financial Capability Assessment Summary

Table C-10. Financial Capability Matrix Score, Worksheet 10 USEPA Guidance

Row	Item	Value
1001	Residential indicator score	2.91
1002	Permittee financial capability indicators score	2.17
1003	Financial capability matrix category	High Burden

City of Akron, OH

CSO Financial Capability Assessment 2015

CPH Worksheet

Table C-11. CPH Worksheet Scenario – Baseline Scenario 2040

Item	Value		Notes
Current WW Costs (2015 dollars)			
O&M costs			
2015 O&M, budget	$ 30,043,740		
Annual Storm Water O&M	3,000,000		
Subtotal, O&M	$ 33,043,740		
Annual capital including debt service			
Existing debt service	$ 18,413,671		
Annual PAYGO capital requirement	0		
Subtotal, annual capital	$ 18,413,671		
Total, current costs	$ 51,457,411		
Projected (new facility) costs (2015 dollars)			
Estimated annual O&M expenses (excluding depreciation)	$ 4,918,599		(1)
Estimated annual capital including debt service			
CMOM Annual Costs	$ 6,500,000		
Debt service on new facilities			
Total new CIP for CSO & WW Projects	$ 1,555,941,028		(1)
Escalated to 2015			
Assumed capitalization (%loans)	92%		
Assumed loan term, bond maturity	30	yr	
Assumed interest rates	3.41	%	
Assumed issuance costs	0.35	%	
Equal annual "payments"	77,563,245		
PAYGO annual costs	4,546,972		
Total, estimated annual debt service & PAYGO	$ 88,610,217		
Total projected CSO & WW costs	$ 93,528,816		
Total, current and projected annual cost (2015 dollars)	$ 144,986,227		

(1) Additional details are included in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Customer Data

Table C-12. Residential Share Calculation

	2014 Billed Discharge (flow MG/year)				
	Res	**Com**	**Ind**	**Total**	**Notes**
Total Volume Treated @ WPCS				**26,954.6**	(2)
Total Billed Flow				**10,261.1**	
Total Retail Flow	3,986.4	1,193.0	511.2	5,690.6	
Akron Customers	3,565.6	1,011.1	459.1	5,035.8	
Suburban Customers	420.8	181.9	52.1	654.8	
Total Master Meter Flow	0	0		4,570.5	
Total Unbilled Flow				**16,693.5**	(1)
Retail Customer Accounts	72,576	3,466	579	76,621	
Adjusted Customer Accounts	36,288	3,466	579	40,333	
Total Retail Unbilled Flow	14,188.0	1,950.8	554.6	**16,693.5**	
25% volume based	2,923.5	874.9	374.9	4,173.4	(3)
75% adjusted customer-based	11,264.5	1,075.9	179.7	12,520.1	(3)
Total Adjusted Flow	**18,174.4**	**3,143.8**	**1,065.8**	**26,954.6**	
Residential share of total volume	**67.4%**				

(1) Difference of total volume treated and recorded billed flows (provided by Akron Utilities Business Office Division)
(2) Total Annual Flow reported in the 2014 Sewer Bureau Water Reclamation Facility Report
(3) This methodology of allocation was used in the 2011 FCA; calculation was updated using current data

City of Akron, OH

CSO Financial Capability Assessment 2015

Weighted Average MHI

Table C-13. Weighted Average MHI Calculation

Jurisdiction	[A] MHI (1)	Number of Households (2)	[B] Weight	[A] x [B] Weighted MHI (3)
Akron city, Ohio	33,909	78,427	88.45%	
Tallmadge city, Summit County, Ohio	53,913	30	0.03%	
Fairlawn city, Summit County, Ohio	62,662	3,483	3.93%	
Copley township, Summit County, Ohio	73,398	1,139	1.28%	
Mogadore village, Summit County, Ohio	50,972	2,448	2.76%	
Coventry township, Summit County, Ohio	47,993	1,503	1.70%	
Springfield township, Summit County, Ohio	49,049	290	0.33%	
Bath township, Summit County, Ohio	96,585	61	0.07%	
Cuyahoga Falls city, Summit County, Ohio	49,438	1,283	1.45%	
		Weighted MHI for Akron Service Area		**36,580**

(1) ACS 2013 5 Year Estimate, Table DP03

(2) Total number of households per US Census (ACS 2013 5 Year Estimate, Table DP03)

(3) Weighted MHI is calculated as described in EPA Guidance documentation

City of Akron, OH

CSO Financial Capability Assessment 2015

CPI & Adjustment Factors

Table C-14. Consumer Price Index

Consumer Price Index

U.S. Department of Labor, Bureau of Labor Statistics

	CPI	Percent Change
2009	214.537	
2010	218.056	1.64%
2011	224.939	3.16%
2012	229.594	2.07%
2013	232.957	1.46%
2014	236.736	1.62%
2015 (April)	236.599	-0.06%
5 Year Avg CPI % Change		1.65%

MHI Adjustment Factor

Used to adjust MHI to current dollars

Census Year	2013
Base Year	2015
# of Years	2
MHI Adjustment Factor	1.03

O&M Inflation Factor

Used to adjust historical costs to the present value

2010 CPI	218.06
2015 (April) CPI	236.60
Cost Adjustment Factor	1.085

Sources to determine the CPI:

General information regarding the CPI, http://www.bls.gov/cpi/

A listing of historical CPI can be found in the CPI Detailed Report, Table 24, http://www.bls.gov/cpi/#tables

Document used to identify the CPI in April 2014, http://www.bls.gov/cpi/cpid1404.pdf

City of Akron, OH

CSO Financial Capability Assessment 2015

Capital Improvement Program and Costs (1)

Table C-15. Capital Improvement Program – 2015 $ - Baseline Scenario 2040

Item	Type	Value 2015-2040
Activated Gallery Boiler Replacement	Non-LTCP	$ 100,000
Annual Plant & Pump Station Renewal	Annual	130,000,000
Annual Sewer Renewal	Annual	285,000,000
Camp Brook Storage Basin (CSO Rack 12)	LTCP	29,655,221
Carpenter Sewer Separation (CSO Rack 30)	LTCP	2,805,225
Cascade Village Storage Basin (CSO Rack 15)	LTCP	6,521,293
CMOM 5-Year Cycle	LTCP	169,000,000
Dan Sewer Separation (CSO Rack 13)	LTCP	4,131,124
Erosion-Streambanks-Restoration Stormwater Project Improvements	Annual	12,000,000
Flow Monitoring Rain Gauge	Annual	1,300,000
Forge Field Storage Basin (CSO Rack 14)	LTCP	16,218,868
Hazel Storage Basin (CSO Rack 10 & 11)	LTCP	23,260,702
Howard Storage Basin (CSO Rack 22)	LTCP	17,693,369
Kelly Storage Basin (CSO Rack 3)	LTCP	19,605,576
Local Flooding Pipe Projects	Annual	24,000,000
Logan Sanitary Sewer Extension	Non-LTCP	18,003
Main Outfall Relief Sewer	LTCP	54,946,415
Memorial Storage Basin (CSO Rack 26 & 28)	LTCP	20,301,749
Merriman Storage Basin (CSO Rack 36)	LTCP	13,338,188
Middlebury Storage Basin (CSO Rack 5 & 7)	LTCP	19,429,415
Misc. Collection System Improvements	Annual	11,700,000
Mud Run District Capacity Improvements	LTCP	4,063,640
Mud Run District I/I Rehabilitation	LTCP	4,135,660
Mud Run District I/I Repairs	LTCP	3,857,845
Mud Run Pump Station and Storage Basin	LTCP	8,858,504
Northside Interceptor Tunnel	LTCP	231,853,496
Ohio Canal Interceptor Tunnel	LTCP	271,557,246
Ohio Canal Interceptor Tunnel - EHRT	LTCP	67,890,865
Ohio Canal Interceptor Tunnel Otto Street Pump Station	LTCP	492,375
Old Main Sewer Separation (CSO Rack 21)	LTCP	4,563,614
Sanitary Sewer Reconstruction 2016 - 2018	Non-LTCP	25,000,000
Seiberling Street Sewer	Non-LTCP	2,493,000
Sevilla Trunk Sewer Reconstruction	Non-LTCP	1,249,615
Sewer Maintenance Yard Relocation and Maintenance Vehicle Building	Non-LTCP	2,075,000
Shullo Drive & Weathervane Lane Pump Station Replacement	Non-LTCP	156,000
Sustainability Initiatives	Annual	26,000,000
Stormwater Maintenance Ditches	Annual	12,000,000
Tallmadge Avenue Sanitary Sewer Lining	Non-LTCP	2,440,000
Uhler Storage Basin (CSO Rack 27 & 29)	LTCP	16,322,060
White Pond Drive & Sourek Pump Station Replacement	Non-LTCP	1,314,650
WPCS Phase 2, Part 1	LTCP	45,000,000
WPCS Phase 2, Part 2	LTCP	97,217,311
WPCS 69 kV Substation Improvements	Non-LTCP	375,000
WPCS Headworks Improvements	Non-LTCP	35,000,000
Total Baseline		$ 1,724,941,028

(1) Costs as of July 17, 2015; 2015 dollars, subject to change

APPENDIX D – AKRON ONLY INTEGRATED PLAN SCENARIO 2040 – SUPPORTING CALCULATIONS

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table D-1. Cost per Household, Worksheet 1 of USEPA Guidance

Row	Item	Unit	Value	Notes
Current Costs				(1)
100	Annual O&M Costs	($s)	$ 33,043,740	
101	Annual Capital and Debt Service	($s)	18,413,671	
102	Subtotal	($s)	$ 51,457,411	
Projected Costs				(1)
103	Estimated Annual O&M Costs	($s)	$ 3,379,342	
104	Estimated Annual Capital and Debt Service	($s)	69,302,007	
105	Subtotal	($s)	$ 72,681,349	
106	Total Current and Projected Costs	($s)	$ 124,138,760	
107	Residential share of total costs	($s)	$ 83,701,900	
108	Total number of Households in Service Area		88,664	(2)
109	Cost Per Household	($s)	$ 940	

(1) Additional details associated with the cost per household calculation are included in the following pages of this appendix
(2) Total number of households per US Census data was used for the City of Akron, suburban communities, and Master Meter Customers ACS 2013 5 Year Estimate, Table DP03

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase One Residential Indicator Data

Table D-2. Residential Indicator, Worksheet 2 of USEPA Guidance

Row	Item	Unit	Value	Notes
Median household income				
201	MHI in 2013	($)	$ 36,580	(1)
202	CPI adjustment factor - to 2015	(%)	1.03	(2)
203	Adjusted MHI	($)	$ 37,798	
204	Annual cost per household	($)	$ 940	
205	Residential indicator CPH as a percentage of adjusted MHI	(%)	2.49%	(3)

(1) MHI is weighted based on various communities served by the City of Akron, see additional details in the following pages of this appendix
(2) MHI was adjusted using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix
(3) Per EPA Guidance, permittees with a residential indicator equal to or greater than 1.0% are suggested to proceed to the second phase analysis

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-3. Bond Rating, Worksheet 3 of USEPA Guidance

Row	Item	Value
301	Most Recent General Obligation Bond Rating Akron GO Standard & Poor's, 2014	AA-
302	Most Recent Revenue Bonds Series 2005 Bond Insurance: Yes Moody's, 2005	Aaa
303	Summary Bond Rating (Most recent rating, per USEPA Guidance)	AA-

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-4. Overall Net Debt as a Percent of Full Market Property Value

Row	Item	Unit	Value	Notes
401	Direct net debt	($s)	620,014,907	(1)
402	Debt of overlapping entities	($s)	29,058,223	(1)
403	Overall net debt	($s)	649,073,130	
404	Market value of property	($s)	7,123,217,000	(2)
405	Overall net debt as a percent of full market property value	(%)	9.1%	

(1) Additional details regarding debt is provided in Table 4-3
(2) 2014 Estimated actual value of real property, 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-5. Unemployment Rate, Worksheet 5 of USEPA Guidance

Row	Item	Unit	Value	Notes
501	Unemployment rate of permittee	(%)	6.6%	(1)
	Benchmark:			
503	Average national unemployment rate	(%)	6.2%	(2)
	Comparison of permittee with benchmark	(%)	+ 0.4%	

(1) Bureau of Labor Statistics, Local Area Unemployment Statistics, 2014 Annual Unemployment Rate, Akron city, OH, http://www.bls.gov/lau/
(2) Bureau of Labor Statistics, Current Population Survey, 2014 Annual Unemployment Rate, http://www.bls.gov/cps/

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-6. Median Household Income, Worksheet 6 USEPA Guidance

Row	Item	Unit	Value	Notes
601	MHI of permittee, adjusted to 2015	($)	37,798	
	Benchmark:			
602	National MHI, adjusted to 2015	($)	54,812	(1) (2)
	Comparison of permittee with benchmark	(%)	45.0%	

(1) ACS 2013 5 Year Estimate, Table B19013
(2) Adjusted to 2015 using the 5 year average CPI as outlined in EPA guidance, see additional details in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-7. Property Tax Revenues as a Percent of Full Market Property Value, Worksheet 7 USEPA Guidance

Row	Item	Unit	Value	Notes
701	Full market value of real property	($s)	7,123,217,000	(1)
702	Property tax revenue	($s)	27,002,819	(1)
703	Property tax rev. as a percentage of full market property value	(%)	0.38%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-8. Property Tax Revenue Collection Rate, Worksheet 8 USEPA Guidance

Row	Item	Unit	Value	Notes
801	Property tax revenue collected	($s)	27,002,819	(1)
802	Property taxes levied	($s)	27,419,596	(1)
803	Property tax revenue collection rate	(%)	98.48%	

(1) 2013 CAFR

City of Akron, OH

CSO Financial Capability Assessment 2015

Phase Two Financial Capability Indicator Data

Table D-9. Summary of Financial Capability Indicators, Worksheet 9 USEPA Guidance

Row	Item	Value	Score
901	Bond rating	AA-	3
902	Net debt percent of property value	9.1%	1
903	Unemployment rate compared with national average	+ 0.4%	2
904	Median household income compared with national average	45.0%	1
905	Property tax revenue percent of property value	0.38%	3
906	Property tax revenue collection rate	98.48%	3
907	Permittee indicator score		2.17

City of Akron, OH

CSO Financial Capability Assessment 2015

Financial Capability Assessment Summary

Table D- 10. Financial Capability Matrix Score, Worksheet 10 USEPA Guidance

Row	Item	Value
1001	Residential indicator score	2.49
1002	Permittee financial capability indicators score	2.17
1003	Financial capability matrix category	High Burden

City of Akron, OH

CSO Financial Capability Assessment 2015

CPH Worksheet

Table D-11. CPH Worksheet –Integrated Plan Scenario 2040

Item	Value		Notes
Current WW Costs (2015 dollars)			
O&M costs			
2015 O&M, budget	$ 30,043,740		
Annual Storm Water O&M	3,000,000		
Subtotal, O&M	$ 33,043,740		
Annual capital including debt service			
Existing debt service	$ 18,413,671		
Annual PAYGO capital requirement	0		
Subtotal, annual capital	$ 18,413,671		
Total, current costs	$ 51,457,411		
Projected (new facility) costs (2015 dollars)			
Estimated annual O&M expenses (excluding depreciation)	$ 3,379,342		(1)
Estimated annual capital including debt service			
CMOM Annual Costs	$ 3,800,000		
Debt service on new facilities			
Total new CIP for CSO & WW Projects	$ 1,248,089,651		(1)
Escalated to 2015			
Assumed capitalization (%loans)	91%		
Assumed loan term, bond maturity	30	yr	
Assumed interest rates	3.41	%	
Assumed issuance costs	0.35	%	
Equal annual "payments"	60,955,035		
PAYGO annual costs	4,546,972		
Total, estimated annual debt service & PAYGO	$ 69,302,007		
Total projected CSO & WW costs	$ 72,681,349		
Total, current and projected annual cost (2015 dollars)	$ 124,138,760		

(1) Additional details are included in the following pages of this appendix

City of Akron, OH

CSO Financial Capability Assessment 2015

Customer Data

Table D- 12. Residential Share Calculation

	2014 Billed Discharge (flow MG/year)				
	Res	**Com**	**Ind**	**Total**	**Notes**
Total Volume Treated @ WPCS				**26,954.6**	(2)
Total Billed Flow				**10,261.1**	
Total Retail Flow	3,986.4	1,193.0	511.2	5,690.6	
Akron Customers	3,565.6	1,011.1	459.1	5,035.8	
Suburban Customers	420.8	181.9	52.1	654.8	
Total Master Meter Flow	0	0		4,570.5	
Total Unbilled Flow				**16,693.5**	(1)
Retail Customer Accounts	72,576	3,466	579	76,621	
Adjusted Customer Accounts	36,288	3,466	579	40,333	
Total Retail Unbilled Flow	14,188.0	1,950.8	554.6	**16,693.5**	
25% volume based	2,923.5	874.9	374.9	4,173.4	(3)
75% adjusted customer-based	11,264.5	1,075.9	179.7	12,520.1	(3)
Total Adjusted Flow	**18,174.4**	**3,143.8**	**1,065.8**	**26,954.6**	
Residential share of total volume	**67.4%**				

(1) Difference of total volume treated and recorded billed flows (provided by Akron Utilities Business Office Division)
(2) Total Annual Flow reported in the 2014 Sewer Bureau Water Reclamation Facility Report
(3) This methodology of allocation was used in the 2011 FCA; calculation was updated using current data

City of Akron, OH

CSO Financial Capability Assessment 2015

Weighted Average MHI

Table D- 13. Weighted Average MHI Calculation

Jurisdiction	[A] MHI (1)	Number of Households (2)	[B] Weight	[A] x [B] Weighted MHI (3)
Akron city, Ohio	33,909	78,427	88.45%	
Tallmadge city, Summit County, Ohio	53,913	30	0.03%	
Fairlawn city, Summit County, Ohio	62,662	3,483	3.93%	
Copley township, Summit County, Ohio	73,398	1,139	1.28%	
Mogadore village, Summit County, Ohio	50,972	2,448	2.76%	
Coventry township, Summit County, Ohio	47,993	1,503	1.70%	
Springfield township, Summit County, Ohio	49,049	290	0.33%	
Bath township, Summit County, Ohio	96,585	61	0.07%	
Cuyahoga Falls city, Summit County, Ohio	49,438	1,283	1.45%	
		Weighted MHI for Akron Service Area		**36,580**

(1) ACS 2013 5 Year Estimate, Table DP03

(2) Total number of households per US Census (ACS 2013 5 Year Estimate, Table DP03)

(3) Weighted MHI is calculated as described in EPA Guidance documentation

City of Akron, OH

CSO Financial Capability Assessment 2015

CPI & Adjustment Factors

Table D- 14. Consumer Price Index

Consumer Price Index

U.S. Department of Labor, Bureau of Labor Statistics

	CPI	Percent Change
2009	214.537	
2010	218.056	1.64%
2011	224.939	3.16%
2012	229.594	2.07%
2013	232.957	1.46%
2014	236.736	1.62%
2015 (April)	236.599	-0.06%
5 Year Avg CPI % Change		1.65%

MHI Adjustment Factor

Used to adjust MHI to current dollars

Census Year	2013
Base Year	2015
# of Years	2
MHI Adjustment Factor	1.03

O&M Inflation Factor

Used to adjust historical costs to the present value

2010 CPI	218.06
2015 (April) CPI	236.60
Cost Adjustment Factor	1.085

Sources to determine the CPI:

General information regarding the CPI, http://www.bls.gov/cpi/

A listing of historical CPI can be found in the CPI Detailed Report, Table 24, http://www.bls.gov/cpi/#tables

Document used to identify the CPI in April 2014, http://www.bls.gov/cpi/cpid1404.pdf

City of Akron, OH

CSO Financial Capability Assessment 2015

Capital Improvement Program and Costs (1)

Table D-15. Capital Improvement Program – 2015 $ - Integrated Plan Scenario 2040

Item	Type	Value 2015-2040
Activated Gallery Boiler Replacement	Non-LTCP	100,000
Annual Plant & Pump Station Renewal	Annual	130,000,000
Annual Sewer Renewal	Annual	285,000,000
Camp Brook Storage Basin (CSO Rack 12)	LTCP	29,655,221
Carpenter Conveyance - Alternative (CSO Rack 30)	LTCP ALT	0
Cascade Village Storage Basin (CSO Rack 15)	LTCP	6,521,293
CMOM 10-Year Cycle	LTCP ALT	98,800,000
CSSF Control Gate Optimized Alternative	LTCP ALT	7,000,000
Dan Sewer Separation (CSO Rack 13)	LTCP	4,131,124
Erosion-Streambanks-Restoration Stormwater Project Improvements	Annual	12,000,000
Flow Monitoring Rain Gauge	Annual	1,300,000
Forge Field Storage Basin (CSO Rack 14)	LTCP	16,218,868
Hazel Storage Basin (CSO Rack 10 & 11)	LTCP	23,260,702
Kelly Optimized Alternate (CSO Rack 3)	LTCP ALT	9,820,523
Local Flooding Pipe Projects	Annual	24,000,000
Logan Sanitary Sewer Extension	Non-LTCP	18,003
Main Outfall Relief Sewer Optimized Alternative	LTCP ALT	25,000,000
Memorial Optimized Alternative (CSO Rack 26 & 28)	LTCP ALT	5,401,318
Merriman Separation - Optimized Alternative (CSO Rack 36)	LTCP ALT	12,337,332
Middlebury Separation - Optimized Alternative (CSO Rack 5 & 7)	LTCP ALT	18,823,688
Misc. Collection System Improvements	Annual	11,700,000
Mud Run District Capacity Improvements	LTCP	4,063,640
Mud Run District I/I Rehabilitation	LTCP	4,135,660
Mud Run District I/I Repairs	LTCP	3,857,845
Mud Run Pump Station and Storage Basin	LTCP	8,858,504
North Hill Separation Optimized Alternative (CSO Rack 22)	LTCP ALT	12,272,062
Northside Interceptor Tunnel Early Action Conveyance Phase 1	LTCP ALT	32,091,400
Northside Interceptor Tunnel Enhanced Alternative Phase 2	LTCP ALT	71,900,000
Ohio Canal Interceptor Tunnel EHRT Enhanced Alternative	LTCP ALT	6,400,000
Ohio Canal Interceptor Tunnel	LTCP	271,557,246
Ohio Canal Interceptor Tunnel Otto Street Pump Station	LTCP	492,375
Old Main Sewer Separation (CSO Rack 21)	LTCP	4,563,614
Removal of the Gorge Dam Along Cuyahoga River	LTCP ALT	10,000,000
Sanitary Sewer Reconstruction 2016 - 2018	Non-LTCP	25,000,000
Seiberling Street Sewer	Non-LTCP	2,493,000
Sevilla Trunk Sewer Reconstruction	Non-LTCP	1,249,615
Sewer Maintenance Yard Relocation and Maintenance Vehicle Building	Non-LTCP	2,075,000
Shullo Drive & Weathervane Lane Pump Station Replacement	Non-LTCP	156,000
Sustainability Initiatives	Annual	26,000,000
Stormwater Maintenance Ditches	Annual	12,000,000
Tallmadge Avenue Sanitary Sewer Lining	Non-LTCP	2,440,000
Uhler Conveyance Optimized Alternative (CSO Rack 27 & 29)	LTCP ALT	4,505,969
White Pond Drive & Sourek Pump Station Replacement	Non-LTCP	1,314,650
WPCS 69 kV Substation Improvements	Non-LTCP	375,000
WPCS Headworks Improvements	Non-LTCP	35,000,000
WPCS Phase 2 Part 1 Alternative	LTCP ALT	51,000,000
WPCS Phase 2 Part 2 Alternative	LTCP ALT	32,000,000
Total Integrated Plan		$ 1,346,889,651

(1) Costs as of July 17, 2015; 2015 dollars, subject to change

APPENDIX E – CITY OF AKRON WEIGHTED AVERAGE RESIDENTIAL INDEX – SUPPORTING CALCULATIONS

WARi Affordability Index Thresholds

Financial Impact		Index	Color
Low	Less than	1.78%	
Mid	Up to	3.56%	
High	Up to	5.33%	
Very High	Up to	7.11%	
Extreme	Higher than	7.11%	

Table 1
City of Akron, OH
WARi™ Affordability Model
Projected Rate Adjustments - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	3.0%	3.0%
Cuyahoga Falls	0.0%	0.2%	2.1%
Mudbrook	0.0%	0.2%	2.1%
Tallmadge	0.0%	0.2%	2.1%
Lakemore	0.0%	0.2%	2.1%
Montrose	0.0%	0.2%	2.1%
Springfield	0.0%	0.2%	2.1%

Table 2
City of Akron, OH
WARi™ Affordability Model
Expected Inflation - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	1.8%	1.9%
Cuyahoga Falls	0.0%	1.8%	1.9%
Mudbrook	0.0%	1.8%	1.9%
Tallmadge	0.0%	1.8%	1.9%
Lakemore	0.0%	1.8%	1.9%
Montrose	0.0%	1.8%	1.9%
Springfield	0.0%	1.8%	1.9%

Table 3
City of Akron, OH
WARi™ Affordability Model
Affordability Index - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	100.0%	95.0%	110.5%
Cuyahoga Falls	100.0%	123.2%	132.7%
Mudbrook	100.0%	123.2%	132.7%
Tallmadge	100.0%	123.2%	132.7%
Lakemore	100.0%	123.2%	132.7%
Montrose	100.0%	123.2%	132.7%
Springfield	100.0%	123.2%	132.7%

Table 4
City of Akron, OH
WARi™ Affordability Model
Projected Rate Adjustments - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	0.0%	0.0%
Cuyahoga Falls	3.0%	3.0%	3.0%
Mudbrook	3.0%	3.0%	3.0%
Tallmadge	3.0%	3.0%	3.0%
Lakemore	3.0%	3.0%	3.0%
Montrose	3.0%	3.0%	3.0%
Springfield	3.0%	3.0%	3.0%

Table 5
City of Akron, OH
WARi™ Affordability Model
Expected Inflation - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	0.0%	0.0%
Cuyahoga Falls	3.0%	3.0%	3.0%
Mudbrook	3.0%	3.0%	3.0%
Tallmadge	3.0%	3.0%	3.0%
Lakemore	3.0%	3.0%	3.0%
Montrose	3.0%	3.0%	3.0%
Springfield	3.0%	3.0%	3.0%

Table 6
City of Akron, OH
WARi™ Affordability Model
Affordability Index - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	100.0%	100.0%	100.0%
Cuyahoga Falls	100.0%	100.0%	100.0%
Mudbrook	100.0%	100.0%	100.0%
Tallmadge	100.0%	100.0%	100.0%
Lakemore	100.0%	100.0%	100.0%
Montrose	100.0%	100.0%	100.0%
Springfield	100.0%	100.0%	100.0%

Table 9
City of Akron, OH
WARi™ Affordability Model
Projected Average Bill - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	*Current* 2015	*Projected* 2016	*Projected* 2017	*Projected* 2018	*Projected* 2019	*Projected* 2020	*Projected* 2021	*Projected* 2022	*Projected* 2023	*Projected* 2024	*Projected* 2025	*Projected* 2026	*Projected* 2027	*Projected* 2028
5011	Retail	519	$23,484	$710.38	$692.56	$675.80	$660.71	$646.84	$634.81	$642.69	$650.77	$658.88	$667.02	$675.18	$683.35	$691.56	$699.79
5017	Retail	456	17,910	929.67	906.36	884.42	864.66	846.52	830.78	841.09	851.67	862.28	872.92	883.61	894.31	905.05	915.81
5018	Retail	405	25,043	669.56	652.77	636.97	622.74	609.67	598.34	605.76	613.38	621.02	628.69	636.39	644.09	651.83	659.58
5019	Retail	1,173	11,375	716.86	698.88	681.96	666.73	652.74	640.60	648.55	656.71	664.89	673.10	681.34	689.59	697.87	706.17
5021.01	Retail	1,194	35,261	729.34	711.05	693.84	678.35	664.11	651.76	659.85	668.15	676.47	684.83	693.21	701.60	710.03	718.47
5021.02	Retail	2,155	29,145	669.34	652.56	636.76	622.54	609.47	598.14	605.56	613.18	620.82	628.49	636.18	643.88	651.61	659.36
5022	Retail	2,603	30,559	653.17	636.79	621.37	607.50	594.75	583.69	590.93	598.37	605.82	613.30	620.81	628.32	635.87	643.43
5023	Retail	2,040	37,130	762.94	743.80	725.80	709.59	694.70	681.78	690.24	698.92	707.63	716.37	725.14	733.91	742.73	751.56
5025	Retail	437	17,589	671.33	654.49	638.65	624.39	611.28	599.91	607.36	615.00	622.66	630.35	638.07	645.79	653.55	661.32
5026	Retail	1,276	38,711	659.20	642.67	627.11	613.10	600.24	589.08	596.39	603.89	611.41	618.96	626.54	634.12	641.74	649.37
5027	Retail	2,875	46,192	716.09	698.13	681.23	666.02	652.04	639.91	647.86	656.01	664.18	672.38	680.61	688.85	697.12	705.42
5028	Retail	1,863	41,671	703.99	686.33	669.72	654.76	641.02	629.10	636.91	644.92	652.95	661.02	669.10	677.21	685.34	693.49
5031	Retail	681	24,247	729.21	710.92	693.71	678.22	663.98	651.63	659.72	668.02	676.34	684.69	693.07	701.47	709.89	718.34
5032	Retail	747	29,667	663.28	646.65	631.00	616.90	603.96	592.73	600.08	607.63	615.20	622.80	630.42	638.05	645.72	653.40
5033	Retail	2,240	27,855	724.63	706.45	689.35	673.96	659.81	647.54	655.58	663.83	672.10	680.40	688.72	697.06	705.44	713.83
5034	Retail	541	22,911	915.52	892.56	870.95	851.50	833.63	818.13	828.29	838.71	849.16	859.64	870.16	880.69	891.27	901.87
5035	Retail	1,472	22,511	714.49	696.57	679.71	664.53	650.58	638.48	646.41	654.54	662.69	670.88	679.09	687.31	695.56	703.84
5036	Retail	1,830	47,726	739.42	720.88	703.43	687.72	673.29	660.77	668.97	677.38	685.82	694.29	702.79	711.30	719.84	728.40
5037.01	Retail	2,511	43,094	744.90	726.22	708.63	692.81	678.27	665.66	673.92	682.40	690.90	699.43	707.99	716.56	725.17	733.79
5037.02	Retail	2,528	43,498	694.71	677.29	660.89	646.13	632.57	620.81	628.51	636.42	644.35	652.30	660.29	668.28	676.31	684.35
5038	Retail	1,378	22,389	742.04	723.43	705.92	690.15	675.67	663.10	671.33	679.78	688.25	696.75	705.27	713.81	722.39	730.98
5041	Retail	453	17,179	756.83	737.85	719.98	703.90	689.13	676.32	684.71	693.32	701.96	710.63	719.33	728.04	736.78	745.54
5042	Retail	688	19,171	725.73	707.53	690.40	674.98	660.82	648.53	656.58	664.84	673.12	681.43	689.77	698.12	706.51	714.91
5044	Retail	568	20,416	665.95	649.25	633.53	619.39	606.39	595.11	602.50	610.08	617.68	625.30	632.96	640.62	648.32	656.03
5045	Retail	719	29,198	717.02	699.04	682.12	666.88	652.89	640.75	648.70	656.86	665.04	673.25	681.49	689.75	698.03	706.33
5046	Retail	1,421	23,746	740.00	721.44	703.98	688.26	673.81	661.28	669.49	677.91	686.36	694.83	703.34	711.85	720.40	728.97
5047	Retail	1,825	50,780	717.41	699.42	682.49	667.25	653.24	641.10	649.05	657.22	665.41	673.62	681.87	690.12	698.41	706.72
5048	Retail	2,118	52,142	736.66	718.19	700.80	685.15	670.77	658.30	666.47	674.85	683.26	691.70	700.16	708.64	717.15	725.68
5052	Retail	561	35,579	761.53	742.44	724.46	708.28	693.42	680.52	688.97	697.64	706.33	715.05	723.80	732.56	741.36	750.18
5053	Retail	701	17,555	554.82	540.91	527.81	516.03	505.20	495.80	501.96	508.27	514.60	520.96	527.33	533.72	540.13	546.55
5054	Retail	1,506	33,194	741.79	723.19	705.68	689.92	675.44	662.88	671.11	679.55	688.02	696.51	705.03	713.57	722.14	730.73
5055	Retail	977	48,156	807.60	787.34	768.28	751.12	735.36	721.69	730.64	739.83	749.05	758.30	767.58	776.87	786.21	795.56
5056	Retail	516	16,259	824.67	803.99	784.53	767.01	750.91	736.94	746.09	755.48	764.89	774.33	783.81	793.30	802.83	812.38
5057	Retail	1,076	25,833	753.28	734.39	716.61	700.60	685.90	673.15	681.50	690.07	698.67	707.30	715.95	724.62	733.33	742.05
5058	Retail	2,145	34,724	715.76	697.81	680.92	665.71	651.74	639.62	647.56	655.71	663.87	672.07	680.30	688.53	696.80	705.09
5059	Retail	1,062	44,651	704.18	686.52	669.90	654.94	641.19	629.27	637.08	645.09	653.13	661.19	669.28	677.39	685.53	693.68
5061	Retail	2,685	38,251	656.54	640.08	624.58	610.64	597.82	586.70	593.98	601.46	608.95	616.47	624.01	631.57	639.15	646.76
5062	Retail	1,470	37,792	846.48	825.25	805.27	787.29	770.77	756.43	765.82	775.46	785.12	794.81	804.54	814.28	824.06	833.86
5064	Retail	1,178	33,436	817.40	796.90	777.61	760.24	744.28	730.44	739.51	748.81	758.14	767.50	776.89	786.30	795.75	805.21
5065	Retail	1,028	28,586	842.52	821.39	801.51	783.61	767.16	752.89	762.24	771.83	781.44	791.09	800.77	810.47	820.20	829.96
5066	Retail	1,460	20,000	562.48	548.38	535.10	523.15	512.17	502.65	508.89	515.29	521.71	528.15	534.61	541.09	547.59	554.10
5067	Retail	557	21,998	863.07	841.42	821.05	802.72	785.87	771.26	780.83	790.65	800.50	810.39	820.30	830.24	840.21	850.20
5068	Retail	704	16,695	633.87	617.97	603.01	589.55	577.17	566.44	573.47	580.69	587.92	595.18	602.46	609.76	617.08	624.42
5071.01	Retail	2,148	47,410	842.37	821.24	801.36	783.47	767.02	752.76	762.10	771.69	781.30	790.95	800.63	810.32	820.06	829.81
5071.02	Retail	1,145	76,995	991.47	966.61	943.21	922.15	902.79	886.00	897.00	908.28	919.60	930.95	942.35	953.76	965.21	976.69
5072.01	Retail	1,087	61,581	806.95	786.71	767.67	750.53	734.77	721.11	730.06	739.24	748.45	757.70	766.97	776.25	785.58	794.92
5072.02	Retail	1,700	53,465	759.56	740.51	722.58	706.45	691.62	678.76	687.18	695.83	704.50	713.20	721.92	730.66	739.44	748.24
5072.03	Retail	1,913	71,959	863.12	841.47	821.10	802.76	785.91	771.30	780.87	790.70	800.55	810.43	820.35	830.28	840.26	850.25
5073	Retail	1,469	41,486	768.78	749.50	731.36	715.03	700.02	687.00	695.53	704.28	713.05	721.86	730.69	739.54	748.42	757.32
5074	Retail	424	17,255	897.29	874.79	853.62	834.55	817.04	801.84	811.80	822.01	832.25	842.52	852.84	863.16	873.53	883.92
5075	Retail	2,386	33,645	798.63	778.60	759.75	742.79	727.20	713.68	722.53	731.62	740.74	749.88	759.06	768.25	777.48	786.73
5076	Retail	1,654	39,815	779.08	759.54	741.15	724.60	709.39	696.20	704.84	713.71	722.60	731.52	740.48	749.44	758.44	767.46
5080	Retail	1,745	46,670	931.80	908.43	886.44	866.64	848.45	832.68	843.01	853.62	864.25	874.92	885.63	896.35	907.12	917.91
5083.01	Retail	913	10,574	645.19	629.01	613.78	600.08	587.48	576.56	583.71	591.06	598.42	605.81	613.22	620.65	628.10	635.57
5083.99	Retail	1,948	29,814	711.81	693.96	677.16	662.04	648.14	636.09	643.99	652.09	660.21	668.36	676.54	684.73	692.96	701.20
5086	Retail	1,236	31,537	718.58	700.55	683.60	668.33	654.30	642.14	650.11	658.28	666.49	674.71	682.97	691.24	699.54	707.86
5088	Retail	2,057	24,889	832.93	812.04	792.38	774.69	758.43	744.32	753.56	763.04	772.55	782.09	791.66	801.24	810.87	820.51
5089	Retail	990	23,396	780.05	760.49	742.08	725.51	710.28	697.07	705.73	714.60	723.51	732.44	741.40	750.38	759.39	768.43
5090	Retail	701	21,451	632.62	616.76	601.83	588.39	576.04	565.33	572.34	579.54	586.76	594.01	601.28	608.56	615.87	623.19
5103.02	Retail	79	52,068	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5201.03	Cuyahoga Falls	826	47,468	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5201.04	Cuyahoga Falls	2,004	43,593	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5201.05	Cuyahoga Falls	1,640	51,724	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5201.06	Cuyahoga Falls	446	43,140	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5202.01	Cuyahoga Falls	1,223	59,776	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5202.02	Cuyahoga Falls	2,168	45,375	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5203.01	Cuyahoga Falls	1,286	49,419	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5203.02	Cuyahoga Falls	1,575	60,099	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5204	Cuyahoga Falls	2,017	46,010	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5205	Cuyahoga Falls	1,722	56,699	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5206	Cuyahoga Falls	815	50,901	334.96	368.56	384.58	390.16	390.49	388.02	384.83	381.63	378.48	375.40	372.37	369.28	366.36	363.38
5304.01	Mudbrook	1,340	57,908	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5304.02	Mudbrook	173	61,717	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5305.01	Mudbrook	989	52,189	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5305.02	Mudbrook	297	66,541	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5306.03	Mudbrook	1,393	51,597	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5306.04	Mudbrook	834	81,099	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5306.05	Mudbrook	86	88,632	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5307	Mudbrook	1,040	100,058	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5308	Mudbrook	1,780	71,076	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5309.01	Tallmadge	1,865	39,157	350.89	376.45	388.65	392.89	393.15	391.26	388.83	386.40	384.01	381.66	379.35	377.00	374.78	372.51
5309.02	Tallmadge	1,448	54,483	350.89	376.45	388.65	392.89	393.15	391.26	388.83	386.40	384.01	381.66	379.35	377.00	374.78	372.51
5309.03	Tallmadge	501	70,608	350.89	376.45	388.65	392.89	393.15	391.26	388.83	386.40	384.01	381.66	379.35	377.00	374.78	372.51
5310.01	Retail	977	49,346	594.42	579.51	565.49	552.86	541.25	531.19	537.78	544.55	551.33	558.14	564.97	571.81	578.68	585.56
5310.02	Springfield	1,508	45,759	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5311.01	Lakemore	776	44,928	376.23	441.78	473.05	483.92	484.58	479.75	473.52	467.28	461.15	455.13	449.21	443.18	437.49	431.67
5311.02	Lakemore	122	59,473	376.23	441.78	473.05	483.92	484.58	479.75	473.52	467.28	461.15	455.13	449.21	443.18	437.49	431.67
5311.03	Springfield	0	58,822	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5318.01	Retail	574	49,824	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
5318.02	Retail	641	52,357	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
5322.02	Retail	2,820	66,926	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
5323.01	Montrose	173	107,716	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5323.02	Retail	246	89,096	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
5326	Mudbrook	1	78,143	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5329.01	Mudbrook	131	75,083	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5329.02	Mudbrook	3,046	62,751	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5330	Retail	0	50,086	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
5334	Retail	405	57,813	773.03	753.65	735.40	718.98	703.89	690.80	699.37	708.17	717.00	725.85	734.73	743.63	752.56	761.51
5335.01	Montrose	2,376	99,151	523.50	535.51	541.24	543.23	543.35	542.47	541.33	540.18	539.06	537.96	536.87	535.77	534.72	533.66
5335.02	Retail	56	83,130	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
6021	Retail	53	58,979	746.45	727.73	710.11	694.25	679.68	667.04	675.32	683.82	692.34	700.89	709.46	718.05	726.68	735.32
Total		**121,310**	**$43,934**	**$860.85**	**$854.82**	**$845.83**	**$835.85**	**$825.66**	**$816.24**	**$821.39**	**$826.69**	**$832.02**	**$837.38**	**$842.77**	**$848.16**	**$853.61**	**$859.06**

Table 9
City of Akron, OH
WARi™ Affordability Model
Projected Average Bill - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	*Projected* 2029	*Projected* 2030	*Projected* 2031	*Projected* 2032	*Projected* 2033	*Projected* 2034	*Projected* 2035	*Projected* 2036	*Projected* 2037	*Projected* 2038	*Projected* 2039	*Projected* 2040
5011	Retail	519	$23,484	$708.05	$716.34	$724.58	$732.84	$740.97	$748.25	$755.66	$763.50	$769.09	$772.59	$776.65	$785.22
5017	Retail	456	17,910	926.63	937.47	948.26	959.07	969.71	979.24	988.93	999.19	1,006.51	1,011.09	1,016.40	1,027.62
5018	Retail	405	25,043	667.37	675.18	682.95	690.73	698.40	705.26	712.24	719.63	724.90	728.20	732.02	740.11
5019	Retail	1,173	11,375	714.51	722.87	731.19	739.52	747.73	755.08	762.55	770.46	776.11	779.64	783.73	792.38
5021.01	Retail	1,194	35,261	726.96	735.46	743.93	752.41	760.76	768.23	775.83	783.88	789.62	793.22	797.38	806.19
5021.02	Retail	2,155	29,145	667.15	674.96	682.73	690.51	698.17	705.03	712.00	719.39	724.66	727.96	731.78	739.86
5022	Retail	2,603	30,559	651.03	658.65	666.23	673.82	681.30	688.00	694.80	702.01	707.15	710.37	714.10	721.99
5023	Retail	2,040	37,130	760.44	769.34	778.19	787.06	795.79	803.62	811.56	819.99	825.99	829.75	834.11	843.32
5025	Retail	437	17,589	669.13	676.96	684.75	692.56	700.24	707.12	714.12	721.53	726.81	730.12	733.95	742.06
5026	Retail	1,276	38,711	657.04	664.73	672.38	680.04	687.59	694.35	701.21	708.49	713.68	716.93	720.69	728.65
5027	Retail	2,875	46,192	713.75	722.10	730.41	738.73	746.93	754.27	761.73	769.64	775.27	778.80	782.89	791.54
5028	Retail	1,863	41,671	701.68	709.89	718.06	726.25	734.30	741.52	748.86	756.63	762.17	765.64	769.66	778.16
5031	Retail	681	24,247	726.82	735.32	743.79	752.26	760.61	768.08	775.68	783.73	789.47	793.07	797.23	806.03
5032	Retail	747	29,667	661.12	668.85	676.55	684.26	691.85	698.65	705.56	712.88	718.10	721.37	725.16	733.17
5033	Retail	2,240	27,855	722.26	730.71	739.12	747.54	755.83	763.26	770.81	778.81	784.52	788.09	792.23	800.97
5034	Retail	541	22,911	912.53	923.20	933.83	944.47	954.95	964.34	973.87	983.98	991.19	995.70	1,000.93	1,011.98
5035	Retail	1,472	22,511	712.15	720.48	728.77	737.08	745.26	752.58	760.03	767.91	773.54	777.06	781.14	789.76
5036	Retail	1,830	47,726	737.01	745.63	754.21	762.80	771.27	778.85	786.55	794.72	800.54	804.18	808.40	817.33
5037.01	Retail	2,511	43,094	742.46	751.15	759.79	768.45	776.98	784.61	792.37	800.60	806.46	810.13	814.38	823.38
5037.02	Retail	2,528	43,498	692.44	700.54	708.60	716.67	724.63	731.75	738.99	746.65	752.12	755.55	759.51	767.90
5038	Retail	1,378	22,389	739.61	748.27	756.88	765.50	774.00	781.60	789.34	797.53	803.37	807.02	811.26	820.22
5041	Retail	453	17,179	754.35	763.18	771.96	780.76	789.42	797.18	805.06	813.42	819.38	823.10	827.43	836.56
5042	Retail	688	19,171	723.36	731.82	740.24	748.68	756.98	764.42	771.98	780.00	785.71	789.29	793.43	802.19
5044	Retail	568	20,416	663.78	671.54	679.27	687.01	694.63	701.46	708.40	715.75	720.99	724.27	728.08	736.12
5045	Retail	719	29,198	714.68	723.04	731.36	739.69	747.90	755.25	762.72	770.64	776.28	779.81	783.91	792.57
5046	Retail	1,421	23,746	737.58	746.21	754.80	763.40	771.87	779.46	787.17	795.34	801.16	804.81	809.03	817.97
5047	Retail	1,825	50,780	715.07	723.43	731.76	740.10	748.31	755.66	763.14	771.06	776.71	780.24	784.34	793.00
5048	Retail	2,118	52,142	734.25	742.84	751.39	759.95	768.39	775.94	783.61	791.74	797.55	801.17	805.38	814.27
5052	Retail	561	35,579	759.04	767.92	776.76	785.61	794.33	802.14	810.07	818.48	824.47	828.23	832.57	841.77
5053	Retail	701	17,555	553.01	559.48	565.92	572.37	578.72	584.41	590.19	596.31	600.68	603.41	606.58	613.28
5054	Retail	1,506	33,194	739.36	748.01	756.62	765.24	773.74	781.34	789.07	797.26	803.10	806.75	810.99	819.94
5055	Retail	977	48,156	804.95	814.37	823.74	833.13	842.38	850.65	859.07	867.98	874.34	878.32	882.93	892.68
5056	Retail	516	16,259	821.97	831.59	841.16	850.75	860.19	868.64	877.23	886.34	892.83	896.89	901.60	911.56
5057	Retail	1,076	25,833	750.81	759.60	768.34	777.10	785.72	793.44	801.29	809.60	815.53	819.25	823.55	832.64
5058	Retail	2,145	34,724	713.42	721.77	730.07	738.39	746.59	753.92	761.38	769.28	774.92	778.44	782.53	791.17
5059	Retail	1,062	44,651	701.87	710.08	718.26	726.44	734.50	741.72	749.06	756.83	762.37	765.84	769.87	778.37
5061	Retail	2,685	38,251	654.40	662.05	669.67	677.30	684.82	691.55	698.39	705.64	710.81	714.04	717.79	725.72
5062	Retail	1,470	37,792	843.71	853.58	863.41	873.25	882.94	891.61	900.43	909.78	916.44	920.61	925.45	935.66
5064	Retail	1,178	33,436	814.72	824.25	833.74	843.24	852.60	860.98	869.49	878.52	884.95	888.98	893.65	903.51
5065	Retail	1,028	28,586	839.76	849.59	859.37	869.16	878.80	887.44	896.22	905.52	912.15	916.30	921.11	931.29
5066	Retail	1,460	20,000	560.64	567.20	573.73	580.27	586.71	592.47	598.33	604.54	608.97	611.74	614.96	621.75
5067	Retail	557	21,998	860.25	870.31	880.33	890.36	900.24	909.08	918.08	927.60	934.40	938.65	943.58	954.00
5068	Retail	704	16,695	631.80	639.19	646.55	653.91	661.17	667.67	674.27	681.27	686.26	689.38	693.00	700.65
5071.01	Retail	2,148	47,410	839.61	849.44	859.21	869.00	878.65	887.28	896.06	905.36	911.99	916.14	920.95	931.12
5071.02	Retail	1,145	76,995	988.23	999.79	1,011.30	1,022.82	1,034.17	1,044.34	1,054.67	1,065.61	1,073.42	1,078.30	1,083.97	1,095.93
5072.01	Retail	1,087	61,581	804.31	813.72	823.09	832.47	841.70	849.98	858.38	867.29	873.64	877.62	882.23	891.97
5072.02	Retail	1,700	53,465	757.07	765.93	774.75	783.58	792.27	800.06	807.97	816.35	822.34	826.08	830.42	839.58
5072.03	Retail	1,913	71,959	860.29	870.36	880.38	890.41	900.29	909.14	918.13	927.66	934.45	938.70	943.63	954.05
5073	Retail	1,469	41,486	766.27	775.23	784.16	793.09	801.89	809.77	817.78	826.27	832.32	836.11	840.50	849.78
5074	Retail	424	17,255	894.36	904.82	915.24	925.67	935.94	945.14	954.49	964.39	971.46	975.88	981.00	991.83
5075	Retail	2,386	33,645	796.02	805.33	814.60	823.88	833.03	841.21	849.53	858.35	864.64	868.57	873.13	882.77
5076	Retail	1,654	39,815	776.53	785.61	794.66	803.71	812.63	820.62	828.73	837.33	843.47	847.31	851.75	861.16
5080	Retail	1,745	46,670	928.75	939.62	950.43	961.26	971.93	981.48	991.19	1,001.47	1,008.81	1,013.40	1,018.72	1,029.97
5083.01	Retail	913	10,574	643.08	650.60	658.09	665.59	672.98	679.59	686.31	693.43	698.51	701.69	705.38	713.17
5083.99	Retail	1,948	29,814	709.48	717.78	726.05	734.32	742.47	749.76	757.18	765.04	770.64	774.15	778.21	786.81
5086	Retail	1,236	31,537	716.23	724.61	732.94	741.30	749.52	756.89	764.38	772.31	777.97	781.51	785.61	794.28
5088	Retail	2,057	24,889	830.21	839.92	849.58	859.27	868.80	877.34	886.02	895.21	901.77	905.87	910.63	920.68
5089	Retail	990	23,396	777.50	786.60	795.65	804.72	813.65	821.64	829.77	838.38	844.53	848.37	852.82	862.24
5090	Retail	701	21,451	630.55	637.93	645.27	652.63	659.87	666.35	672.95	679.93	684.91	688.03	691.64	699.28
5103.02	Retail	79	52,068	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.04	Cuyahoga Falls	2,004	43,593	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.05	Cuyahoga Falls	1,640	51,724	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.06	Cuyahoga Falls	446	43,140	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5202.01	Cuyahoga Falls	1,223	59,776	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5202.02	Cuyahoga Falls	2,168	45,375	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5203.01	Cuyahoga Falls	1,286	49,419	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5203.02	Cuyahoga Falls	1,575	60,099	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5204	Cuyahoga Falls	2,017	46,010	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5205	Cuyahoga Falls	1,722	56,699	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5206	Cuyahoga Falls	815	50,901	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5304.01	Mudbrook	1,340	57,908	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5304.02	Mudbrook	173	61,717	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5305.01	Mudbrook	989	52,189	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5305.02	Mudbrook	297	66,541	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.03	Mudbrook	1,393	51,597	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.04	Mudbrook	834	81,099	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.05	Mudbrook	86	88,632	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5307	Mudbrook	1,040	100,058	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5308	Mudbrook	1,780	71,076	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5309.01	Tallmadge	1,865	39,157	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5309.02	Tallmadge	1,448	54,483	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5309.03	Tallmadge	501	70,608	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5310.01	Retail	977	49,346	592.48	599.41	606.31	613.22	620.02	626.11	632.31	638.87	643.55	646.48	649.87	657.05
5310.02	Springfield	1,508	45,759	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5311.01	Lakemore	776	44,928	426.21	420.61	415.34	409.91	405.07	402.08	399.31	395.49	402.51	441.08	478.18	479.08
5311.02	Lakemore	122	59,473	426.21	420.61	415.34	409.91	405.07	402.08	399.31	395.49	402.51	441.08	478.18	479.08
5311.03	Springfield	0	58,822	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5318.01	Retail	574	49,824	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5318.02	Retail	641	52,357	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5322.02	Retail	2,820	66,926	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5323.01	Montrose	173	107,716	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5323.02	Retail	246	89,096	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5326	Mudbrook	1	78,143	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5329.01	Mudbrook	131	75,083	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5329.02	Mudbrook	3,046	62,751	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5330	Retail	0	50,086	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5334	Retail	405	57,813	770.51	779.52	788.49	797.48	806.33	814.25	822.30	830.84	836.92	840.73	845.15	854.48
5335.01	Montrose	2,376	99,151	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5335.02	Retail	56	83,130	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
6021	Retail	53	58,979	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
Total		**121,310**	**$43,934**	**$864.58**	**$870.10**	**$875.62**	**$881.14**	**$886.63**	**$891.68**	**$896.86**	**$902.24**	**$907.15**	**$913.94**	**$920.98**	**$927.42**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5011	Retail	519	$23,484	5.33%	5.20%	5.07%	4.96%	4.85%	4.76%	4.82%	4.88%	4.95%	5.01%	5.07%	5.13%	5.19%	5.25%
5017	Retail	456	17,910	8.64%	8.42%	8.22%	8.04%	7.87%	7.72%	7.82%	7.91%	8.01%	8.11%	8.21%	8.31%	8.41%	8.51%
5018	Retail	405	25,043	5.55%	5.41%	5.28%	5.16%	5.05%	4.96%	5.02%	5.08%	5.14%	5.21%	5.27%	5.33%	5.40%	5.46%
5019	Retail	1,173	11,375	8.23%	8.02%	7.82%	7.65%	7.49%	7.35%	7.44%	7.53%	7.63%	7.72%	7.82%	7.91%	8.01%	8.10%
5021.01	Retail	1,194	35,261	4.67%	4.55%	4.44%	4.34%	4.25%	4.17%	4.23%	4.28%	4.33%	4.39%	4.44%	4.49%	4.55%	4.60%
5021.02	Retail	2,155	29,145	4.10%	3.99%	3.90%	3.81%	3.73%	3.66%	3.71%	3.75%	3.80%	3.85%	3.89%	3.94%	3.99%	4.04%
5022	Retail	2,603	30,559	4.03%	3.93%	3.83%	3.75%	3.67%	3.60%	3.65%	3.69%	3.74%	3.78%	3.83%	3.88%	3.92%	3.97%
5023	Retail	2,040	37,130	4.40%	4.29%	4.18%	4.09%	4.00%	3.93%	3.98%	4.03%	4.08%	4.13%	4.18%	4.23%	4.28%	4.33%
5025	Retail	437	17,589	5.95%	5.80%	5.66%	5.54%	5.42%	5.32%	5.38%	5.45%	5.52%	5.59%	5.66%	5.73%	5.79%	5.86%
5026	Retail	1,276	38,711	3.67%	3.58%	3.49%	3.41%	3.34%	3.28%	3.32%	3.36%	3.40%	3.45%	3.49%	3.53%	3.57%	3.62%
5027	Retail	2,875	46,192	3.01%	2.93%	2.86%	2.79%	2.74%	2.69%	2.72%	2.75%	2.79%	2.82%	2.86%	2.89%	2.93%	2.96%
5028	Retail	1,863	41,671	3.17%	3.09%	3.02%	2.95%	2.89%	2.83%	2.87%	2.90%	2.94%	2.98%	3.01%	3.05%	3.09%	3.12%
5031	Retail	681	24,247	4.54%	4.43%	4.32%	4.23%	4.14%	4.06%	4.11%	4.16%	4.22%	4.27%	4.32%	4.37%	4.42%	4.48%
5032	Retail	747	29,667	4.15%	4.05%	3.95%	3.86%	3.78%	3.71%	3.75%	3.80%	3.85%	3.90%	3.94%	3.99%	4.04%	4.09%
5033	Retail	2,240	27,855	4.41%	4.30%	4.20%	4.11%	4.02%	3.94%	3.99%	4.04%	4.09%	4.14%	4.20%	4.25%	4.30%	4.35%
5034	Retail	541	22,911	6.45%	6.29%	6.14%	6.00%	5.87%	5.76%	5.84%	5.91%	5.98%	6.06%	6.13%	6.21%	6.28%	6.35%
5035	Retail	1,472	22,511	5.48%	5.34%	5.21%	5.10%	4.99%	4.90%	4.96%	5.02%	5.08%	5.15%	5.21%	5.27%	5.34%	5.40%
5036	Retail	1,830	47,726	2.61%	2.54%	2.48%	2.43%	2.37%	2.33%	2.36%	2.39%	2.42%	2.45%	2.48%	2.51%	2.54%	2.57%
5037.01	Retail	2,511	43,094	2.96%	2.88%	2.81%	2.75%	2.69%	2.64%	2.67%	2.71%	2.74%	2.78%	2.81%	2.84%	2.88%	2.91%
5037.02	Retail	2,528	43,498	2.35%	2.29%	2.24%	2.19%	2.14%	2.10%	2.13%	2.16%	2.18%	2.21%	2.24%	2.26%	2.29%	2.32%
5038	Retail	1,378	22,389	6.48%	6.32%	6.17%	6.03%	5.90%	5.79%	5.86%	5.94%	6.01%	6.09%	6.16%	6.24%	6.31%	6.39%
5041	Retail	453	17,179	7.31%	7.13%	6.96%	6.80%	6.66%	6.53%	6.61%	6.70%	6.78%	6.87%	6.95%	7.03%	7.12%	7.20%
5042	Retail	688	19,171	5.18%	5.05%	4.93%	4.82%	4.72%	4.63%	4.69%	4.75%	4.81%	4.86%	4.92%	4.98%	5.04%	5.10%
5044	Retail	568	20,416	4.77%	4.65%	4.54%	4.44%	4.34%	4.26%	4.31%	4.37%	4.42%	4.48%	4.53%	4.59%	4.64%	4.70%
5045	Retail	719	29,198	4.08%	3.97%	3.88%	3.79%	3.71%	3.64%	3.69%	3.73%	3.78%	3.83%	3.87%	3.92%	3.97%	4.01%
5046	Retail	1,421	23,746	5.42%	5.29%	5.16%	5.04%	4.94%	4.85%	4.91%	4.97%	5.03%	5.09%	5.15%	5.22%	5.28%	5.34%
5047	Retail	1,825	50,780	2.19%	2.14%	2.09%	2.04%	2.00%	1.96%	1.99%	2.01%	2.04%	2.06%	2.09%	2.11%	2.14%	2.16%
5048	Retail	2,118	52,142	2.44%	2.38%	2.32%	2.27%	2.22%	2.18%	2.21%	2.24%	2.26%	2.29%	2.32%	2.35%	2.38%	2.40%
5052	Retail	561	35,579	4.54%	4.42%	4.32%	4.22%	4.13%	4.05%	4.10%	4.16%	4.21%	4.26%	4.31%	4.36%	4.42%	4.47%
5053	Retail	701	17,555	4.73%	4.61%	4.50%	4.40%	4.30%	4.22%	4.28%	4.33%	4.38%	4.44%	4.49%	4.55%	4.60%	4.66%
5054	Retail	1,506	33,194	3.97%	3.87%	3.78%	3.69%	3.61%	3.55%	3.59%	3.64%	3.68%	3.73%	3.77%	3.82%	3.86%	3.91%
5055	Retail	977	48,156	3.60%	3.51%	3.42%	3.34%	3.27%	3.21%	3.25%	3.29%	3.33%	3.38%	3.42%	3.46%	3.50%	3.54%
5056	Retail	516	16,259	7.62%	7.43%	7.25%	7.09%	6.94%	6.81%	6.89%	6.98%	7.07%	7.16%	7.24%	7.33%	7.42%	7.51%
5057	Retail	1,076	25,833	5.17%	5.04%	4.92%	4.81%	4.70%	4.62%	4.67%	4.73%	4.79%	4.85%	4.91%	4.97%	5.03%	5.09%
5058	Retail	2,145	34,724	3.23%	3.15%	3.08%	3.01%	2.94%	2.89%	2.93%	2.96%	3.00%	3.04%	3.07%	3.11%	3.15%	3.19%
5059	Retail	1,062	44,651	2.63%	2.56%	2.50%	2.45%	2.40%	2.35%	2.38%	2.41%	2.44%	2.47%	2.50%	2.53%	2.56%	2.59%
5061	Retail	2,685	38,251	3.54%	3.45%	3.37%	3.29%	3.22%	3.16%	3.20%	3.24%	3.28%	3.32%	3.36%	3.40%	3.44%	3.49%
5062	Retail	1,470	37,792	4.54%	4.42%	4.32%	4.22%	4.13%	4.06%	4.11%	4.16%	4.21%	4.26%	4.31%	4.37%	4.42%	4.47%
5064	Retail	1,178	33,436	5.40%	5.26%	5.14%	5.02%	4.92%	4.82%	4.88%	4.95%	5.01%	5.07%	5.13%	5.19%	5.26%	5.32%
5065	Retail	1,028	28,586	6.09%	5.94%	5.80%	5.67%	5.55%	5.45%	5.51%	5.58%	5.65%	5.72%	5.79%	5.86%	5.93%	6.00%
5066	Retail	1,460	20,000	4.73%	4.61%	4.50%	4.40%	4.30%	4.22%	4.28%	4.33%	4.38%	4.44%	4.49%	4.55%	4.60%	4.66%
5067	Retail	557	21,998	5.81%	5.66%	5.53%	5.40%	5.29%	5.19%	5.26%	5.32%	5.39%	5.46%	5.52%	5.59%	5.66%	5.72%
5068	Retail	704	16,695	6.01%	5.86%	5.72%	5.59%	5.47%	5.37%	5.44%	5.51%	5.58%	5.65%	5.71%	5.78%	5.85%	5.92%
5071.01	Retail	2,148	47,410	3.18%	3.10%	3.03%	2.96%	2.90%	2.85%	2.88%	2.92%	2.95%	2.99%	3.03%	3.06%	3.10%	3.14%
5071.02	Retail	1,145	76,995	3.29%	3.21%	3.13%	3.06%	3.00%	2.94%	2.98%	3.02%	3.05%	3.09%	3.13%	3.17%	3.21%	3.24%
5072.01	Retail	1,087	61,581	2.85%	2.78%	2.71%	2.65%	2.60%	2.55%	2.58%	2.61%	2.65%	2.68%	2.71%	2.74%	2.78%	2.81%
5072.02	Retail	1,700	53,465	2.75%	2.68%	2.62%	2.56%	2.50%	2.46%	2.49%	2.52%	2.55%	2.58%	2.61%	2.64%	2.68%	2.71%
5072.03	Retail	1,913	71,959	1.92%	1.87%	1.82%	1.78%	1.75%	1.71%	1.74%	1.76%	1.78%	1.80%	1.82%	1.85%	1.87%	1.89%
5073	Retail	1,469	41,486	3.48%	3.39%	3.31%	3.24%	3.17%	3.11%	3.15%	3.19%	3.23%	3.27%	3.31%	3.35%	3.39%	3.43%
5074	Retail	424	17,255	7.22%	7.04%	6.87%	6.72%	6.58%	6.45%	6.53%	6.62%	6.70%	6.78%	6.86%	6.95%	7.03%	7.11%
5075	Retail	2,386	33,645	4.52%	4.40%	4.30%	4.20%	4.11%	4.04%	4.09%	4.14%	4.19%	4.24%	4.29%	4.35%	4.40%	4.45%
5076	Retail	1,654	39,815	3.24%	3.15%	3.08%	3.01%	2.95%	2.89%	2.93%	2.96%	3.00%	3.04%	3.08%	3.11%	3.15%	3.19%
5080	Retail	1,745	46,670	3.87%	3.77%	3.68%	3.60%	3.53%	3.46%	3.50%	3.55%	3.59%	3.64%	3.68%	3.72%	3.77%	3.81%
5083.01	Retail	913	10,574	7.90%	7.70%	7.51%	7.34%	7.19%	7.06%	7.14%	7.23%	7.32%	7.41%	7.51%	7.60%	7.69%	7.78%
5083.99	Retail	1,948	29,814	5.19%	5.06%	4.94%	4.83%	4.73%	4.64%	4.70%	4.75%	4.81%	4.87%	4.93%	4.99%	5.05%	5.11%
5086	Retail	1,236	31,537	5.61%	5.47%	5.34%	5.22%	5.11%	5.02%	5.08%	5.14%	5.21%	5.27%	5.34%	5.40%	5.47%	5.53%
5088	Retail	2,057	24,889	5.66%	5.52%	5.38%	5.26%	5.15%	5.06%	5.12%	5.18%	5.25%	5.31%	5.38%	5.44%	5.51%	5.57%
5089	Retail	990	23,396	5.93%	5.78%	5.64%	5.52%	5.40%	5.30%	5.37%	5.44%	5.50%	5.57%	5.64%	5.71%	5.78%	5.84%
5090	Retail	701	21,451	4.27%	4.17%	4.06%	3.97%	3.89%	3.82%	3.87%	3.91%	3.96%	4.01%	4.06%	4.11%	4.16%	4.21%
5103.02	Retail	79	52,068	3.15%	3.07%	3.00%	2.93%	2.87%	2.82%	2.85%	2.89%	2.92%	2.96%	2.99%	3.03%	3.07%	3.10%

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5201.03	Cuyahoga Falls	826	47,468	1.22%	1.35%	1.41%	1.43%	1.43%	1.42%	1.41%	1.40%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%
5201.04	Cuyahoga Falls	2,004	43,593	1.49%	1.64%	1.71%	1.74%	1.74%	1.73%	1.71%	1.70%	1.68%	1.67%	1.66%	1.64%	1.63%	1.62%
5201.05	Cuyahoga Falls	1,640	51,724	1.25%	1.38%	1.44%	1.46%	1.46%	1.45%	1.44%	1.42%	1.41%	1.40%	1.39%	1.38%	1.37%	1.36%
5201.06	Cuyahoga Falls	446	43,140	1.35%	1.49%	1.55%	1.58%	1.58%	1.57%	1.55%	1.54%	1.53%	1.52%	1.50%	1.49%	1.48%	1.47%
5202.01	Cuyahoga Falls	1,223	59,776	0.86%	0.95%	0.99%	1.00%	1.00%	1.00%	0.99%	0.98%	0.97%	0.96%	0.96%	0.95%	0.94%	0.93%
5202.02	Cuyahoga Falls	2,168	45,375	1.66%	1.83%	1.91%	1.94%	1.94%	1.93%	1.91%	1.89%	1.88%	1.86%	1.85%	1.83%	1.82%	1.80%
5203.01	Cuyahoga Falls	1,286	49,419	1.56%	1.72%	1.79%	1.82%	1.82%	1.81%	1.80%	1.78%	1.77%	1.75%	1.74%	1.72%	1.71%	1.70%
5203.02	Cuyahoga Falls	1,575	60,099	0.89%	0.98%	1.02%	1.04%	1.04%	1.03%	1.02%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%	0.97%
5204	Cuyahoga Falls	2,017	46,010	1.18%	1.30%	1.36%	1.38%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%	1.29%
5205	Cuyahoga Falls	1,722	56,699	1.14%	1.26%	1.31%	1.33%	1.33%	1.33%	1.31%	1.30%	1.29%	1.28%	1.27%	1.26%	1.25%	1.24%
5206	Cuyahoga Falls	815	50,901	1.20%	1.32%	1.38%	1.40%	1.40%	1.39%	1.38%	1.36%	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%
5304.01	Mudbrook	1,340	57,908	1.37%	1.40%	1.41%	1.42%	1.42%	1.42%	1.41%	1.41%	1.41%	1.40%	1.40%	1.40%	1.40%	1.39%
5304.02	Mudbrook	173	61,717	1.54%	1.58%	1.59%	1.60%	1.60%	1.60%	1.59%	1.59%	1.59%	1.58%	1.58%	1.58%	1.57%	1.57%
5305.01	Mudbrook	989	52,189	1.71%	1.75%	1.77%	1.78%	1.78%	1.77%	1.77%	1.77%	1.76%	1.76%	1.76%	1.75%	1.75%	1.75%
5305.02	Mudbrook	297	66,541	1.72%	1.76%	1.77%	1.78%	1.78%	1.78%	1.78%	1.77%	1.77%	1.76%	1.76%	1.76%	1.75%	1.75%
5306.03	Mudbrook	1,393	51,597	1.30%	1.33%	1.35%	1.35%	1.35%	1.35%	1.35%	1.34%	1.34%	1.34%	1.34%	1.33%	1.33%	1.33%
5306.04	Mudbrook	834	81,099	0.91%	0.93%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.93%	0.93%	0.93%	0.93%
5306.05	Mudbrook	86	88,632	1.20%	1.23%	1.24%	1.25%	1.25%	1.24%	1.24%	1.24%	1.24%	1.23%	1.23%	1.23%	1.23%	1.22%
5307	Mudbrook	1,040	100,058	1.12%	1.15%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.15%	1.15%	1.15%	1.15%	1.14%	1.14%
5308	Mudbrook	1,780	71,076	1.13%	1.15%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.16%	1.16%	1.16%	1.16%	1.15%	1.15%
5309.01	Tallmadge	1,865	39,157	1.59%	1.71%	1.77%	1.79%	1.79%	1.78%	1.77%	1.76%	1.75%	1.73%	1.72%	1.71%	1.70%	1.69%
5309.02	Tallmadge	1,448	54,483	1.23%	1.32%	1.36%	1.37%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%	1.33%	1.32%	1.31%	1.30%
5309.03	Tallmadge	501	70,608	0.77%	0.83%	0.86%	0.87%	0.87%	0.86%	0.86%	0.85%	0.85%	0.84%	0.84%	0.83%	0.83%	0.82%
5310.01	Retail	977	49,346	1.96%	1.91%	1.86%	1.82%	1.78%	1.75%	1.77%	1.79%	1.81%	1.84%	1.86%	1.88%	1.90%	1.93%
5310.02	Springfield	1,508	45,759	1.90%	1.94%	1.97%	1.97%	1.97%	1.97%	1.97%	1.96%	1.96%	1.95%	1.95%	1.95%	1.94%	1.94%
5311.01	Lakemore	776	44,928	1.32%	1.55%	1.66%	1.70%	1.70%	1.68%	1.66%	1.64%	1.62%	1.59%	1.57%	1.55%	1.53%	1.51%
5311.02	Lakemore	122	59,473	1.04%	1.22%	1.30%	1.33%	1.33%	1.32%	1.30%	1.29%	1.27%	1.25%	1.24%	1.22%	1.20%	1.19%
5311.03	Springfield	0	58,822	1.51%	1.55%	1.56%	1.57%	1.57%	1.57%	1.56%	1.56%	1.56%	1.55%	1.55%	1.55%	1.54%	1.54%
5318.01	Retail	574	49,824	3.30%	3.22%	3.14%	3.07%	3.01%	2.95%	2.99%	3.03%	3.06%	3.10%	3.14%	3.18%	3.22%	3.25%
5318.02	Retail	641	52,357	2.43%	2.37%	2.31%	2.26%	2.22%	2.17%	2.20%	2.23%	2.26%	2.28%	2.31%	2.34%	2.37%	2.40%
5322.02	Retail	2,820	66,926	1.70%	1.65%	1.61%	1.58%	1.54%	1.51%	1.53%	1.55%	1.57%	1.59%	1.61%	1.63%	1.65%	1.67%
5323.01	Montrose	173	107,716	0.88%	0.90%	0.91%	0.92%	0.92%	0.91%	0.91%	0.91%	0.91%	0.91%	0.90%	0.90%	0.90%	0.90%
5323.02	Retail	246	89,096	1.53%	1.49%	1.45%	1.42%	1.39%	1.37%	1.38%	1.40%	1.42%	1.44%	1.45%	1.47%	1.49%	1.51%
5326	Mudbrook	1	78,143	1.40%	1.43%	1.44%	1.45%	1.45%	1.45%	1.44%	1.44%	1.44%	1.43%	1.43%	1.43%	1.43%	1.42%
5329.01	Mudbrook	131	75,083	1.06%	1.08%	1.09%	1.10%	1.10%	1.09%	1.09%	1.09%	1.09%	1.09%	1.08%	1.08%	1.08%	1.08%
5329.02	Mudbrook	3,046	62,751	2.01%	2.06%	2.08%	2.09%	2.09%	2.08%	2.08%	2.07%	2.07%	2.07%	2.06%	2.06%	2.05%	2.05%
5330	Retail	0	50,086	2.37%	2.31%	2.25%	2.20%	2.15%	2.11%	2.14%	2.17%	2.19%	2.22%	2.25%	2.28%	2.30%	2.33%
5334	Retail	405	57,813	2.33%	2.27%	2.22%	2.17%	2.12%	2.08%	2.11%	2.14%	2.16%	2.19%	2.22%	2.24%	2.27%	2.30%
5335.01	Montrose	2,376	99,151	0.90%	0.93%	0.94%	0.94%	0.94%	0.94%	0.94%	0.93%	0.93%	0.93%	0.93%	0.93%	0.92%	0.92%
5335.02	Retail	56	83,130	1.58%	1.54%	1.50%	1.47%	1.44%	1.41%	1.43%	1.44%	1.46%	1.48%	1.50%	1.52%	1.53%	1.55%
6021	Retail	53	58,979	2.15%	2.10%	2.05%	2.00%	1.96%	1.92%	1.95%	1.97%	1.99%	2.02%	2.04%	2.07%	2.09%	2.12%
Total		**121,310**	**$43,933.75**	**3.90%**	**3.86%**	**3.80%**	**3.75%**	**3.69%**	**3.64%**	**3.67%**	**3.70%**	**3.73%**	**3.76%**	**3.79%**	**3.82%**	**3.85%**	**3.88%**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5011	Retail	519	$23,484	5.31%	5.38%	5.44%	5.50%	5.56%	5.62%	5.67%	5.73%	5.77%	5.80%	5.83%	5.89%
5017	Retail	456	17,910	8.61%	8.71%	8.81%	8.91%	9.01%	9.10%	9.19%	9.29%	9.35%	9.40%	9.45%	9.55%
5018	Retail	405	25,043	5.53%	5.59%	5.66%	5.72%	5.78%	5.84%	5.90%	5.96%	6.00%	6.03%	6.06%	6.13%
5019	Retail	1,173	11,375	8.20%	8.29%	8.39%	8.49%	8.58%	8.66%	8.75%	8.84%	8.90%	8.95%	8.99%	9.09%
5021.01	Retail	1,194	35,261	4.66%	4.71%	4.76%	4.82%	4.87%	4.92%	4.97%	5.02%	5.06%	5.08%	5.11%	5.16%
5021.02	Retail	2,155	29,145	4.08%	4.13%	4.18%	4.23%	4.27%	4.32%	4.36%	4.40%	4.44%	4.46%	4.48%	4.53%
5022	Retail	2,603	30,559	4.02%	4.06%	4.11%	4.16%	4.20%	4.24%	4.29%	4.33%	4.36%	4.38%	4.41%	4.45%
5023	Retail	2,040	37,130	4.38%	4.43%	4.48%	4.54%	4.59%	4.63%	4.68%	4.73%	4.76%	4.78%	4.81%	4.86%
5025	Retail	437	17,589	5.93%	6.00%	6.07%	6.14%	6.21%	6.27%	6.33%	6.40%	6.44%	6.47%	6.51%	6.58%
5026	Retail	1,276	38,711	3.66%	3.70%	3.74%	3.79%	3.83%	3.87%	3.90%	3.94%	3.97%	3.99%	4.01%	4.06%
5027	Retail	2,875	46,192	3.00%	3.03%	3.07%	3.10%	3.13%	3.17%	3.20%	3.23%	3.25%	3.27%	3.29%	3.32%
5028	Retail	1,863	41,671	3.16%	3.20%	3.23%	3.27%	3.31%	3.34%	3.37%	3.41%	3.43%	3.45%	3.47%	3.50%
5031	Retail	681	24,247	4.53%	4.58%	4.64%	4.69%	4.74%	4.79%	4.83%	4.88%	4.92%	4.94%	4.97%	5.02%
5032	Retail	747	29,667	4.14%	4.18%	4.23%	4.28%	4.33%	4.37%	4.41%	4.46%	4.49%	4.51%	4.54%	4.59%
5033	Retail	2,240	27,855	4.40%	4.45%	4.50%	4.55%	4.60%	4.65%	4.70%	4.74%	4.78%	4.80%	4.83%	4.88%
5034	Retail	541	22,911	6.43%	6.50%	6.58%	6.65%	6.73%	6.79%	6.86%	6.93%	6.98%	7.02%	7.05%	7.13%
5035	Retail	1,472	22,511	5.46%	5.53%	5.59%	5.65%	5.72%	5.77%	5.83%	5.89%	5.93%	5.96%	5.99%	6.06%
5036	Retail	1,830	47,726	2.60%	2.63%	2.66%	2.69%	2.72%	2.75%	2.77%	2.80%	2.82%	2.84%	2.85%	2.88%
5037.01	Retail	2,511	43,094	2.95%	2.98%	3.01%	3.05%	3.08%	3.11%	3.14%	3.18%	3.20%	3.21%	3.23%	3.27%
5037.02	Retail	2,528	43,498	2.35%	2.37%	2.40%	2.43%	2.45%	2.48%	2.50%	2.53%	2.55%	2.56%	2.57%	2.60%
5038	Retail	1,378	22,389	6.46%	6.54%	6.61%	6.69%	6.76%	6.83%	6.89%	6.97%	7.02%	7.05%	7.09%	7.16%
5041	Retail	453	17,179	7.29%	7.37%	7.46%	7.54%	7.63%	7.70%	7.78%	7.86%	7.92%	7.95%	7.99%	8.08%
5042	Retail	688	19,171	5.16%	5.22%	5.28%	5.35%	5.40%	5.46%	5.51%	5.57%	5.61%	5.64%	5.66%	5.73%
5044	Retail	568	20,416	4.75%	4.81%	4.86%	4.92%	4.97%	5.02%	5.07%	5.13%	5.16%	5.19%	5.21%	5.27%
5045	Retail	719	29,198	4.06%	4.11%	4.16%	4.20%	4.25%	4.29%	4.33%	4.38%	4.41%	4.43%	4.46%	4.50%
5046	Retail	1,421	23,746	5.40%	5.47%	5.53%	5.59%	5.66%	5.71%	5.77%	5.83%	5.87%	5.90%	5.93%	5.99%
5047	Retail	1,825	50,780	2.19%	2.21%	2.24%	2.26%	2.29%	2.31%	2.33%	2.36%	2.38%	2.39%	2.40%	2.43%
5048	Retail	2,118	52,142	2.43%	2.46%	2.49%	2.52%	2.55%	2.57%	2.60%	2.62%	2.64%	2.66%	2.67%	2.70%
5052	Retail	561	35,579	4.52%	4.57%	4.63%	4.68%	4.73%	4.78%	4.83%	4.88%	4.91%	4.93%	4.96%	5.01%
5053	Retail	701	17,555	4.71%	4.77%	4.82%	4.88%	4.93%	4.98%	5.03%	5.08%	5.12%	5.14%	5.17%	5.23%
5054	Retail	1,506	33,194	3.96%	4.00%	4.05%	4.10%	4.14%	4.18%	4.22%	4.27%	4.30%	4.32%	4.34%	4.39%
5055	Retail	977	48,156	3.58%	3.63%	3.67%	3.71%	3.75%	3.79%	3.82%	3.86%	3.89%	3.91%	3.93%	3.97%
5056	Retail	516	16,259	7.60%	7.68%	7.77%	7.86%	7.95%	8.03%	8.11%	8.19%	8.25%	8.29%	8.33%	8.42%
5057	Retail	1,076	25,833	5.15%	5.21%	5.27%	5.33%	5.39%	5.44%	5.50%	5.55%	5.59%	5.62%	5.65%	5.71%
5058	Retail	2,145	34,724	3.22%	3.26%	3.30%	3.34%	3.37%	3.41%	3.44%	3.48%	3.50%	3.52%	3.54%	3.57%
5059	Retail	1,062	44,651	2.62%	2.65%	2.68%	2.71%	2.74%	2.77%	2.80%	2.83%	2.85%	2.86%	2.88%	2.91%
5061	Retail	2,685	38,251	3.53%	3.57%	3.61%	3.65%	3.69%	3.73%	3.76%	3.80%	3.83%	3.85%	3.87%	3.91%
5062	Retail	1,470	37,792	4.52%	4.58%	4.63%	4.68%	4.73%	4.78%	4.83%	4.88%	4.91%	4.94%	4.96%	5.02%
5064	Retail	1,178	33,436	5.38%	5.44%	5.51%	5.57%	5.63%	5.69%	5.74%	5.80%	5.84%	5.87%	5.90%	5.97%
5065	Retail	1,028	28,586	6.07%	6.15%	6.22%	6.29%	6.36%	6.42%	6.48%	6.55%	6.60%	6.63%	6.66%	6.74%
5066	Retail	1,460	20,000	4.71%	4.77%	4.82%	4.88%	4.93%	4.98%	5.03%	5.08%	5.12%	5.14%	5.17%	5.23%
5067	Retail	557	21,998	5.79%	5.86%	5.93%	5.99%	6.06%	6.12%	6.18%	6.24%	6.29%	6.32%	6.35%	6.42%
5068	Retail	704	16,695	5.99%	6.06%	6.13%	6.20%	6.27%	6.33%	6.40%	6.46%	6.51%	6.54%	6.57%	6.65%
5071.01	Retail	2,148	47,410	3.17%	3.21%	3.25%	3.28%	3.32%	3.35%	3.39%	3.42%	3.45%	3.46%	3.48%	3.52%
5071.02	Retail	1,145	76,995	3.28%	3.32%	3.36%	3.40%	3.43%	3.47%	3.50%	3.54%	3.56%	3.58%	3.60%	3.64%
5072.01	Retail	1,087	61,581	2.84%	2.88%	2.91%	2.94%	2.98%	3.01%	3.04%	3.07%	3.09%	3.10%	3.12%	3.15%
5072.02	Retail	1,700	53,465	2.74%	2.77%	2.80%	2.84%	2.87%	2.90%	2.92%	2.95%	2.98%	2.99%	3.01%	3.04%
5072.03	Retail	1,913	71,959	1.91%	1.93%	1.96%	1.98%	2.00%	2.02%	2.04%	2.06%	2.08%	2.09%	2.10%	2.12%
5073	Retail	1,469	41,486	3.47%	3.51%	3.55%	3.59%	3.63%	3.66%	3.70%	3.74%	3.77%	3.78%	3.80%	3.84%
5074	Retail	424	17,255	7.20%	7.28%	7.37%	7.45%	7.53%	7.61%	7.68%	7.76%	7.82%	7.85%	7.90%	7.98%
5075	Retail	2,386	33,645	4.50%	4.56%	4.61%	4.66%	4.71%	4.76%	4.81%	4.86%	4.89%	4.91%	4.94%	4.99%
5076	Retail	1,654	39,815	3.23%	3.26%	3.30%	3.34%	3.38%	3.41%	3.44%	3.48%	3.50%	3.52%	3.54%	3.58%
5080	Retail	1,745	46,670	3.86%	3.90%	3.95%	3.99%	4.04%	4.08%	4.12%	4.16%	4.19%	4.21%	4.23%	4.28%
5083.01	Retail	913	10,574	7.87%	7.96%	8.05%	8.15%	8.24%	8.32%	8.40%	8.49%	8.55%	8.59%	8.63%	8.73%
5083.99	Retail	1,948	29,814	5.17%	5.23%	5.29%	5.35%	5.41%	5.47%	5.52%	5.58%	5.62%	5.64%	5.67%	5.74%
5086	Retail	1,236	31,537	5.60%	5.66%	5.73%	5.79%	5.86%	5.91%	5.97%	6.03%	6.08%	6.11%	6.14%	6.21%
5088	Retail	2,057	24,889	5.64%	5.71%	5.77%	5.84%	5.90%	5.96%	6.02%	6.08%	6.13%	6.15%	6.19%	6.26%
5089	Retail	990	23,396	5.91%	5.98%	6.05%	6.12%	6.19%	6.25%	6.31%	6.38%	6.42%	6.45%	6.49%	6.56%
5090	Retail	701	21,451	4.26%	4.31%	4.36%	4.41%	4.46%	4.50%	4.55%	4.59%	4.63%	4.65%	4.67%	4.72%
5103.02	Retail	79	52,068	3.14%	3.18%	3.21%	3.25%	3.29%	3.32%	3.35%	3.39%	3.41%	3.43%	3.44%	3.48%

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	1.32%	1.31%	1.30%	1.29%	1.28%	1.27%	1.27%	1.26%	1.27%	1.35%	1.42%	1.42%
5201.04	Cuyahoga Falls	2,004	43,593	1.60%	1.59%	1.58%	1.57%	1.56%	1.55%	1.54%	1.53%	1.55%	1.64%	1.72%	1.72%
5201.05	Cuyahoga Falls	1,640	51,724	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%	1.29%	1.29%	1.30%	1.37%	1.45%	1.45%
5201.06	Cuyahoga Falls	446	43,140	1.46%	1.45%	1.43%	1.42%	1.41%	1.41%	1.40%	1.39%	1.41%	1.49%	1.56%	1.57%
5202.01	Cuyahoga Falls	1,223	59,776	0.93%	0.92%	0.91%	0.90%	0.90%	0.89%	0.89%	0.89%	0.90%	0.95%	0.99%	1.00%
5202.02	Cuyahoga Falls	2,168	45,375	1.79%	1.78%	1.76%	1.75%	1.74%	1.73%	1.72%	1.71%	1.73%	1.83%	1.92%	1.92%
5203.01	Cuyahoga Falls	1,286	49,419	1.68%	1.67%	1.66%	1.64%	1.63%	1.62%	1.62%	1.61%	1.63%	1.72%	1.81%	1.81%
5203.02	Cuyahoga Falls	1,575	60,099	0.96%	0.95%	0.94%	0.94%	0.93%	0.93%	0.92%	0.92%	0.93%	0.98%	1.03%	1.03%
5204	Cuyahoga Falls	2,017	46,010	1.28%	1.27%	1.26%	1.25%	1.24%	1.23%	1.23%	1.22%	1.23%	1.30%	1.37%	1.37%
5205	Cuyahoga Falls	1,722	56,699	1.23%	1.22%	1.21%	1.20%	1.19%	1.19%	1.18%	1.18%	1.19%	1.26%	1.32%	1.32%
5206	Cuyahoga Falls	815	50,901	1.29%	1.28%	1.27%	1.26%	1.25%	1.25%	1.24%	1.23%	1.25%	1.32%	1.38%	1.39%
5304.01	Mudbrook	1,340	57,908	1.39%	1.39%	1.38%	1.38%	1.38%	1.38%	1.38%	1.38%	1.38%	1.40%	1.41%	1.42%
5304.02	Mudbrook	173	61,717	1.57%	1.56%	1.56%	1.56%	1.56%	1.55%	1.55%	1.55%	1.55%	1.58%	1.60%	1.60%
5305.01	Mudbrook	989	52,189	1.74%	1.74%	1.74%	1.73%	1.73%	1.73%	1.73%	1.72%	1.73%	1.75%	1.77%	1.77%
5305.02	Mudbrook	297	66,541	1.75%	1.74%	1.74%	1.74%	1.73%	1.73%	1.73%	1.73%	1.73%	1.76%	1.78%	1.78%
5306.03	Mudbrook	1,393	51,597	1.33%	1.32%	1.32%	1.32%	1.32%	1.31%	1.31%	1.31%	1.31%	1.33%	1.35%	1.35%
5306.04	Mudbrook	834	81,099	0.93%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.93%	0.94%	0.94%
5306.05	Mudbrook	86	88,632	1.22%	1.22%	1.22%	1.22%	1.21%	1.21%	1.21%	1.21%	1.21%	1.23%	1.24%	1.24%
5307	Mudbrook	1,040	100,058	1.14%	1.14%	1.14%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.15%	1.16%	1.16%
5308	Mudbrook	1,780	71,076	1.15%	1.15%	1.14%	1.14%	1.14%	1.14%	1.14%	1.14%	1.14%	1.15%	1.17%	1.17%
5309.01	Tallmadge	1,865	39,157	1.68%	1.67%	1.66%	1.65%	1.65%	1.64%	1.64%	1.63%	1.64%	1.71%	1.78%	1.78%
5309.02	Tallmadge	1,448	54,483	1.30%	1.29%	1.28%	1.27%	1.27%	1.26%	1.26%	1.25%	1.26%	1.32%	1.37%	1.37%
5309.03	Tallmadge	501	70,608	0.82%	0.81%	0.81%	0.80%	0.80%	0.80%	0.79%	0.79%	0.80%	0.83%	0.86%	0.86%
5310.01	Retail	977	49,346	1.95%	1.97%	2.00%	2.02%	2.04%	2.06%	2.08%	2.10%	2.12%	2.13%	2.14%	2.16%
5310.02	Springfield	1,508	45,759	1.93%	1.93%	1.93%	1.92%	1.92%	1.92%	1.92%	1.91%	1.92%	1.94%	1.97%	1.97%
5311.01	Lakemore	776	44,928	1.49%	1.47%	1.46%	1.44%	1.42%	1.41%	1.40%	1.39%	1.41%	1.55%	1.68%	1.68%
5311.02	Lakemore	122	59,473	1.17%	1.16%	1.14%	1.13%	1.12%	1.11%	1.10%	1.09%	1.11%	1.21%	1.32%	1.32%
5311.03	Springfield	0	58,822	1.54%	1.53%	1.53%	1.53%	1.53%	1.52%	1.52%	1.52%	1.52%	1.55%	1.57%	1.57%
5318.01	Retail	574	49,824	3.29%	3.33%	3.37%	3.41%	3.45%	3.48%	3.51%	3.55%	3.58%	3.59%	3.61%	3.65%
5318.02	Retail	641	52,357	2.42%	2.45%	2.48%	2.51%	2.54%	2.56%	2.59%	2.61%	2.63%	2.65%	2.66%	2.69%
5322.02	Retail	2,820	66,926	1.69%	1.71%	1.73%	1.75%	1.77%	1.79%	1.80%	1.82%	1.84%	1.84%	1.85%	1.87%
5323.01	Montrose	173	107,716	0.90%	0.90%	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%	0.90%	0.91%	0.91%
5323.02	Retail	246	89,096	1.52%	1.54%	1.56%	1.58%	1.59%	1.61%	1.63%	1.64%	1.66%	1.66%	1.67%	1.69%
5326	Mudbrook	1	78,143	1.42%	1.42%	1.41%	1.41%	1.41%	1.41%	1.41%	1.40%	1.41%	1.43%	1.45%	1.45%
5329.01	Mudbrook	131	75,083	1.07%	1.07%	1.07%	1.07%	1.07%	1.07%	1.06%	1.06%	1.07%	1.08%	1.09%	1.09%
5329.02	Mudbrook	3,046	62,751	2.04%	2.04%	2.04%	2.03%	2.03%	2.03%	2.03%	2.02%	2.03%	2.06%	2.08%	2.08%
5330	Retail	0	50,086	2.36%	2.39%	2.41%	2.44%	2.47%	2.49%	2.52%	2.54%	2.56%	2.57%	2.59%	2.61%
5334	Retail	405	57,813	2.32%	2.35%	2.38%	2.41%	2.43%	2.46%	2.48%	2.51%	2.52%	2.54%	2.55%	2.58%
5335.01	Montrose	2,376	99,151	0.92%	0.92%	0.92%	0.92%	0.91%	0.91%	0.91%	0.91%	0.91%	0.93%	0.94%	0.94%
5335.02	Retail	56	83,130	1.57%	1.59%	1.61%	1.63%	1.64%	1.66%	1.68%	1.69%	1.71%	1.71%	1.72%	1.74%
6021	Retail	53	58,979	2.14%	2.17%	2.19%	2.22%	2.24%	2.26%	2.29%	2.31%	2.33%	2.34%	2.35%	2.38%
Total		**121,310**	**$43,933.75**	**3.91%**	**3.95%**	**3.98%**	**4.01%**	**4.04%**	**4.07%**	**4.09%**	**4.12%**	**4.15%**	**4.18%**	**4.21%**	**4.24%**

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.04	Cuyahoga Falls	2,004	43,593	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.05	Cuyahoga Falls	1,640	51,724	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5201.06	Cuyahoga Falls	446	43,140	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5202.01	Cuyahoga Falls	1,223	59,776	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5202.02	Cuyahoga Falls	2,168	45,375	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5203.01	Cuyahoga Falls	1,286	49,419	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5203.02	Cuyahoga Falls	1,575	60,099	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5204	Cuyahoga Falls	2,017	46,010	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5205	Cuyahoga Falls	1,722	56,699	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5206	Cuyahoga Falls	815	50,901	360.58	357.71	355.01	352.23	349.75	348.21	346.80	344.84	348.43	368.20	387.21	387.68
5304.01	Mudbrook	1,340	57,908	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5304.02	Mudbrook	173	61,717	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5305.01	Mudbrook	989	52,189	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5305.02	Mudbrook	297	66,541	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.03	Mudbrook	1,393	51,597	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.04	Mudbrook	834	81,099	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5306.05	Mudbrook	86	88,632	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5307	Mudbrook	1,040	100,058	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5308	Mudbrook	1,780	71,076	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5309.01	Tallmadge	1,865	39,157	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5309.02	Tallmadge	1,448	54,483	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5309.03	Tallmadge	501	70,608	370.38	368.20	366.14	364.03	362.14	360.97	359.89	358.40	361.14	376.18	390.65	391.00
5310.01	Retail	977	49,346	592.48	599.41	606.31	613.22	620.02	626.11	632.31	638.87	643.55	646.48	649.87	657.05
5310.02	Springfield	1,508	45,759	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5311.01	Lakemore	776	44,928	426.21	420.61	415.34	409.91	405.07	402.08	399.31	395.49	402.51	441.08	478.18	479.08
5311.02	Lakemore	122	59,473	426.21	420.61	415.34	409.91	405.07	402.08	399.31	395.49	402.51	441.08	478.18	479.08
5311.03	Springfield	0	58,822	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5318.01	Retail	574	49,824	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5318.02	Retail	641	52,357	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5322.02	Retail	2,820	66,926	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5323.01	Montrose	173	107,716	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5323.02	Retail	246	89,096	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5326	Mudbrook	1	78,143	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5329.01	Mudbrook	131	75,083	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5329.02	Mudbrook	3,046	62,751	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5330	Retail	0	50,086	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
5334	Retail	405	57,813	770.51	779.52	788.49	797.48	806.33	814.25	822.30	830.84	836.92	840.73	845.15	854.48
5335.01	Montrose	2,376	99,151	532.66	531.63	530.66	529.67	528.78	528.23	527.73	527.03	528.31	535.38	542.18	542.34
5335.02	Retail	56	83,130	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
6021	Retail	53	58,979	744.01	752.71	761.37	770.05	778.60	786.25	794.02	802.26	808.14	811.82	816.08	825.09
Total		**121,310**	**$43,934**	**$864.58**	**$870.10**	**$875.62**	**$881.14**	**$886.63**	**$891.68**	**$896.86**	**$902.24**	**$907.15**	**$913.94**	**$920.98**	**$927.42**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5011	Retail	519	$23,484	5.33%	5.20%	5.07%	4.96%	4.85%	4.76%	4.82%	4.88%	4.95%	5.01%	5.07%	5.13%	5.19%	5.25%
5017	Retail	456	17,910	8.64%	8.42%	8.22%	8.04%	7.87%	7.72%	7.82%	7.91%	8.01%	8.11%	8.21%	8.31%	8.41%	8.51%
5018	Retail	405	25,043	5.55%	5.41%	5.28%	5.16%	5.05%	4.96%	5.02%	5.08%	5.14%	5.21%	5.27%	5.33%	5.40%	5.46%
5019	Retail	1,173	11,375	8.23%	8.02%	7.82%	7.65%	7.49%	7.35%	7.44%	7.53%	7.63%	7.72%	7.82%	7.91%	8.01%	8.10%
5021.01	Retail	1,194	35,261	4.67%	4.55%	4.44%	4.34%	4.25%	4.17%	4.23%	4.28%	4.33%	4.39%	4.44%	4.49%	4.55%	4.60%
5021.02	Retail	2,155	29,145	4.10%	3.99%	3.90%	3.81%	3.73%	3.66%	3.71%	3.75%	3.80%	3.85%	3.89%	3.94%	3.99%	4.04%
5022	Retail	2,603	30,559	4.03%	3.93%	3.83%	3.75%	3.67%	3.60%	3.65%	3.69%	3.74%	3.78%	3.83%	3.88%	3.92%	3.97%
5023	Retail	2,040	37,130	4.40%	4.29%	4.18%	4.09%	4.00%	3.93%	3.98%	4.03%	4.08%	4.13%	4.18%	4.23%	4.28%	4.33%
5025	Retail	437	17,589	5.95%	5.80%	5.66%	5.54%	5.42%	5.32%	5.38%	5.45%	5.52%	5.59%	5.66%	5.73%	5.79%	5.86%
5026	Retail	1,276	38,711	3.67%	3.58%	3.49%	3.41%	3.34%	3.28%	3.32%	3.36%	3.40%	3.45%	3.49%	3.53%	3.57%	3.62%
5027	Retail	2,875	46,192	3.01%	2.93%	2.86%	2.79%	2.74%	2.69%	2.72%	2.75%	2.79%	2.82%	2.86%	2.89%	2.93%	2.96%
5028	Retail	1,863	41,671	3.17%	3.09%	3.02%	2.95%	2.89%	2.83%	2.87%	2.90%	2.94%	2.98%	3.01%	3.05%	3.09%	3.12%
5031	Retail	681	24,247	4.54%	4.43%	4.32%	4.23%	4.14%	4.06%	4.11%	4.16%	4.22%	4.27%	4.32%	4.37%	4.42%	4.48%
5032	Retail	747	29,667	4.15%	4.05%	3.95%	3.86%	3.78%	3.71%	3.75%	3.80%	3.85%	3.90%	3.94%	3.99%	4.04%	4.09%
5033	Retail	2,240	27,855	4.41%	4.30%	4.20%	4.11%	4.02%	3.94%	3.99%	4.04%	4.09%	4.14%	4.20%	4.25%	4.30%	4.35%
5034	Retail	541	22,911	6.45%	6.29%	6.14%	6.00%	5.87%	5.76%	5.84%	5.91%	5.98%	6.06%	6.13%	6.21%	6.28%	6.35%
5035	Retail	1,472	22,511	5.48%	5.34%	5.21%	5.10%	4.99%	4.90%	4.96%	5.02%	5.08%	5.15%	5.21%	5.27%	5.34%	5.40%
5036	Retail	1,830	47,726	2.61%	2.54%	2.48%	2.43%	2.37%	2.33%	2.36%	2.39%	2.42%	2.45%	2.48%	2.51%	2.54%	2.57%
5037.01	Retail	2,511	43,094	2.96%	2.88%	2.81%	2.75%	2.69%	2.64%	2.67%	2.71%	2.74%	2.78%	2.81%	2.84%	2.88%	2.91%
5037.02	Retail	2,528	43,498	2.35%	2.29%	2.24%	2.19%	2.14%	2.10%	2.13%	2.16%	2.18%	2.21%	2.24%	2.26%	2.29%	2.32%
5038	Retail	1,378	22,389	6.48%	6.32%	6.17%	6.03%	5.90%	5.79%	5.86%	5.94%	6.01%	6.09%	6.16%	6.24%	6.31%	6.39%
5041	Retail	453	17,179	7.31%	7.13%	6.96%	6.80%	6.66%	6.53%	6.61%	6.70%	6.78%	6.87%	6.95%	7.03%	7.12%	7.20%
5042	Retail	688	19,171	5.18%	5.05%	4.93%	4.82%	4.72%	4.63%	4.69%	4.75%	4.81%	4.86%	4.92%	4.98%	5.04%	5.10%
5044	Retail	568	20,416	4.77%	4.65%	4.54%	4.44%	4.34%	4.26%	4.31%	4.37%	4.42%	4.48%	4.53%	4.59%	4.64%	4.70%
5045	Retail	719	29,198	4.08%	3.97%	3.88%	3.79%	3.71%	3.64%	3.69%	3.73%	3.78%	3.83%	3.87%	3.92%	3.97%	4.01%
5046	Retail	1,421	23,746	5.42%	5.29%	5.16%	5.04%	4.94%	4.85%	4.91%	4.97%	5.03%	5.09%	5.15%	5.22%	5.28%	5.34%
5047	Retail	1,825	50,780	2.19%	2.14%	2.09%	2.04%	2.00%	1.96%	1.99%	2.01%	2.04%	2.06%	2.09%	2.11%	2.14%	2.16%
5048	Retail	2,118	52,142	2.44%	2.38%	2.32%	2.27%	2.22%	2.18%	2.21%	2.24%	2.26%	2.29%	2.32%	2.35%	2.38%	2.40%
5052	Retail	561	35,579	4.54%	4.42%	4.32%	4.22%	4.13%	4.05%	4.10%	4.16%	4.21%	4.26%	4.31%	4.36%	4.42%	4.47%
5053	Retail	701	17,555	4.73%	4.61%	4.50%	4.40%	4.30%	4.22%	4.28%	4.33%	4.38%	4.44%	4.49%	4.55%	4.60%	4.66%
5054	Retail	1,506	33,194	3.97%	3.87%	3.78%	3.69%	3.61%	3.55%	3.59%	3.64%	3.68%	3.73%	3.77%	3.82%	3.86%	3.91%
5055	Retail	977	48,156	3.60%	3.51%	3.42%	3.34%	3.27%	3.21%	3.25%	3.29%	3.33%	3.38%	3.42%	3.46%	3.50%	3.54%
5056	Retail	516	16,259	7.62%	7.43%	7.25%	7.09%	6.94%	6.81%	6.89%	6.98%	7.07%	7.16%	7.24%	7.33%	7.42%	7.51%
5057	Retail	1,076	25,833	5.17%	5.04%	4.92%	4.81%	4.70%	4.62%	4.67%	4.73%	4.79%	4.85%	4.91%	4.97%	5.03%	5.09%
5058	Retail	2,145	34,724	3.23%	3.15%	3.08%	3.01%	2.94%	2.89%	2.93%	2.96%	3.00%	3.04%	3.07%	3.11%	3.15%	3.19%
5059	Retail	1,062	44,651	2.63%	2.56%	2.50%	2.45%	2.40%	2.35%	2.38%	2.41%	2.44%	2.47%	2.50%	2.53%	2.56%	2.59%
5061	Retail	2,685	38,251	3.54%	3.45%	3.37%	3.29%	3.22%	3.16%	3.20%	3.24%	3.28%	3.32%	3.36%	3.40%	3.44%	3.49%
5062	Retail	1,470	37,792	4.54%	4.42%	4.32%	4.22%	4.13%	4.06%	4.11%	4.16%	4.21%	4.26%	4.31%	4.37%	4.42%	4.47%
5064	Retail	1,178	33,436	5.40%	5.26%	5.14%	5.02%	4.92%	4.82%	4.88%	4.95%	5.01%	5.07%	5.13%	5.19%	5.26%	5.32%
5065	Retail	1,028	28,586	6.09%	5.94%	5.80%	5.67%	5.55%	5.45%	5.51%	5.58%	5.65%	5.72%	5.79%	5.86%	5.93%	6.00%
5066	Retail	1,460	20,000	4.73%	4.61%	4.50%	4.40%	4.30%	4.22%	4.28%	4.33%	4.38%	4.44%	4.49%	4.55%	4.60%	4.66%
5067	Retail	557	21,998	5.81%	5.66%	5.53%	5.40%	5.29%	5.19%	5.26%	5.32%	5.39%	5.46%	5.52%	5.59%	5.66%	5.72%
5068	Retail	704	16,695	6.01%	5.86%	5.72%	5.59%	5.47%	5.37%	5.44%	5.51%	5.58%	5.65%	5.71%	5.78%	5.85%	5.92%
5071.01	Retail	2,148	47,410	3.18%	3.10%	3.03%	2.96%	2.90%	2.85%	2.88%	2.92%	2.95%	2.99%	3.03%	3.06%	3.10%	3.14%
5071.02	Retail	1,145	76,995	3.29%	3.21%	3.13%	3.06%	3.00%	2.94%	2.98%	3.02%	3.05%	3.09%	3.13%	3.17%	3.21%	3.24%
5072.01	Retail	1,087	61,581	2.85%	2.78%	2.71%	2.65%	2.60%	2.55%	2.58%	2.61%	2.65%	2.68%	2.71%	2.74%	2.78%	2.81%
5072.02	Retail	1,700	53,465	2.75%	2.68%	2.62%	2.56%	2.50%	2.46%	2.49%	2.52%	2.55%	2.58%	2.61%	2.64%	2.68%	2.71%
5072.03	Retail	1,913	71,959	1.92%	1.87%	1.82%	1.78%	1.75%	1.71%	1.74%	1.76%	1.78%	1.80%	1.82%	1.85%	1.87%	1.89%
5073	Retail	1,469	41,486	3.48%	3.39%	3.31%	3.24%	3.17%	3.11%	3.15%	3.19%	3.23%	3.27%	3.31%	3.35%	3.39%	3.43%
5074	Retail	424	17,255	7.22%	7.04%	6.87%	6.72%	6.58%	6.45%	6.53%	6.62%	6.70%	6.78%	6.86%	6.95%	7.03%	7.11%
5075	Retail	2,386	33,645	4.52%	4.40%	4.30%	4.20%	4.11%	4.04%	4.09%	4.14%	4.19%	4.24%	4.29%	4.35%	4.40%	4.45%
5076	Retail	1,654	39,815	3.24%	3.15%	3.08%	3.01%	2.95%	2.89%	2.93%	2.96%	3.00%	3.04%	3.08%	3.11%	3.15%	3.19%
5080	Retail	1,745	46,670	3.87%	3.77%	3.68%	3.60%	3.53%	3.46%	3.50%	3.55%	3.59%	3.64%	3.68%	3.72%	3.77%	3.81%
5083.01	Retail	913	10,574	7.90%	7.70%	7.51%	7.34%	7.19%	7.06%	7.14%	7.23%	7.32%	7.41%	7.51%	7.60%	7.69%	7.78%
5083.99	Retail	1,948	29,814	5.19%	5.06%	4.94%	4.83%	4.73%	4.64%	4.70%	4.75%	4.81%	4.87%	4.93%	4.99%	5.05%	5.11%
5086	Retail	1,236	31,537	5.61%	5.47%	5.34%	5.22%	5.11%	5.02%	5.08%	5.14%	5.21%	5.27%	5.34%	5.40%	5.47%	5.53%
5088	Retail	2,057	24,889	5.66%	5.52%	5.38%	5.26%	5.15%	5.06%	5.12%	5.18%	5.25%	5.31%	5.38%	5.44%	5.51%	5.57%
5089	Retail	990	23,396	5.93%	5.78%	5.64%	5.52%	5.40%	5.30%	5.37%	5.44%	5.50%	5.57%	5.64%	5.71%	5.78%	5.84%
5090	Retail	701	21,451	4.27%	4.17%	4.06%	3.97%	3.89%	3.82%	3.87%	3.91%	3.96%	4.01%	4.06%	4.11%	4.16%	4.21%
5103.02	Retail	79	52,068	3.15%	3.07%	3.00%	2.93%	2.87%	2.82%	2.85%	2.89%	2.92%	2.96%	2.99%	3.03%	3.07%	3.10%

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5201.03	Cuyahoga Falls	826	47,468	1.22%	1.35%	1.41%	1.43%	1.43%	1.42%	1.41%	1.40%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%
5201.04	Cuyahoga Falls	2,004	43,593	1.49%	1.64%	1.71%	1.74%	1.74%	1.73%	1.71%	1.70%	1.68%	1.67%	1.66%	1.64%	1.63%	1.62%
5201.05	Cuyahoga Falls	1,640	51,724	1.25%	1.38%	1.44%	1.46%	1.46%	1.45%	1.44%	1.42%	1.41%	1.40%	1.39%	1.38%	1.37%	1.36%
5201.06	Cuyahoga Falls	446	43,140	1.35%	1.49%	1.55%	1.58%	1.58%	1.57%	1.55%	1.54%	1.53%	1.52%	1.50%	1.49%	1.48%	1.47%
5202.01	Cuyahoga Falls	1,223	59,776	0.86%	0.95%	0.99%	1.00%	1.00%	1.00%	0.99%	0.98%	0.97%	0.96%	0.96%	0.95%	0.94%	0.93%
5202.02	Cuyahoga Falls	2,168	45,375	1.66%	1.83%	1.91%	1.94%	1.94%	1.93%	1.91%	1.89%	1.88%	1.86%	1.85%	1.83%	1.82%	1.80%
5203.01	Cuyahoga Falls	1,286	49,419	1.56%	1.72%	1.79%	1.82%	1.82%	1.81%	1.80%	1.78%	1.77%	1.75%	1.74%	1.72%	1.71%	1.70%
5203.02	Cuyahoga Falls	1,575	60,099	0.89%	0.98%	1.02%	1.04%	1.04%	1.03%	1.02%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%	0.97%
5204	Cuyahoga Falls	2,017	46,010	1.18%	1.30%	1.36%	1.38%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%	1.29%
5205	Cuyahoga Falls	1,722	56,699	1.14%	1.26%	1.31%	1.33%	1.33%	1.33%	1.31%	1.30%	1.29%	1.28%	1.27%	1.26%	1.25%	1.24%
5206	Cuyahoga Falls	815	50,901	1.20%	1.32%	1.38%	1.40%	1.40%	1.39%	1.38%	1.36%	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%
5304.01	Mudbrook	1,340	57,908	1.37%	1.40%	1.41%	1.42%	1.42%	1.42%	1.41%	1.41%	1.41%	1.40%	1.40%	1.40%	1.40%	1.39%
5304.02	Mudbrook	173	61,717	1.54%	1.58%	1.59%	1.60%	1.60%	1.60%	1.59%	1.59%	1.59%	1.58%	1.58%	1.58%	1.57%	1.57%
5305.01	Mudbrook	989	52,189	1.71%	1.75%	1.77%	1.78%	1.78%	1.77%	1.77%	1.77%	1.76%	1.76%	1.76%	1.75%	1.75%	1.75%
5305.02	Mudbrook	297	66,541	1.72%	1.76%	1.77%	1.78%	1.78%	1.78%	1.78%	1.77%	1.77%	1.76%	1.76%	1.76%	1.75%	1.75%
5306.03	Mudbrook	1,393	51,597	1.30%	1.33%	1.35%	1.35%	1.35%	1.35%	1.35%	1.34%	1.34%	1.34%	1.34%	1.33%	1.33%	1.33%
5306.04	Mudbrook	834	81,099	0.91%	0.93%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.93%	0.93%	0.93%	0.93%
5306.05	Mudbrook	86	88,632	1.20%	1.23%	1.24%	1.25%	1.25%	1.24%	1.24%	1.24%	1.24%	1.23%	1.23%	1.23%	1.23%	1.22%
5307	Mudbrook	1,040	100,058	1.12%	1.15%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.15%	1.15%	1.15%	1.15%	1.14%	1.14%
5308	Mudbrook	1,780	71,076	1.13%	1.15%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.16%	1.16%	1.16%	1.16%	1.15%	1.15%
5309.01	Tallmadge	1,865	39,157	1.59%	1.71%	1.77%	1.79%	1.79%	1.78%	1.77%	1.76%	1.75%	1.73%	1.72%	1.71%	1.70%	1.69%
5309.02	Tallmadge	1,448	54,483	1.23%	1.32%	1.36%	1.37%	1.38%	1.37%	1.36%	1.35%	1.34%	1.33%	1.33%	1.32%	1.31%	1.30%
5309.03	Tallmadge	501	70,608	0.77%	0.83%	0.86%	0.87%	0.87%	0.86%	0.86%	0.85%	0.85%	0.84%	0.84%	0.83%	0.83%	0.82%
5310.01	Retail	977	49,346	1.96%	1.91%	1.86%	1.82%	1.78%	1.75%	1.77%	1.79%	1.81%	1.84%	1.86%	1.88%	1.90%	1.93%
5310.02	Springfield	1,508	45,759	1.90%	1.94%	1.97%	1.97%	1.97%	1.97%	1.97%	1.96%	1.96%	1.95%	1.95%	1.95%	1.94%	1.94%
5311.01	Lakemore	776	44,928	1.32%	1.55%	1.66%	1.70%	1.70%	1.68%	1.66%	1.64%	1.62%	1.59%	1.57%	1.55%	1.53%	1.51%
5311.02	Lakemore	122	59,473	1.04%	1.22%	1.30%	1.33%	1.33%	1.32%	1.30%	1.29%	1.27%	1.25%	1.24%	1.22%	1.20%	1.19%
5311.03	Springfield	0	58,822	1.51%	1.55%	1.56%	1.57%	1.57%	1.57%	1.56%	1.56%	1.56%	1.55%	1.55%	1.55%	1.54%	1.54%
5318.01	Retail	574	49,824	3.30%	3.22%	3.14%	3.07%	3.01%	2.95%	2.99%	3.03%	3.06%	3.10%	3.14%	3.18%	3.22%	3.25%
5318.02	Retail	641	52,357	2.43%	2.37%	2.31%	2.26%	2.22%	2.17%	2.20%	2.23%	2.26%	2.28%	2.31%	2.34%	2.37%	2.40%
5322.02	Retail	2,820	66,926	1.70%	1.65%	1.61%	1.58%	1.54%	1.51%	1.53%	1.55%	1.57%	1.59%	1.61%	1.63%	1.65%	1.67%
5323.01	Montrose	173	107,716	0.88%	0.90%	0.91%	0.92%	0.92%	0.91%	0.91%	0.91%	0.91%	0.91%	0.90%	0.90%	0.90%	0.90%
5323.02	Retail	246	89,096	1.53%	1.49%	1.45%	1.42%	1.39%	1.37%	1.38%	1.40%	1.42%	1.44%	1.45%	1.47%	1.49%	1.51%
5326	Mudbrook	1	78,143	1.40%	1.43%	1.44%	1.45%	1.45%	1.45%	1.44%	1.44%	1.44%	1.43%	1.43%	1.43%	1.43%	1.42%
5329.01	Mudbrook	131	75,083	1.06%	1.08%	1.09%	1.10%	1.10%	1.09%	1.09%	1.09%	1.09%	1.09%	1.08%	1.08%	1.08%	1.08%
5329.02	Mudbrook	3,046	62,751	2.01%	2.06%	2.08%	2.09%	2.09%	2.08%	2.08%	2.07%	2.07%	2.07%	2.06%	2.06%	2.05%	2.05%
5330	Retail	0	50,086	2.37%	2.31%	2.25%	2.20%	2.15%	2.11%	2.14%	2.17%	2.19%	2.22%	2.25%	2.28%	2.30%	2.33%
5334	Retail	405	57,813	2.33%	2.27%	2.22%	2.17%	2.12%	2.08%	2.11%	2.14%	2.16%	2.19%	2.22%	2.24%	2.27%	2.30%
5335.01	Montrose	2,376	99,151	0.90%	0.93%	0.94%	0.94%	0.94%	0.94%	0.94%	0.93%	0.93%	0.93%	0.93%	0.93%	0.92%	0.92%
5335.02	Retail	56	83,130	1.58%	1.54%	1.50%	1.47%	1.44%	1.41%	1.43%	1.44%	1.46%	1.48%	1.50%	1.52%	1.53%	1.55%
6021	Retail	53	58,979	2.15%	2.10%	2.05%	2.00%	1.96%	1.92%	1.95%	1.97%	1.99%	2.02%	2.04%	2.07%	2.09%	2.12%
Total		**121,310**	**$43,933.75**	**3.90%**	**3.86%**	**3.80%**	**3.75%**	**3.69%**	**3.64%**	**3.67%**	**3.70%**	**3.73%**	**3.76%**	**3.79%**	**3.82%**	**3.85%**	**3.88%**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5011	Retail	519	$23,484	5.31%	5.38%	5.44%	5.50%	5.56%	5.62%	5.67%	5.73%	5.77%	5.80%	5.83%	5.89%
5017	Retail	456	17,910	8.61%	8.71%	8.81%	8.91%	9.01%	9.10%	9.19%	9.29%	9.35%	9.40%	9.45%	9.55%
5018	Retail	405	25,043	5.53%	5.59%	5.66%	5.72%	5.78%	5.84%	5.90%	5.96%	6.00%	6.03%	6.06%	6.13%
5019	Retail	1,173	11,375	8.20%	8.29%	8.39%	8.49%	8.58%	8.66%	8.75%	8.84%	8.90%	8.95%	8.99%	9.09%
5021.01	Retail	1,194	35,261	4.66%	4.71%	4.76%	4.82%	4.87%	4.92%	4.97%	5.02%	5.06%	5.08%	5.11%	5.16%
5021.02	Retail	2,155	29,145	4.08%	4.13%	4.18%	4.23%	4.27%	4.32%	4.36%	4.40%	4.44%	4.46%	4.48%	4.53%
5022	Retail	2,603	30,559	4.02%	4.06%	4.11%	4.16%	4.20%	4.24%	4.29%	4.33%	4.36%	4.38%	4.41%	4.45%
5023	Retail	2,040	37,130	4.38%	4.43%	4.48%	4.54%	4.59%	4.63%	4.68%	4.73%	4.76%	4.78%	4.81%	4.86%
5025	Retail	437	17,589	5.93%	6.00%	6.07%	6.14%	6.21%	6.27%	6.33%	6.40%	6.44%	6.47%	6.51%	6.58%
5026	Retail	1,276	38,711	3.66%	3.70%	3.74%	3.79%	3.83%	3.87%	3.90%	3.94%	3.97%	3.99%	4.01%	4.06%
5027	Retail	2,875	46,192	3.00%	3.03%	3.07%	3.10%	3.13%	3.17%	3.20%	3.23%	3.25%	3.27%	3.29%	3.32%
5028	Retail	1,863	41,671	3.16%	3.20%	3.23%	3.27%	3.31%	3.34%	3.37%	3.41%	3.43%	3.45%	3.47%	3.50%
5031	Retail	681	24,247	4.53%	4.58%	4.64%	4.69%	4.74%	4.79%	4.83%	4.88%	4.92%	4.94%	4.97%	5.02%
5032	Retail	747	29,667	4.14%	4.18%	4.23%	4.28%	4.33%	4.37%	4.41%	4.46%	4.49%	4.51%	4.54%	4.59%
5033	Retail	2,240	27,855	4.40%	4.45%	4.50%	4.55%	4.60%	4.65%	4.70%	4.74%	4.78%	4.80%	4.83%	4.88%
5034	Retail	541	22,911	6.43%	6.50%	6.58%	6.65%	6.73%	6.79%	6.86%	6.93%	6.98%	7.02%	7.05%	7.13%
5035	Retail	1,472	22,511	5.46%	5.53%	5.59%	5.65%	5.72%	5.77%	5.83%	5.89%	5.93%	5.96%	5.99%	6.06%
5036	Retail	1,830	47,726	2.60%	2.63%	2.66%	2.69%	2.72%	2.75%	2.77%	2.80%	2.82%	2.84%	2.85%	2.88%
5037.01	Retail	2,511	43,094	2.95%	2.98%	3.01%	3.05%	3.08%	3.11%	3.14%	3.18%	3.20%	3.21%	3.23%	3.27%
5037.02	Retail	2,528	43,498	2.35%	2.37%	2.40%	2.43%	2.45%	2.48%	2.50%	2.53%	2.55%	2.56%	2.57%	2.60%
5038	Retail	1,378	22,389	6.46%	6.54%	6.61%	6.69%	6.76%	6.83%	6.89%	6.97%	7.02%	7.05%	7.09%	7.16%
5041	Retail	453	17,179	7.29%	7.37%	7.46%	7.54%	7.63%	7.70%	7.78%	7.86%	7.92%	7.95%	7.99%	8.08%
5042	Retail	688	19,171	5.16%	5.22%	5.28%	5.35%	5.40%	5.46%	5.51%	5.57%	5.61%	5.64%	5.66%	5.73%
5044	Retail	568	20,416	4.75%	4.81%	4.86%	4.92%	4.97%	5.02%	5.07%	5.13%	5.16%	5.19%	5.21%	5.27%
5045	Retail	719	29,198	4.06%	4.11%	4.16%	4.20%	4.25%	4.29%	4.33%	4.38%	4.41%	4.43%	4.46%	4.50%
5046	Retail	1,421	23,746	5.40%	5.47%	5.53%	5.59%	5.66%	5.71%	5.77%	5.83%	5.87%	5.90%	5.93%	5.99%
5047	Retail	1,825	50,780	2.19%	2.21%	2.24%	2.26%	2.29%	2.31%	2.33%	2.36%	2.38%	2.39%	2.40%	2.43%
5048	Retail	2,118	52,142	2.43%	2.46%	2.49%	2.52%	2.55%	2.57%	2.60%	2.62%	2.64%	2.66%	2.67%	2.70%
5052	Retail	561	35,579	4.52%	4.57%	4.63%	4.68%	4.73%	4.78%	4.83%	4.88%	4.91%	4.93%	4.96%	5.01%
5053	Retail	701	17,555	4.71%	4.77%	4.82%	4.88%	4.93%	4.98%	5.03%	5.08%	5.12%	5.14%	5.17%	5.23%
5054	Retail	1,506	33,194	3.96%	4.00%	4.05%	4.10%	4.14%	4.18%	4.22%	4.27%	4.30%	4.32%	4.34%	4.39%
5055	Retail	977	48,156	3.58%	3.63%	3.67%	3.71%	3.75%	3.79%	3.82%	3.86%	3.89%	3.91%	3.93%	3.97%
5056	Retail	516	16,259	7.60%	7.68%	7.77%	7.86%	7.95%	8.03%	8.11%	8.19%	8.25%	8.29%	8.33%	8.42%
5057	Retail	1,076	25,833	5.15%	5.21%	5.27%	5.33%	5.39%	5.44%	5.50%	5.55%	5.59%	5.62%	5.65%	5.71%
5058	Retail	2,145	34,724	3.22%	3.26%	3.30%	3.34%	3.37%	3.41%	3.44%	3.48%	3.50%	3.52%	3.54%	3.57%
5059	Retail	1,062	44,651	2.62%	2.65%	2.68%	2.71%	2.74%	2.77%	2.80%	2.83%	2.85%	2.86%	2.88%	2.91%
5061	Retail	2,685	38,251	3.53%	3.57%	3.61%	3.65%	3.69%	3.73%	3.76%	3.80%	3.83%	3.85%	3.87%	3.91%
5062	Retail	1,470	37,792	4.52%	4.58%	4.63%	4.68%	4.73%	4.78%	4.83%	4.88%	4.91%	4.94%	4.96%	5.02%
5064	Retail	1,178	33,436	5.38%	5.44%	5.51%	5.57%	5.63%	5.69%	5.74%	5.80%	5.84%	5.87%	5.90%	5.97%
5065	Retail	1,028	28,586	6.07%	6.15%	6.22%	6.29%	6.36%	6.42%	6.48%	6.55%	6.60%	6.63%	6.66%	6.74%
5066	Retail	1,460	20,000	4.71%	4.77%	4.82%	4.88%	4.93%	4.98%	5.03%	5.08%	5.12%	5.14%	5.17%	5.23%
5067	Retail	557	21,998	5.79%	5.86%	5.93%	5.99%	6.06%	6.12%	6.18%	6.24%	6.29%	6.32%	6.35%	6.42%
5068	Retail	704	16,695	5.99%	6.06%	6.13%	6.20%	6.27%	6.33%	6.40%	6.46%	6.51%	6.54%	6.57%	6.65%
5071.01	Retail	2,148	47,410	3.17%	3.21%	3.25%	3.28%	3.32%	3.35%	3.39%	3.42%	3.45%	3.46%	3.48%	3.52%
5071.02	Retail	1,145	76,995	3.28%	3.32%	3.36%	3.40%	3.43%	3.47%	3.50%	3.54%	3.56%	3.58%	3.60%	3.64%
5072.01	Retail	1,087	61,581	2.84%	2.88%	2.91%	2.94%	2.98%	3.01%	3.04%	3.07%	3.09%	3.10%	3.12%	3.15%
5072.02	Retail	1,700	53,465	2.74%	2.77%	2.80%	2.84%	2.87%	2.90%	2.92%	2.95%	2.98%	2.99%	3.01%	3.04%
5072.03	Retail	1,913	71,959	1.91%	1.93%	1.96%	1.98%	2.00%	2.02%	2.04%	2.06%	2.08%	2.09%	2.10%	2.12%
5073	Retail	1,469	41,486	3.47%	3.51%	3.55%	3.59%	3.63%	3.66%	3.70%	3.74%	3.77%	3.78%	3.80%	3.84%
5074	Retail	424	17,255	7.20%	7.28%	7.37%	7.45%	7.53%	7.61%	7.68%	7.76%	7.82%	7.85%	7.90%	7.98%
5075	Retail	2,386	33,645	4.50%	4.56%	4.61%	4.66%	4.71%	4.76%	4.81%	4.86%	4.89%	4.91%	4.94%	4.99%
5076	Retail	1,654	39,815	3.23%	3.26%	3.30%	3.34%	3.38%	3.41%	3.44%	3.48%	3.50%	3.52%	3.54%	3.58%
5080	Retail	1,745	46,670	3.86%	3.90%	3.95%	3.99%	4.04%	4.08%	4.12%	4.16%	4.19%	4.21%	4.23%	4.28%
5083.01	Retail	913	10,574	7.87%	7.96%	8.05%	8.15%	8.24%	8.32%	8.40%	8.49%	8.55%	8.59%	8.63%	8.73%
5083.99	Retail	1,948	29,814	5.17%	5.23%	5.29%	5.35%	5.41%	5.47%	5.52%	5.58%	5.62%	5.64%	5.67%	5.74%
5086	Retail	1,236	31,537	5.60%	5.66%	5.73%	5.79%	5.86%	5.91%	5.97%	6.03%	6.08%	6.11%	6.14%	6.21%
5088	Retail	2,057	24,889	5.64%	5.71%	5.77%	5.84%	5.90%	5.96%	6.02%	6.08%	6.13%	6.15%	6.19%	6.26%
5089	Retail	990	23,396	5.91%	5.98%	6.05%	6.12%	6.19%	6.25%	6.31%	6.38%	6.42%	6.45%	6.49%	6.56%
5090	Retail	701	21,451	4.26%	4.31%	4.36%	4.41%	4.46%	4.50%	4.55%	4.59%	4.63%	4.65%	4.67%	4.72%
5103.02	Retail	79	52,068	3.14%	3.18%	3.21%	3.25%	3.29%	3.32%	3.35%	3.39%	3.41%	3.43%	3.44%	3.48%

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	1.32%	1.31%	1.30%	1.29%	1.28%	1.27%	1.27%	1.26%	1.27%	1.35%	1.42%	1.42%
5201.04	Cuyahoga Falls	2,004	43,593	1.60%	1.59%	1.58%	1.57%	1.56%	1.55%	1.54%	1.53%	1.55%	1.64%	1.72%	1.72%
5201.05	Cuyahoga Falls	1,640	51,724	1.35%	1.34%	1.33%	1.32%	1.31%	1.30%	1.29%	1.29%	1.30%	1.37%	1.45%	1.45%
5201.06	Cuyahoga Falls	446	43,140	1.46%	1.45%	1.43%	1.42%	1.41%	1.41%	1.40%	1.39%	1.41%	1.49%	1.56%	1.57%
5202.01	Cuyahoga Falls	1,223	59,776	0.93%	0.92%	0.91%	0.90%	0.90%	0.89%	0.89%	0.89%	0.90%	0.95%	0.99%	1.00%
5202.02	Cuyahoga Falls	2,168	45,375	1.79%	1.78%	1.76%	1.75%	1.74%	1.73%	1.72%	1.71%	1.73%	1.83%	1.92%	1.92%
5203.01	Cuyahoga Falls	1,286	49,419	1.68%	1.67%	1.66%	1.64%	1.63%	1.62%	1.62%	1.61%	1.63%	1.72%	1.81%	1.81%
5203.02	Cuyahoga Falls	1,575	60,099	0.96%	0.95%	0.94%	0.94%	0.93%	0.93%	0.92%	0.92%	0.93%	0.98%	1.03%	1.03%
5204	Cuyahoga Falls	2,017	46,010	1.28%	1.27%	1.26%	1.25%	1.24%	1.23%	1.23%	1.22%	1.23%	1.30%	1.37%	1.37%
5205	Cuyahoga Falls	1,722	56,699	1.23%	1.22%	1.21%	1.20%	1.19%	1.19%	1.18%	1.18%	1.19%	1.26%	1.32%	1.32%
5206	Cuyahoga Falls	815	50,901	1.29%	1.28%	1.27%	1.26%	1.25%	1.25%	1.24%	1.23%	1.25%	1.32%	1.38%	1.39%
5304.01	Mudbrook	1,340	57,908	1.39%	1.39%	1.38%	1.38%	1.38%	1.38%	1.38%	1.38%	1.38%	1.40%	1.41%	1.42%
5304.02	Mudbrook	173	61,717	1.57%	1.56%	1.56%	1.56%	1.56%	1.55%	1.55%	1.55%	1.55%	1.58%	1.60%	1.60%
5305.01	Mudbrook	989	52,189	1.74%	1.74%	1.74%	1.73%	1.73%	1.73%	1.73%	1.72%	1.73%	1.75%	1.77%	1.77%
5305.02	Mudbrook	297	66,541	1.75%	1.74%	1.74%	1.74%	1.73%	1.73%	1.73%	1.73%	1.73%	1.76%	1.78%	1.78%
5306.03	Mudbrook	1,393	51,597	1.33%	1.32%	1.32%	1.32%	1.32%	1.31%	1.31%	1.31%	1.31%	1.33%	1.35%	1.35%
5306.04	Mudbrook	834	81,099	0.93%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.93%	0.94%	0.94%
5306.05	Mudbrook	86	88,632	1.22%	1.22%	1.22%	1.22%	1.21%	1.21%	1.21%	1.21%	1.21%	1.23%	1.24%	1.24%
5307	Mudbrook	1,040	100,058	1.14%	1.14%	1.14%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.15%	1.16%	1.16%
5308	Mudbrook	1,780	71,076	1.15%	1.15%	1.14%	1.14%	1.14%	1.14%	1.14%	1.14%	1.14%	1.15%	1.17%	1.17%
5309.01	Tallmadge	1,865	39,157	1.68%	1.67%	1.66%	1.65%	1.65%	1.64%	1.64%	1.63%	1.64%	1.71%	1.78%	1.78%
5309.02	Tallmadge	1,448	54,483	1.30%	1.29%	1.28%	1.27%	1.27%	1.26%	1.26%	1.25%	1.26%	1.32%	1.37%	1.37%
5309.03	Tallmadge	501	70,608	0.82%	0.81%	0.81%	0.80%	0.80%	0.80%	0.79%	0.79%	0.80%	0.83%	0.86%	0.86%
5310.01	Retail	977	49,346	1.95%	1.97%	2.00%	2.02%	2.04%	2.06%	2.08%	2.10%	2.12%	2.13%	2.14%	2.16%
5310.02	Springfield	1,508	45,759	1.93%	1.93%	1.93%	1.92%	1.92%	1.92%	1.92%	1.91%	1.92%	1.94%	1.97%	1.97%
5311.01	Lakemore	776	44,928	1.49%	1.47%	1.46%	1.44%	1.42%	1.41%	1.40%	1.39%	1.41%	1.55%	1.68%	1.68%
5311.02	Lakemore	122	59,473	1.17%	1.16%	1.14%	1.13%	1.12%	1.11%	1.10%	1.09%	1.11%	1.21%	1.32%	1.32%
5311.03	Springfield	0	58,822	1.54%	1.53%	1.53%	1.53%	1.53%	1.52%	1.52%	1.52%	1.52%	1.55%	1.57%	1.57%
5318.01	Retail	574	49,824	3.29%	3.33%	3.37%	3.41%	3.45%	3.48%	3.51%	3.55%	3.58%	3.59%	3.61%	3.65%
5318.02	Retail	641	52,357	2.42%	2.45%	2.48%	2.51%	2.54%	2.56%	2.59%	2.61%	2.63%	2.65%	2.66%	2.69%
5322.02	Retail	2,820	66,926	1.69%	1.71%	1.73%	1.75%	1.77%	1.79%	1.80%	1.82%	1.84%	1.84%	1.85%	1.87%
5323.01	Montrose	173	107,716	0.90%	0.90%	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%	0.90%	0.91%	0.91%
5323.02	Retail	246	89,096	1.52%	1.54%	1.56%	1.58%	1.59%	1.61%	1.63%	1.64%	1.66%	1.66%	1.67%	1.69%
5326	Mudbrook	1	78,143	1.42%	1.42%	1.41%	1.41%	1.41%	1.41%	1.41%	1.40%	1.41%	1.43%	1.45%	1.45%
5329.01	Mudbrook	131	75,083	1.07%	1.07%	1.07%	1.07%	1.07%	1.07%	1.06%	1.06%	1.07%	1.08%	1.09%	1.09%
5329.02	Mudbrook	3,046	62,751	2.04%	2.04%	2.04%	2.03%	2.03%	2.03%	2.03%	2.02%	2.03%	2.06%	2.08%	2.08%
5330	Retail	0	50,086	2.36%	2.39%	2.41%	2.44%	2.47%	2.49%	2.52%	2.54%	2.56%	2.57%	2.59%	2.61%
5334	Retail	405	57,813	2.32%	2.35%	2.38%	2.41%	2.43%	2.46%	2.48%	2.51%	2.52%	2.54%	2.55%	2.58%
5335.01	Montrose	2,376	99,151	0.92%	0.92%	0.92%	0.92%	0.91%	0.91%	0.91%	0.91%	0.91%	0.93%	0.94%	0.94%
5335.02	Retail	56	83,130	1.57%	1.59%	1.61%	1.63%	1.64%	1.66%	1.68%	1.69%	1.71%	1.71%	1.72%	1.74%
6021	Retail	53	58,979	2.14%	2.17%	2.19%	2.22%	2.24%	2.26%	2.29%	2.31%	2.33%	2.34%	2.35%	2.38%
Total		**121,310**	**$43,933.75**	**3.91%**	**3.95%**	**3.98%**	**4.01%**	**4.04%**	**4.07%**	**4.09%**	**4.12%**	**4.15%**	**4.18%**	**4.21%**	**4.24%**

Table 1
City of Akron, OH
WARi™ Affordability Model
Projected Rate Adjustments - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	2.0%	2.0%
Cuyahoga Falls	0.0%	1.0%	0.9%
Mudbrook	0.0%	1.0%	0.9%
Tallmadge	0.0%	1.0%	0.9%
Lakemore	0.0%	1.0%	0.9%
Montrose	0.0%	1.0%	0.9%
Springfield	0.0%	1.0%	0.9%

Table 2
City of Akron, OH
WARi™ Affordability Model
Expected Inflation - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	1.6%	1.8%
Cuyahoga Falls	0.0%	1.6%	1.8%
Mudbrook	0.0%	1.6%	1.8%
Tallmadge	0.0%	1.6%	1.8%
Lakemore	0.0%	1.6%	1.8%
Montrose	0.0%	1.6%	1.8%
Springfield	0.0%	1.6%	1.8%

Table 3
City of Akron, OH
WARi™ Affordability Model
Affordability Index - Akron Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	100.0%	91.1%	93.8%
Cuyahoga Falls	100.0%	136.6%	130.3%
Mudbrook	100.0%	136.6%	130.3%
Tallmadge	100.0%	136.6%	130.3%
Lakemore	100.0%	136.6%	130.3%
Montrose	100.0%	136.6%	130.3%
Springfield	100.0%	136.6%	130.3%

Table 4
City of Akron, OH
WARi™ Affordability Model
Projected Rate Adjustments - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	0.0%	0.0%
Cuyahoga Falls	3.0%	3.0%	3.0%
Mudbrook	3.0%	3.0%	3.0%
Tallmadge	3.0%	3.0%	3.0%
Lakemore	3.0%	3.0%	3.0%
Montrose	3.0%	3.0%	3.0%
Springfield	3.0%	3.0%	3.0%

Table 5
City of Akron, OH
WARi™ Affordability Model
Expected Inflation - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	0.0%	0.0%	0.0%
Cuyahoga Falls	3.0%	3.0%	3.0%
Mudbrook	3.0%	3.0%	3.0%
Tallmadge	3.0%	3.0%	3.0%
Lakemore	3.0%	3.0%	3.0%
Montrose	3.0%	3.0%	3.0%
Springfield	3.0%	3.0%	3.0%

Table 6
City of Akron, OH
WARi™ Affordability Model
Affordability Index - Master Meter Costs

Customer	*Current* 2015	*Projected* 2025	*Projected* 2040
Retail	100.0%	100.0%	100.0%
Cuyahoga Falls	100.0%	100.0%	100.0%
Mudbrook	100.0%	100.0%	100.0%
Tallmadge	100.0%	100.0%	100.0%
Lakemore	100.0%	100.0%	100.0%
Montrose	100.0%	100.0%	100.0%
Springfield	100.0%	100.0%	100.0%

Table 9
City of Akron, OH
WARi™ Affordability Model
Projected Average Bill - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5011	Retail	519	$23,484	$710.38	$692.56	$675.89	$660.90	$647.40	$635.83	$637.94	$640.02	$642.27	$644.63	$646.94	$649.00	$650.85	$652.82
5017	Retail	456	17,910	929.67	906.35	884.54	864.92	847.25	832.11	834.87	837.60	840.54	843.63	846.65	849.35	851.76	854.35
5018	Retail	405	25,043	669.56	652.77	637.06	622.93	610.20	599.30	601.28	603.25	605.37	607.59	609.77	611.71	613.45	615.31
5019	Retail	1,173	11,375	716.86	698.88	682.06	666.93	653.30	641.63	643.76	645.86	648.13	650.51	652.84	654.92	656.78	658.78
5021.01	Retail	1,194	35,261	729.34	711.05	693.94	678.54	664.68	652.81	654.97	657.11	659.42	661.84	664.21	666.33	668.22	670.25
5021.02	Retail	2,155	29,145	669.34	652.55	636.85	622.72	610.00	599.10	601.08	603.05	605.17	607.39	609.57	611.51	613.25	615.11
5022	Retail	2,603	30,559	653.17	636.79	621.46	607.68	595.26	584.63	586.56	588.48	590.55	592.72	594.84	596.74	598.43	600.25
5023	Retail	2,040	37,130	762.94	743.80	725.90	709.80	695.30	682.87	685.14	687.38	689.79	692.33	694.80	697.02	699.00	701.12
5025	Retail	437	17,589	671.33	654.49	638.74	624.57	611.81	600.88	602.87	604.84	606.96	609.20	611.38	613.33	615.07	616.94
5026	Retail	1,276	38,711	659.20	642.66	627.20	613.28	600.76	590.02	591.98	593.91	596.00	598.19	600.33	602.25	603.96	605.79
5027	Retail	2,875	46,192	716.09	698.13	681.33	666.21	652.61	640.94	643.07	645.17	647.43	649.81	652.14	654.22	656.08	658.07
5028	Retail	1,863	41,671	703.99	686.33	669.81	654.95	641.57	630.11	632.20	634.27	636.49	638.83	641.12	643.16	644.99	646.95
5031	Retail	681	24,247	729.21	710.91	693.81	678.41	664.56	652.68	654.84	656.99	659.29	661.72	664.08	666.20	668.09	670.12
5032	Retail	747	29,667	663.28	646.65	631.08	617.09	604.48	593.68	595.65	597.59	599.69	601.90	604.05	605.98	607.70	609.54
5033	Retail	2,240	27,855	724.63	706.45	689.45	674.16	660.39	648.58	650.73	652.86	655.15	657.56	659.91	662.02	663.90	665.92
5034	Retail	541	22,911	915.52	892.56	871.08	851.75	834.36	819.44	822.16	824.85	827.75	830.79	833.76	836.42	838.80	841.34
5035	Retail	1,472	22,511	714.49	696.56	679.80	664.72	651.14	639.51	641.63	643.73	645.99	648.36	650.68	652.76	654.61	656.60
5036	Retail	1,830	47,726	739.42	720.88	703.53	687.92	673.87	661.83	664.02	666.19	668.53	670.99	673.39	675.54	677.46	679.51
5037.01	Retail	2,511	43,094	744.90	726.21	708.73	693.01	678.86	666.72	668.93	671.12	673.48	675.95	678.37	680.54	682.47	684.54
5037.02	Retail	2,528	43,498	694.71	677.28	660.98	646.32	633.12	621.80	623.86	625.91	628.10	630.41	632.67	634.69	636.49	638.42
5038	Retail	1,378	22,389	742.04	723.43	706.02	690.36	676.25	664.17	666.37	668.55	670.90	673.36	675.77	677.93	679.85	681.92
5041	Retail	453	17,179	756.83	737.84	720.08	704.11	689.73	677.40	679.65	681.87	684.26	686.78	689.24	691.44	693.40	695.51
5042	Retail	688	19,171	725.73	707.52	690.50	675.18	661.39	649.57	651.72	653.85	656.15	658.56	660.92	663.03	664.91	666.93
5044	Retail	568	20,416	665.95	649.25	633.62	619.57	606.91	596.07	598.04	600.00	602.10	604.32	606.48	608.42	610.14	612.00
5045	Retail	719	29,198	717.02	699.04	682.21	667.08	653.45	641.77	643.90	646.01	648.28	650.66	652.99	655.07	656.93	658.93
5046	Retail	1,421	23,746	740.00	721.44	704.08	688.46	674.40	662.34	664.54	666.71	669.05	671.51	673.92	676.07	677.99	680.05
5047	Retail	1,825	50,780	717.41	699.42	682.58	667.44	653.81	642.12	644.25	646.36	648.63	651.01	653.34	655.43	657.29	659.29
5048	Retail	2,118	52,142	736.66	718.18	700.90	685.35	671.35	659.35	661.54	663.70	666.03	668.48	670.87	673.02	674.93	676.97
5052	Retail	561	35,579	761.53	742.43	724.56	708.49	694.02	681.62	683.88	686.11	688.52	691.05	693.52	695.74	697.71	699.83
5053	Retail	701	17,555	554.82	540.91	527.89	516.18	505.64	496.60	498.25	499.88	501.63	503.47	505.27	506.89	508.33	509.87
5054	Retail	1,506	33,194	741.79	723.18	705.78	690.12	676.03	663.94	666.15	668.32	670.67	673.14	675.54	677.70	679.62	681.69
5055	Retail	977	48,156	807.60	787.34	768.39	751.34	736.00	722.84	725.24	727.61	730.17	732.85	735.47	737.82	739.92	742.16
5056	Retail	516	16,259	824.67	803.98	784.64	767.23	751.56	738.13	740.57	743.00	745.60	748.35	751.02	753.42	755.56	757.85
5057	Retail	1,076	25,833	753.28	734.38	716.71	700.81	686.50	674.23	676.46	678.67	681.06	683.56	686.01	688.20	690.15	692.24
5058	Retail	2,145	34,724	715.76	697.81	681.01	665.91	652.30	640.65	642.77	644.87	647.14	649.52	651.84	653.92	655.78	657.77
5059	Retail	1,062	44,651	704.18	686.51	669.99	655.13	641.75	630.28	632.37	634.44	636.66	639.00	641.29	643.34	645.16	647.12
5061	Retail	2,685	38,251	656.54	640.07	624.67	610.81	598.34	587.64	589.59	591.52	593.60	595.78	597.91	599.82	601.52	603.35
5062	Retail	1,470	37,792	846.48	825.25	805.39	787.52	771.44	757.65	760.16	762.65	765.32	768.14	770.89	773.35	775.54	777.90
5064	Retail	1,178	33,436	817.40	796.89	777.71	760.46	744.93	731.62	734.04	736.44	739.03	741.74	744.40	746.78	748.89	751.17
5065	Retail	1,028	28,586	842.52	821.39	801.62	783.84	767.83	754.10	756.60	759.08	761.74	764.54	767.28	769.73	771.91	774.26
5066	Retail	1,460	20,000	562.48	548.37	535.18	523.30	512.62	503.45	505.12	506.78	508.55	510.42	512.25	513.89	515.34	516.91
5067	Retail	557	21,998	863.07	841.42	821.17	802.95	786.55	772.50	775.06	777.59	780.32	783.19	785.99	788.50	790.74	793.14
5068	Retail	704	16,695	633.87	617.97	603.10	589.72	577.67	567.35	569.23	571.09	573.10	575.20	577.26	579.11	580.75	582.51
5071.01	Retail	2,148	47,410	842.37	821.24	801.48	783.70	767.69	753.97	756.47	758.94	761.61	764.41	767.14	769.59	771.77	774.12
5071.02	Retail	1,145	76,995	991.47	966.60	943.34	922.42	903.57	887.43	890.37	893.28	896.42	899.71	902.93	905.81	908.38	911.14
5072.01	Retail	1,087	61,581	806.95	786.71	767.78	750.75	735.41	722.27	724.66	727.03	729.58	732.27	734.89	737.23	739.33	741.57
5072.02	Retail	1,700	53,465	759.56	740.51	722.69	706.65	692.22	679.85	682.10	684.33	686.74	689.26	691.73	693.93	695.90	698.02
5072.03	Retail	1,913	71,959	863.12	841.47	821.22	803.00	786.60	772.54	775.10	777.64	780.36	783.23	786.04	788.55	790.78	793.18
5073	Retail	1,469	41,486	768.78	749.50	731.46	715.24	700.63	688.10	690.39	692.64	695.07	697.63	700.13	702.36	704.36	706.49
5074	Retail	424	17,255	897.29	874.79	853.74	834.80	817.75	803.13	805.79	808.43	811.27	814.25	817.16	819.77	822.10	824.59
5075	Retail	2,386	33,645	798.63	778.60	759.86	743.01	727.83	714.82	717.19	719.54	722.06	724.72	727.31	729.63	731.70	733.92
5076	Retail	1,654	39,815	779.08	759.53	741.26	724.81	710.01	697.32	699.63	701.92	704.38	706.97	709.50	711.77	713.79	715.95
5080	Retail	1,745	46,670	931.80	908.43	886.56	866.90	849.19	834.01	836.78	839.52	842.46	845.56	848.58	851.29	853.71	856.30
5083.01	Retail	913	10,574	645.19	629.01	613.87	600.25	587.99	577.48	579.40	581.29	583.33	585.48	587.57	589.45	591.12	592.91
5083.99	Retail	1,948	29,814	711.81	693.96	677.26	662.23	648.71	637.11	639.22	641.32	643.57	645.93	648.24	650.31	652.16	654.14
5086	Retail	1,236	31,537	718.58	700.55	683.69	668.53	654.87	643.17	645.30	647.41	649.68	652.07	654.40	656.49	658.36	660.35
5088	Retail	2,057	24,889	832.93	812.04	792.49	774.91	759.09	745.52	747.99	750.44	753.07	755.84	758.54	760.97	763.13	765.44
5089	Retail	990	23,396	780.05	760.49	742.19	725.72	710.90	698.19	700.51	702.80	705.27	707.86	710.39	712.66	714.68	716.85
5090	Retail	701	21,451	632.62	616.75	601.91	588.56	576.54	566.23	568.11	569.97	571.97	574.07	576.13	577.97	579.61	581.37
5103.02	Retail	79	52,068	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5201.03	Cuyahoga Falls	826	47,468	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5201.04	Cuyahoga Falls	2,004	43,593	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5201.05	Cuyahoga Falls	1,640	51,724	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5201.06	Cuyahoga Falls	446	43,140	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5202.01	Cuyahoga Falls	1,223	59,776	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5202.02	Cuyahoga Falls	2,168	45,375	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5203.01	Cuyahoga Falls	1,286	49,419	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5203.02	Cuyahoga Falls	1,575	60,099	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5204	Cuyahoga Falls	2,017	46,010	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5205	Cuyahoga Falls	1,722	56,699	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5206	Cuyahoga Falls	815	50,901	334.96	370.95	389.72	398.65	401.95	401.24	399.79	398.40	396.96	395.49	394.10	392.34	391.31	389.68
5304.01	Mudbrook	1,340	57,908	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5304.02	Mudbrook	173	61,717	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5305.01	Mudbrook	989	52,189	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5305.02	Mudbrook	297	66,541	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5306.03	Mudbrook	1,393	51,597	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5306.04	Mudbrook	834	81,099	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5306.05	Mudbrook	86	88,632	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5307	Mudbrook	1,040	100,058	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5308	Mudbrook	1,780	71,076	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5309.01	Tallmadge	1,865	39,157	350.89	378.28	392.56	399.36	401.87	401.33	400.22	399.17	398.07	396.95	395.89	394.56	393.77	392.53
5309.02	Tallmadge	1,448	54,483	350.89	378.28	392.56	399.36	401.87	401.33	400.22	399.17	398.07	396.95	395.89	394.56	393.77	392.53
5309.03	Tallmadge	501	70,608	350.89	378.28	392.56	399.36	401.87	401.33	400.22	399.17	398.07	396.95	395.89	394.56	393.77	392.53
5310.01	Retail	977	49,346	594.42	579.51	565.56	553.02	541.72	532.04	533.81	535.55	537.43	539.41	541.34	543.07	544.61	546.26
5310.02	Springfield	1,508	45,759	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5311.01	Lakemore	776	44,928	376.23	446.45	483.07	500.50	506.93	505.55	502.72	500.01	497.19	494.32	491.61	488.18	486.16	482.99
5311.02	Lakemore	122	59,473	376.23	446.45	483.07	500.50	506.93	505.55	502.72	500.01	497.19	494.32	491.61	488.18	486.16	482.99
5311.03	Springfield	0	58,822	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5318.01	Retail	574	49,824	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
5318.02	Retail	641	52,357	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
5322.02	Retail	2,820	66,926	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
5323.01	Montrose	173	107,716	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5323.02	Retail	246	89,096	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
5326	Mudbrook	1	78,143	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5329.01	Mudbrook	131	75,083	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5329.02	Mudbrook	3,046	62,751	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5330	Retail	0	50,086	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
5334	Retail	405	57,813	773.03	753.64	735.51	719.19	704.50	691.91	694.20	696.47	698.92	701.49	704.00	706.25	708.25	710.40
5335.01	Montrose	2,376	99,151	523.50	536.37	543.08	546.27	547.45	547.19	546.68	546.18	545.66	545.14	544.64	544.01	543.64	543.06
5335.02	Retail	56	83,130	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
6021	Retail	53	58,979	746.45	727.72	710.21	694.46	680.27	668.11	670.33	672.52	674.88	677.36	679.79	681.96	683.89	685.97
Total		**121,310**	**$43,934**	**$860.85**	**$855.33**	**$846.99**	**$837.80**	**$828.51**	**$819.80**	**$821.05**	**$822.30**	**$823.66**	**$825.09**	**$826.50**	**$827.66**	**$828.80**	**$829.91**

Table 9
City of Akron, OH
WARi™ Affordability Model
Projected Average Bill - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	*Projected* 2029	*Projected* 2030	*Projected* 2031	*Projected* 2032	*Projected* 2033	*Projected* 2034	*Projected* 2035	*Projected* 2036	*Projected* 2037	*Projected* 2038	*Projected* 2039	*Projected* 2040
5011	Retail	519	$23,484	$654.92	$656.98	$658.91	$660.63	$661.85	$662.36	$662.65	$662.95	$663.33	$663.85	$664.98	$666.57
5017	Retail	456	17,910	857.09	859.78	862.31	864.56	866.16	866.83	867.21	867.60	868.10	868.78	870.26	872.34
5018	Retail	405	25,043	617.29	619.23	621.05	622.67	623.82	624.30	624.57	624.85	625.22	625.71	626.78	628.27
5019	Retail	1,173	11,375	660.89	662.97	664.92	666.65	667.89	668.40	668.69	668.99	669.38	669.90	671.05	672.65
5021.01	Retail	1,194	35,261	672.40	674.52	676.50	678.27	679.52	680.04	680.34	680.65	681.04	681.57	682.74	684.37
5021.02	Retail	2,155	29,145	617.08	619.02	620.85	622.46	623.62	624.10	624.37	624.65	625.01	625.50	626.57	628.06
5022	Retail	2,603	30,559	602.18	604.07	605.85	607.43	608.55	609.02	609.29	609.56	609.91	610.39	611.43	612.89
5023	Retail	2,040	37,130	703.37	705.58	707.66	709.51	710.82	711.37	711.68	712.00	712.41	712.97	714.19	715.89
5025	Retail	437	17,589	618.92	620.86	622.69	624.31	625.47	625.95	626.22	626.50	626.87	627.36	628.43	629.93
5026	Retail	1,276	38,711	607.73	609.64	611.44	613.03	614.17	614.64	614.91	615.18	615.54	616.02	617.08	618.55
5027	Retail	2,875	46,192	660.18	662.26	664.21	665.94	667.17	667.68	667.98	668.28	668.67	669.19	670.33	671.93
5028	Retail	1,863	41,671	649.02	651.06	652.98	654.68	655.89	656.40	656.69	656.98	657.36	657.88	659.00	660.57
5031	Retail	681	24,247	672.27	674.39	676.37	678.14	679.39	679.91	680.21	680.52	680.91	681.44	682.61	684.24
5032	Retail	747	29,667	611.50	613.42	615.23	616.83	617.97	618.45	618.72	619.00	619.36	619.84	620.90	622.38
5033	Retail	2,240	27,855	668.05	670.15	672.13	673.88	675.13	675.64	675.94	676.24	676.64	677.16	678.32	679.94
5034	Retail	541	22,911	844.05	846.70	849.19	851.40	852.98	853.64	854.01	854.39	854.89	855.56	857.02	859.06
5035	Retail	1,472	22,511	658.71	660.78	662.72	664.45	665.68	666.19	666.48	666.78	667.17	667.69	668.83	670.43
5036	Retail	1,830	47,726	681.70	683.84	685.85	687.64	688.91	689.44	689.74	690.05	690.46	690.99	692.17	693.83
5037.01	Retail	2,511	43,094	686.74	688.90	690.93	692.73	694.01	694.54	694.85	695.16	695.56	696.11	697.30	698.96
5037.02	Retail	2,528	43,498	640.47	642.48	644.37	646.05	647.25	647.75	648.03	648.32	648.70	649.21	650.32	651.87
5038	Retail	1,378	22,389	684.11	686.26	688.28	690.07	691.35	691.88	692.18	692.49	692.90	693.44	694.62	696.28
5041	Retail	453	17,179	697.74	699.93	701.99	703.82	705.12	705.67	705.98	706.29	706.70	707.25	708.46	710.15
5042	Retail	688	19,171	669.07	671.17	673.15	674.90	676.15	676.67	676.97	677.27	677.67	678.19	679.35	680.98
5044	Retail	568	20,416	613.96	615.89	617.70	619.31	620.46	620.94	621.21	621.49	621.85	622.33	623.40	624.89
5045	Retail	719	29,198	661.04	663.12	665.07	666.81	668.04	668.55	668.85	669.15	669.54	670.06	671.20	672.80
5046	Retail	1,421	23,746	682.23	684.37	686.39	688.18	689.45	689.98	690.28	690.59	690.99	691.53	692.72	694.37
5047	Retail	1,825	50,780	661.40	663.48	665.43	667.17	668.40	668.92	669.21	669.51	669.90	670.42	671.57	673.17
5048	Retail	2,118	52,142	679.15	681.28	683.29	685.07	686.34	686.86	687.17	687.47	687.87	688.41	689.59	691.23
5052	Retail	561	35,579	702.08	704.29	706.36	708.20	709.51	710.06	710.37	710.69	711.10	711.65	712.87	714.57
5053	Retail	701	17,555	511.51	513.11	514.63	515.97	516.92	517.32	517.55	517.78	518.08	518.48	519.37	520.61
5054	Retail	1,506	33,194	683.88	686.03	688.05	689.84	691.11	691.65	691.95	692.26	692.66	693.20	694.39	696.05
5055	Retail	977	48,156	744.55	746.88	749.08	751.04	752.43	753.00	753.33	753.67	754.11	754.70	755.99	757.79
5056	Retail	516	16,259	760.29	762.68	764.92	766.92	768.33	768.93	769.26	769.61	770.06	770.66	771.97	773.82
5057	Retail	1,076	25,833	694.47	696.65	698.70	700.52	701.82	702.36	702.67	702.98	703.39	703.94	705.14	706.82
5058	Retail	2,145	34,724	659.88	661.95	663.90	665.63	666.86	667.38	667.67	667.97	668.36	668.88	670.02	671.62
5059	Retail	1,062	44,651	649.20	651.24	653.16	654.86	656.07	656.57	656.86	657.16	657.54	658.05	659.18	660.75
5061	Retail	2,685	38,251	605.29	607.19	608.98	610.56	611.69	612.16	612.43	612.71	613.06	613.54	614.59	616.06
5062	Retail	1,470	37,792	780.39	782.85	785.15	787.20	788.65	789.26	789.61	789.96	790.42	791.04	792.39	794.28
5064	Retail	1,178	33,436	753.58	755.95	758.17	760.15	761.56	762.14	762.48	762.82	763.26	763.86	765.16	766.99
5065	Retail	1,028	28,586	776.74	779.18	781.48	783.51	784.96	785.57	785.91	786.26	786.72	787.33	788.68	790.56
5066	Retail	1,460	20,000	518.57	520.20	521.73	523.09	524.06	524.46	524.69	524.93	525.23	525.64	526.54	527.80
5067	Retail	557	21,998	795.69	798.19	800.54	802.62	804.11	804.73	805.08	805.44	805.91	806.54	807.92	809.85
5068	Retail	704	16,695	584.38	586.22	587.95	589.48	590.57	591.02	591.28	591.55	591.89	592.35	593.37	594.78
5071.01	Retail	2,148	47,410	776.60	779.04	781.34	783.37	784.82	785.43	785.77	786.12	786.58	787.19	788.54	790.42
5071.02	Retail	1,145	76,995	914.07	916.94	919.64	922.04	923.74	924.45	924.86	925.27	925.81	926.53	928.12	930.33
5072.01	Retail	1,087	61,581	743.95	746.29	748.49	750.44	751.83	752.40	752.73	753.07	753.51	754.10	755.39	757.19
5072.02	Retail	1,700	53,465	700.26	702.46	704.53	706.36	707.67	708.21	708.53	708.84	709.26	709.81	711.02	712.72
5072.03	Retail	1,913	71,959	795.73	798.23	800.58	802.67	804.15	804.77	805.13	805.49	805.96	806.58	807.96	809.89
5073	Retail	1,469	41,486	708.76	710.99	713.08	714.94	716.26	716.81	717.13	717.45	717.87	718.43	719.66	721.37
5074	Retail	424	17,255	827.24	829.84	832.28	834.45	836.00	836.64	837.01	837.38	837.87	838.52	839.96	841.96
5075	Retail	2,386	33,645	736.28	738.60	740.77	742.70	744.07	744.65	744.97	745.31	745.74	746.32	747.60	749.38
5076	Retail	1,654	39,815	718.25	720.51	722.63	724.52	725.86	726.41	726.73	727.06	727.48	728.05	729.29	731.03
5080	Retail	1,745	46,670	859.05	861.75	864.29	866.54	868.14	868.81	869.19	869.58	870.09	870.77	872.26	874.34
5083.01	Retail	913	10,574	594.82	596.69	598.44	600.00	601.11	601.58	601.84	602.11	602.46	602.93	603.96	605.40
5083.99	Retail	1,948	29,814	656.24	658.30	660.24	661.96	663.19	663.69	663.99	664.28	664.67	665.19	666.33	667.92
5086	Retail	1,236	31,537	662.48	664.56	666.51	668.25	669.49	670.00	670.30	670.60	670.99	671.51	672.66	674.26
5088	Retail	2,057	24,889	767.90	770.31	772.58	774.60	776.03	776.63	776.97	777.31	777.77	778.37	779.70	781.56
5089	Retail	990	23,396	719.15	721.41	723.54	725.42	726.77	727.32	727.64	727.97	728.39	728.96	730.21	731.95
5090	Retail	701	21,451	583.23	585.07	586.79	588.32	589.41	589.86	590.12	590.38	590.73	591.19	592.20	593.61
5103.02	Retail	79	52,068	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5201.04	Cuyahoga Falls	2,004	43,593	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5201.05	Cuyahoga Falls	1,640	51,724	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5201.06	Cuyahoga Falls	446	43,140	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5202.01	Cuyahoga Falls	1,223	59,776	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5202.02	Cuyahoga Falls	2,168	45,375	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5203.01	Cuyahoga Falls	1,286	49,419	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5203.02	Cuyahoga Falls	1,575	60,099	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5204	Cuyahoga Falls	2,017	46,010	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5205	Cuyahoga Falls	1,722	56,699	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5206	Cuyahoga Falls	815	50,901	388.65	387.05	386.07	384.67	384.12	383.57	384.12	384.86	386.16	386.92	385.76	383.92
5304.01	Mudbrook	1,340	57,908	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5304.02	Mudbrook	173	61,717	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5305.01	Mudbrook	989	52,189	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5305.02	Mudbrook	297	66,541	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5306.03	Mudbrook	1,393	51,597	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5306.04	Mudbrook	834	81,099	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5306.05	Mudbrook	86	88,632	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5307	Mudbrook	1,040	100,058	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5308	Mudbrook	1,780	71,076	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5309.01	Tallmadge	1,865	39,157	391.74	390.53	389.79	388.72	388.30	387.88	388.30	388.86	389.85	390.43	389.55	388.15
5309.02	Tallmadge	1,448	54,483	391.74	390.53	389.79	388.72	388.30	387.88	388.30	388.86	389.85	390.43	389.55	388.15
5309.03	Tallmadge	501	70,608	391.74	390.53	389.79	388.72	388.30	387.88	388.30	388.86	389.85	390.43	389.55	388.15
5310.01	Retail	977	49,346	548.01	549.74	551.35	552.79	553.81	554.24	554.48	554.73	555.06	555.49	556.44	557.77
5310.02	Springfield	1,508	45,759	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5311.01	Lakemore	776	44,928	480.98	477.87	475.96	473.21	472.14	471.07	472.14	473.58	476.12	477.61	475.34	471.76
5311.02	Lakemore	122	59,473	480.98	477.87	475.96	473.21	472.14	471.07	472.14	473.58	476.12	477.61	475.34	471.76
5311.03	Springfield	0	58,822	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5318.01	Retail	574	49,824	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
5318.02	Retail	641	52,357	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
5322.02	Retail	2,820	66,926	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
5323.01	Montrose	173	107,716	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5323.02	Retail	246	89,096	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
5326	Mudbrook	1	78,143	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5329.01	Mudbrook	131	75,083	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5329.02	Mudbrook	3,046	62,751	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5330	Retail	0	50,086	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
5334	Retail	405	57,813	712.68	714.92	717.03	718.89	720.22	720.78	721.09	721.42	721.84	722.40	723.64	725.36
5335.01	Montrose	2,376	99,151	542.69	542.12	541.77	541.27	541.07	540.88	541.07	541.34	541.80	542.07	541.66	541.00
5335.02	Retail	56	83,130	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
6021	Retail	53	58,979	688.17	690.33	692.37	694.17	695.46	695.99	696.30	696.61	697.01	697.56	698.75	700.42
Total		**121,310**	**$43,934**	**$831.25**	**$832.43**	**$833.65**	**$834.62**	**$835.41**	**$835.67**	**$836.00**	**$836.38**	**$836.94**	**$837.48**	**$838.08**	**$838.86**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5011	Retail	519	$23,484	5.33%	5.20%	5.07%	4.96%	4.86%	4.77%	4.79%	4.80%	4.82%	4.84%	4.86%	4.87%	4.88%	4.90%
5017	Retail	456	17,910	8.64%	8.42%	8.22%	8.04%	7.87%	7.73%	7.76%	7.78%	7.81%	7.84%	7.87%	7.89%	7.92%	7.94%
5018	Retail	405	25,043	5.55%	5.41%	5.28%	5.16%	5.05%	4.96%	4.98%	5.00%	5.01%	5.03%	5.05%	5.07%	5.08%	5.10%
5019	Retail	1,173	11,375	8.23%	8.02%	7.83%	7.65%	7.50%	7.36%	7.39%	7.41%	7.44%	7.46%	7.49%	7.51%	7.54%	7.56%
5021.01	Retail	1,194	35,261	4.67%	4.55%	4.44%	4.35%	4.26%	4.18%	4.20%	4.21%	4.22%	4.24%	4.25%	4.27%	4.28%	4.29%
5021.02	Retail	2,155	29,145	4.10%	3.99%	3.90%	3.81%	3.73%	3.67%	3.68%	3.69%	3.70%	3.72%	3.73%	3.74%	3.75%	3.77%
5022	Retail	2,603	30,559	4.03%	3.93%	3.83%	3.75%	3.67%	3.61%	3.62%	3.63%	3.64%	3.66%	3.67%	3.68%	3.69%	3.70%
5023	Retail	2,040	37,130	4.40%	4.29%	4.18%	4.09%	4.01%	3.94%	3.95%	3.96%	3.98%	3.99%	4.00%	4.02%	4.03%	4.04%
5025	Retail	437	17,589	5.95%	5.80%	5.66%	5.54%	5.42%	5.33%	5.34%	5.36%	5.38%	5.40%	5.42%	5.44%	5.45%	5.47%
5026	Retail	1,276	38,711	3.67%	3.58%	3.49%	3.41%	3.34%	3.28%	3.30%	3.31%	3.32%	3.33%	3.34%	3.35%	3.36%	3.37%
5027	Retail	2,875	46,192	3.01%	2.93%	2.86%	2.80%	2.74%	2.69%	2.70%	2.71%	2.72%	2.73%	2.74%	2.75%	2.75%	2.76%
5028	Retail	1,863	41,671	3.17%	3.09%	3.02%	2.95%	2.89%	2.84%	2.85%	2.86%	2.87%	2.88%	2.89%	2.90%	2.90%	2.91%
5031	Retail	681	24,247	4.54%	4.43%	4.32%	4.23%	4.14%	4.07%	4.08%	4.09%	4.11%	4.12%	4.14%	4.15%	4.16%	4.18%
5032	Retail	747	29,667	4.15%	4.05%	3.95%	3.86%	3.78%	3.71%	3.73%	3.74%	3.75%	3.77%	3.78%	3.79%	3.80%	3.81%
5033	Retail	2,240	27,855	4.41%	4.30%	4.20%	4.11%	4.02%	3.95%	3.96%	3.98%	3.99%	4.01%	4.02%	4.03%	4.04%	4.06%
5034	Retail	541	22,911	6.45%	6.29%	6.14%	6.00%	5.88%	5.77%	5.79%	5.81%	5.83%	5.85%	5.87%	5.89%	5.91%	5.93%
5035	Retail	1,472	22,511	5.48%	5.34%	5.21%	5.10%	4.99%	4.91%	4.92%	4.94%	4.96%	4.97%	4.99%	5.01%	5.02%	5.04%
5036	Retail	1,830	47,726	2.61%	2.54%	2.48%	2.43%	2.38%	2.33%	2.34%	2.35%	2.36%	2.37%	2.37%	2.38%	2.39%	2.40%
5037.01	Retail	2,511	43,094	2.96%	2.88%	2.81%	2.75%	2.69%	2.65%	2.65%	2.66%	2.67%	2.68%	2.69%	2.70%	2.71%	2.72%
5037.02	Retail	2,528	43,498	2.35%	2.29%	2.24%	2.19%	2.14%	2.11%	2.11%	2.12%	2.13%	2.14%	2.14%	2.15%	2.16%	2.16%
5038	Retail	1,378	22,389	6.48%	6.32%	6.17%	6.03%	5.91%	5.80%	5.82%	5.84%	5.86%	5.88%	5.90%	5.92%	5.94%	5.96%
5041	Retail	453	17,179	7.31%	7.13%	6.96%	6.80%	6.66%	6.54%	6.57%	6.59%	6.61%	6.63%	6.66%	6.68%	6.70%	6.72%
5042	Retail	688	19,171	5.18%	5.05%	4.93%	4.82%	4.72%	4.64%	4.65%	4.67%	4.68%	4.70%	4.72%	4.73%	4.75%	4.76%
5044	Retail	568	20,416	4.77%	4.65%	4.54%	4.44%	4.35%	4.27%	4.28%	4.30%	4.31%	4.33%	4.34%	4.36%	4.37%	4.38%
5045	Retail	719	29,198	4.08%	3.97%	3.88%	3.79%	3.71%	3.65%	3.66%	3.67%	3.68%	3.70%	3.71%	3.72%	3.73%	3.74%
5046	Retail	1,421	23,746	5.42%	5.29%	5.16%	5.04%	4.94%	4.85%	4.87%	4.88%	4.90%	4.92%	4.94%	4.95%	4.97%	4.98%
5047	Retail	1,825	50,780	2.19%	2.14%	2.09%	2.04%	2.00%	1.96%	1.97%	1.98%	1.98%	1.99%	2.00%	2.00%	2.01%	2.02%
5048	Retail	2,118	52,142	2.44%	2.38%	2.32%	2.27%	2.22%	2.19%	2.19%	2.20%	2.21%	2.22%	2.22%	2.23%	2.24%	2.24%
5052	Retail	561	35,579	4.54%	4.42%	4.32%	4.22%	4.13%	4.06%	4.07%	4.09%	4.10%	4.12%	4.13%	4.14%	4.16%	4.17%
5053	Retail	701	17,555	4.73%	4.61%	4.50%	4.40%	4.31%	4.23%	4.25%	4.26%	4.27%	4.29%	4.31%	4.32%	4.33%	4.34%
5054	Retail	1,506	33,194	3.97%	3.87%	3.78%	3.69%	3.62%	3.55%	3.57%	3.58%	3.59%	3.60%	3.62%	3.63%	3.64%	3.65%
5055	Retail	977	48,156	3.60%	3.51%	3.42%	3.34%	3.28%	3.22%	3.23%	3.24%	3.25%	3.26%	3.27%	3.28%	3.29%	3.30%
5056	Retail	516	16,259	7.62%	7.43%	7.25%	7.09%	6.95%	6.82%	6.84%	6.87%	6.89%	6.92%	6.94%	6.96%	6.98%	7.00%
5057	Retail	1,076	25,833	5.17%	5.04%	4.92%	4.81%	4.71%	4.62%	4.64%	4.65%	4.67%	4.69%	4.71%	4.72%	4.73%	4.75%
5058	Retail	2,145	34,724	3.23%	3.15%	3.08%	3.01%	2.95%	2.89%	2.90%	2.91%	2.92%	2.93%	2.95%	2.95%	2.96%	2.97%
5059	Retail	1,062	44,651	2.63%	2.56%	2.50%	2.45%	2.40%	2.35%	2.36%	2.37%	2.38%	2.39%	2.40%	2.40%	2.41%	2.42%
5061	Retail	2,685	38,251	3.54%	3.45%	3.37%	3.29%	3.22%	3.17%	3.18%	3.19%	3.20%	3.21%	3.22%	3.23%	3.24%	3.25%
5062	Retail	1,470	37,792	4.54%	4.42%	4.32%	4.22%	4.14%	4.06%	4.08%	4.09%	4.10%	4.12%	4.13%	4.15%	4.16%	4.17%
5064	Retail	1,178	33,436	5.40%	5.26%	5.14%	5.02%	4.92%	4.83%	4.85%	4.86%	4.88%	4.90%	4.92%	4.93%	4.95%	4.96%
5065	Retail	1,028	28,586	6.09%	5.94%	5.80%	5.67%	5.55%	5.45%	5.47%	5.49%	5.51%	5.53%	5.55%	5.57%	5.58%	5.60%
5066	Retail	1,460	20,000	4.73%	4.61%	4.50%	4.40%	4.31%	4.23%	4.25%	4.26%	4.27%	4.29%	4.30%	4.32%	4.33%	4.34%
5067	Retail	557	21,998	5.81%	5.66%	5.53%	5.41%	5.29%	5.20%	5.22%	5.23%	5.25%	5.27%	5.29%	5.31%	5.32%	5.34%
5068	Retail	704	16,695	6.01%	5.86%	5.72%	5.59%	5.48%	5.38%	5.40%	5.42%	5.44%	5.46%	5.48%	5.49%	5.51%	5.53%
5071.01	Retail	2,148	47,410	3.18%	3.10%	3.03%	2.96%	2.90%	2.85%	2.86%	2.87%	2.88%	2.89%	2.90%	2.91%	2.92%	2.93%
5071.02	Retail	1,145	76,995	3.29%	3.21%	3.13%	3.06%	3.00%	2.95%	2.96%	2.97%	2.98%	2.99%	3.00%	3.01%	3.02%	3.03%
5072.01	Retail	1,087	61,581	2.85%	2.78%	2.71%	2.65%	2.60%	2.55%	2.56%	2.57%	2.58%	2.59%	2.60%	2.61%	2.61%	2.62%
5072.02	Retail	1,700	53,465	2.75%	2.68%	2.62%	2.56%	2.51%	2.46%	2.47%	2.48%	2.49%	2.49%	2.50%	2.51%	2.52%	2.53%
5072.03	Retail	1,913	71,959	1.92%	1.87%	1.82%	1.78%	1.75%	1.72%	1.72%	1.73%	1.73%	1.74%	1.75%	1.75%	1.76%	1.76%
5073	Retail	1,469	41,486	3.48%	3.39%	3.31%	3.24%	3.17%	3.11%	3.12%	3.13%	3.14%	3.16%	3.17%	3.18%	3.19%	3.20%
5074	Retail	424	17,255	7.22%	7.04%	6.87%	6.72%	6.58%	6.46%	6.49%	6.51%	6.53%	6.55%	6.58%	6.60%	6.62%	6.64%
5075	Retail	2,386	33,645	4.52%	4.40%	4.30%	4.20%	4.12%	4.04%	4.06%	4.07%	4.08%	4.10%	4.11%	4.13%	4.14%	4.15%
5076	Retail	1,654	39,815	3.24%	3.15%	3.08%	3.01%	2.95%	2.90%	2.91%	2.92%	2.93%	2.94%	2.95%	2.96%	2.96%	2.97%
5080	Retail	1,745	46,670	3.87%	3.77%	3.68%	3.60%	3.53%	3.47%	3.48%	3.49%	3.50%	3.51%	3.53%	3.54%	3.55%	3.56%
5083.01	Retail	913	10,574	7.90%	7.70%	7.51%	7.35%	7.20%	7.07%	7.09%	7.11%	7.14%	7.17%	7.19%	7.21%	7.23%	7.26%
5083.99	Retail	1,948	29,814	5.19%	5.06%	4.94%	4.83%	4.73%	4.65%	4.66%	4.68%	4.69%	4.71%	4.73%	4.74%	4.76%	4.77%
5086	Retail	1,236	31,537	5.61%	5.47%	5.34%	5.22%	5.12%	5.02%	5.04%	5.06%	5.08%	5.09%	5.11%	5.13%	5.14%	5.16%
5088	Retail	2,057	24,889	5.66%	5.52%	5.38%	5.26%	5.16%	5.07%	5.08%	5.10%	5.12%	5.14%	5.15%	5.17%	5.18%	5.20%
5089	Retail	990	23,396	5.93%	5.78%	5.65%	5.52%	5.41%	5.31%	5.33%	5.35%	5.36%	5.38%	5.40%	5.42%	5.44%	5.45%
5090	Retail	701	21,451	4.27%	4.17%	4.07%	3.98%	3.89%	3.82%	3.84%	3.85%	3.86%	3.88%	3.89%	3.90%	3.91%	3.93%
5103.02	Retail	79	52,068	3.15%	3.07%	3.00%	2.93%	2.87%	2.82%	2.83%	2.84%	2.85%	2.86%	2.87%	2.88%	2.89%	2.90%

Census Tract	Customer	Number of Households	MHI	Current 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
5201.03	Cuyahoga Falls	826	47,468	1.22%	1.36%	1.42%	1.46%	1.47%	1.47%	1.46%	1.46%	1.45%	1.45%	1.44%	1.43%	1.43%	1.42%
5201.04	Cuyahoga Falls	2,004	43,593	1.49%	1.65%	1.73%	1.77%	1.79%	1.78%	1.78%	1.77%	1.77%	1.76%	1.75%	1.75%	1.74%	1.73%
5201.05	Cuyahoga Falls	1,640	51,724	1.25%	1.39%	1.46%	1.49%	1.50%	1.50%	1.49%	1.49%	1.48%	1.48%	1.47%	1.46%	1.46%	1.45%
5201.06	Cuyahoga Falls	446	43,140	1.35%	1.50%	1.57%	1.61%	1.62%	1.62%	1.62%	1.61%	1.60%	1.60%	1.59%	1.58%	1.58%	1.57%
5202.01	Cuyahoga Falls	1,223	59,776	0.86%	0.95%	1.00%	1.02%	1.03%	1.03%	1.03%	1.02%	1.02%	1.02%	1.01%	1.01%	1.01%	1.00%
5202.02	Cuyahoga Falls	2,168	45,375	1.66%	1.84%	1.93%	1.98%	1.99%	1.99%	1.98%	1.98%	1.97%	1.96%	1.96%	1.95%	1.94%	1.93%
5203.01	Cuyahoga Falls	1,286	49,419	1.56%	1.73%	1.82%	1.86%	1.88%	1.87%	1.87%	1.86%	1.85%	1.85%	1.84%	1.83%	1.83%	1.82%
5203.02	Cuyahoga Falls	1,575	60,099	0.89%	0.99%	1.04%	1.06%	1.07%	1.07%	1.06%	1.06%	1.06%	1.05%	1.05%	1.04%	1.04%	1.04%
5204	Cuyahoga Falls	2,017	46,010	1.18%	1.31%	1.38%	1.41%	1.42%	1.42%	1.41%	1.41%	1.40%	1.40%	1.39%	1.39%	1.38%	1.38%
5205	Cuyahoga Falls	1,722	56,699	1.14%	1.27%	1.33%	1.36%	1.37%	1.37%	1.37%	1.36%	1.36%	1.35%	1.35%	1.34%	1.34%	1.33%
5206	Cuyahoga Falls	815	50,901	1.20%	1.33%	1.39%	1.43%	1.44%	1.43%	1.43%	1.42%	1.42%	1.41%	1.41%	1.40%	1.40%	1.39%
5304.01	Mudbrook	1,340	57,908	1.37%	1.40%	1.42%	1.43%	1.43%	1.43%	1.43%	1.43%	1.42%	1.42%	1.42%	1.42%	1.42%	1.42%
5304.02	Mudbrook	173	61,717	1.54%	1.58%	1.60%	1.61%	1.61%	1.61%	1.61%	1.61%	1.61%	1.60%	1.60%	1.60%	1.60%	1.60%
5305.01	Mudbrook	989	52,189	1.71%	1.75%	1.78%	1.79%	1.79%	1.79%	1.79%	1.79%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%
5305.02	Mudbrook	297	66,541	1.72%	1.76%	1.78%	1.79%	1.80%	1.79%	1.79%	1.79%	1.79%	1.79%	1.79%	1.78%	1.78%	1.78%
5306.03	Mudbrook	1,393	51,597	1.30%	1.33%	1.35%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.35%	1.35%	1.35%
5306.04	Mudbrook	834	81,099	0.91%	0.93%	0.94%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.94%
5306.05	Mudbrook	86	88,632	1.20%	1.23%	1.25%	1.25%	1.26%	1.26%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%
5307	Mudbrook	1,040	100,058	1.12%	1.15%	1.16%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.16%	1.16%	1.16%
5308	Mudbrook	1,780	71,076	1.13%	1.16%	1.17%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%	1.17%	1.17%	1.17%	1.17%
5309.01	Tallmadge	1,865	39,157	1.59%	1.72%	1.78%	1.82%	1.83%	1.82%	1.82%	1.81%	1.81%	1.80%	1.80%	1.79%	1.79%	1.78%
5309.02	Tallmadge	1,448	54,483	1.23%	1.32%	1.37%	1.40%	1.41%	1.40%	1.40%	1.40%	1.39%	1.39%	1.38%	1.38%	1.38%	1.37%
5309.03	Tallmadge	501	70,608	0.77%	0.83%	0.86%	0.88%	0.89%	0.88%	0.88%	0.88%	0.88%	0.87%	0.87%	0.87%	0.87%	0.86%
5310.01	Retail	977	49,346	1.96%	1.91%	1.86%	1.82%	1.78%	1.75%	1.76%	1.76%	1.77%	1.78%	1.78%	1.79%	1.79%	1.80%
5310.02	Springfield	1,508	45,759	1.90%	1.95%	1.97%	1.98%	1.99%	1.99%	1.99%	1.98%	1.98%	1.98%	1.98%	1.98%	1.97%	1.97%
5311.01	Lakemore	776	44,928	1.32%	1.56%	1.69%	1.75%	1.78%	1.77%	1.76%	1.75%	1.74%	1.73%	1.72%	1.71%	1.70%	1.69%
5311.02	Lakemore	122	59,473	1.04%	1.23%	1.33%	1.38%	1.40%	1.39%	1.38%	1.38%	1.37%	1.36%	1.35%	1.34%	1.34%	1.33%
5311.03	Springfield	0	58,822	1.51%	1.55%	1.57%	1.58%	1.58%	1.58%	1.58%	1.58%	1.58%	1.57%	1.57%	1.57%	1.57%	1.57%
5318.01	Retail	574	49,824	3.30%	3.22%	3.14%	3.07%	3.01%	2.96%	2.97%	2.98%	2.99%	3.00%	3.01%	3.02%	3.03%	3.04%
5318.02	Retail	641	52,357	2.43%	2.37%	2.31%	2.26%	2.22%	2.18%	2.18%	2.19%	2.20%	2.21%	2.22%	2.22%	2.23%	2.24%
5322.02	Retail	2,820	66,926	1.70%	1.65%	1.61%	1.58%	1.54%	1.52%	1.52%	1.53%	1.53%	1.54%	1.54%	1.55%	1.55%	1.56%
5323.01	Montrose	173	107,716	0.88%	0.90%	0.91%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.92%	0.91%
5323.02	Retail	246	89,096	1.53%	1.49%	1.45%	1.42%	1.39%	1.37%	1.37%	1.38%	1.38%	1.39%	1.39%	1.40%	1.40%	1.41%
5326	Mudbrook	1	78,143	1.40%	1.43%	1.45%	1.46%	1.46%	1.46%	1.46%	1.46%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%
5329.01	Mudbrook	131	75,083	1.06%	1.08%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
5329.02	Mudbrook	3,046	62,751	2.01%	2.06%	2.08%	2.10%	2.10%	2.10%	2.10%	2.10%	2.09%	2.09%	2.09%	2.09%	2.09%	2.08%
5330	Retail	0	50,086	2.37%	2.31%	2.25%	2.20%	2.16%	2.12%	2.12%	2.13%	2.14%	2.15%	2.15%	2.16%	2.17%	2.17%
5334	Retail	405	57,813	2.33%	2.27%	2.22%	2.17%	2.13%	2.09%	2.09%	2.10%	2.11%	2.12%	2.12%	2.13%	2.14%	2.14%
5335.01	Montrose	2,376	99,151	0.90%	0.93%	0.94%	0.94%	0.95%	0.95%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%
5335.02	Retail	56	83,130	1.58%	1.54%	1.50%	1.47%	1.44%	1.41%	1.42%	1.42%	1.43%	1.43%	1.44%	1.44%	1.44%	1.45%
6021	Retail	53	58,979	2.15%	2.10%	2.05%	2.00%	1.96%	1.92%	1.93%	1.94%	1.94%	1.95%	1.96%	1.96%	1.97%	1.98%
Total		**121,310**	**$43,933.75**	**3.90%**	**3.86%**	**3.81%**	**3.75%**	**3.70%**	**3.66%**	**3.66%**	**3.67%**	**3.68%**	**3.69%**	**3.69%**	**3.70%**	**3.71%**	**3.71%**

Table 13
City of Akron, OH
WARi™ Affordability Model
Projected WARi Affordability - Akron Costs + Master Meter Costs

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5011	Retail	519	$23,484	4.92%	4.93%	4.95%	4.96%	4.97%	4.97%	4.97%	4.98%	4.98%	4.98%	4.99%	5.00%
5017	Retail	456	17,910	7.97%	7.99%	8.01%	8.03%	8.05%	8.06%	8.06%	8.06%	8.07%	8.07%	8.09%	8.11%
5018	Retail	405	25,043	5.11%	5.13%	5.14%	5.16%	5.17%	5.17%	5.17%	5.18%	5.18%	5.18%	5.19%	5.20%
5019	Retail	1,173	11,375	7.58%	7.61%	7.63%	7.65%	7.66%	7.67%	7.67%	7.68%	7.68%	7.69%	7.70%	7.72%
5021.01	Retail	1,194	35,261	4.31%	4.32%	4.33%	4.34%	4.35%	4.36%	4.36%	4.36%	4.36%	4.37%	4.37%	4.38%
5021.02	Retail	2,155	29,145	3.78%	3.79%	3.80%	3.81%	3.82%	3.82%	3.82%	3.82%	3.83%	3.83%	3.84%	3.85%
5022	Retail	2,603	30,559	3.71%	3.73%	3.74%	3.75%	3.75%	3.76%	3.76%	3.76%	3.76%	3.77%	3.77%	3.78%
5023	Retail	2,040	37,130	4.05%	4.07%	4.08%	4.09%	4.10%	4.10%	4.10%	4.10%	4.11%	4.11%	4.12%	4.13%
5025	Retail	437	17,589	5.49%	5.50%	5.52%	5.53%	5.55%	5.55%	5.55%	5.55%	5.56%	5.56%	5.57%	5.58%
5026	Retail	1,276	38,711	3.38%	3.39%	3.40%	3.41%	3.42%	3.42%	3.42%	3.42%	3.43%	3.43%	3.44%	3.44%
5027	Retail	2,875	46,192	2.77%	2.78%	2.79%	2.79%	2.80%	2.80%	2.80%	2.80%	2.81%	2.81%	2.81%	2.82%
5028	Retail	1,863	41,671	2.92%	2.93%	2.94%	2.95%	2.95%	2.96%	2.96%	2.96%	2.96%	2.96%	2.97%	2.98%
5031	Retail	681	24,247	4.19%	4.20%	4.22%	4.23%	4.23%	4.24%	4.24%	4.24%	4.24%	4.25%	4.25%	4.26%
5032	Retail	747	29,667	3.83%	3.84%	3.85%	3.86%	3.87%	3.87%	3.87%	3.87%	3.87%	3.88%	3.88%	3.89%
5033	Retail	2,240	27,855	4.07%	4.08%	4.09%	4.10%	4.11%	4.12%	4.12%	4.12%	4.12%	4.12%	4.13%	4.14%
5034	Retail	541	22,911	5.95%	5.97%	5.98%	6.00%	6.01%	6.01%	6.02%	6.02%	6.02%	6.03%	6.04%	6.05%
5035	Retail	1,472	22,511	5.05%	5.07%	5.08%	5.10%	5.11%	5.11%	5.11%	5.11%	5.12%	5.12%	5.13%	5.14%
5036	Retail	1,830	47,726	2.40%	2.41%	2.42%	2.42%	2.43%	2.43%	2.43%	2.43%	2.43%	2.44%	2.44%	2.45%
5037.01	Retail	2,511	43,094	2.73%	2.73%	2.74%	2.75%	2.75%	2.76%	2.76%	2.76%	2.76%	2.76%	2.77%	2.77%
5037.02	Retail	2,528	43,498	2.17%	2.18%	2.18%	2.19%	2.19%	2.19%	2.19%	2.20%	2.20%	2.20%	2.20%	2.21%
5038	Retail	1,378	22,389	5.98%	5.99%	6.01%	6.03%	6.04%	6.04%	6.05%	6.05%	6.05%	6.06%	6.07%	6.08%
5041	Retail	453	17,179	6.74%	6.76%	6.78%	6.80%	6.81%	6.82%	6.82%	6.82%	6.83%	6.83%	6.84%	6.86%
5042	Retail	688	19,171	4.78%	4.79%	4.81%	4.82%	4.83%	4.83%	4.83%	4.84%	4.84%	4.84%	4.85%	4.86%
5044	Retail	568	20,416	4.40%	4.41%	4.42%	4.44%	4.44%	4.45%	4.45%	4.45%	4.45%	4.46%	4.46%	4.47%
5045	Retail	719	29,198	3.76%	3.77%	3.78%	3.79%	3.80%	3.80%	3.80%	3.80%	3.81%	3.81%	3.81%	3.82%
5046	Retail	1,421	23,746	5.00%	5.01%	5.03%	5.04%	5.05%	5.06%	5.06%	5.06%	5.06%	5.07%	5.08%	5.09%
5047	Retail	1,825	50,780	2.02%	2.03%	2.04%	2.04%	2.04%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.06%
5048	Retail	2,118	52,142	2.25%	2.26%	2.26%	2.27%	2.27%	2.28%	2.28%	2.28%	2.28%	2.28%	2.29%	2.29%
5052	Retail	561	35,579	4.18%	4.20%	4.21%	4.22%	4.23%	4.23%	4.23%	4.23%	4.24%	4.24%	4.25%	4.26%
5053	Retail	701	17,555	4.36%	4.37%	4.39%	4.40%	4.40%	4.41%	4.41%	4.41%	4.41%	4.42%	4.43%	4.44%
5054	Retail	1,506	33,194	3.66%	3.67%	3.68%	3.69%	3.70%	3.70%	3.70%	3.70%	3.71%	3.71%	3.72%	3.73%
5055	Retail	977	48,156	3.31%	3.33%	3.33%	3.34%	3.35%	3.35%	3.35%	3.36%	3.36%	3.36%	3.37%	3.37%
5056	Retail	516	16,259	7.03%	7.05%	7.07%	7.09%	7.10%	7.11%	7.11%	7.11%	7.12%	7.12%	7.13%	7.15%
5057	Retail	1,076	25,833	4.76%	4.78%	4.79%	4.80%	4.81%	4.82%	4.82%	4.82%	4.82%	4.83%	4.84%	4.85%
5058	Retail	2,145	34,724	2.98%	2.99%	3.00%	3.01%	3.01%	3.02%	3.02%	3.02%	3.02%	3.02%	3.03%	3.03%
5059	Retail	1,062	44,651	2.43%	2.43%	2.44%	2.45%	2.45%	2.45%	2.45%	2.46%	2.46%	2.46%	2.46%	2.47%
5061	Retail	2,685	38,251	3.26%	3.27%	3.28%	3.29%	3.30%	3.30%	3.30%	3.30%	3.30%	3.31%	3.31%	3.32%
5062	Retail	1,470	37,792	4.18%	4.20%	4.21%	4.22%	4.23%	4.23%	4.23%	4.24%	4.24%	4.24%	4.25%	4.26%
5064	Retail	1,178	33,436	4.98%	4.99%	5.01%	5.02%	5.03%	5.03%	5.04%	5.04%	5.04%	5.05%	5.05%	5.07%
5065	Retail	1,028	28,586	5.62%	5.64%	5.65%	5.67%	5.68%	5.68%	5.68%	5.69%	5.69%	5.70%	5.70%	5.72%
5066	Retail	1,460	20,000	4.36%	4.37%	4.38%	4.40%	4.40%	4.41%	4.41%	4.41%	4.41%	4.42%	4.42%	4.44%
5067	Retail	557	21,998	5.36%	5.37%	5.39%	5.40%	5.41%	5.42%	5.42%	5.42%	5.43%	5.43%	5.44%	5.45%
5068	Retail	704	16,695	5.54%	5.56%	5.58%	5.59%	5.60%	5.61%	5.61%	5.61%	5.61%	5.62%	5.63%	5.64%
5071.01	Retail	2,148	47,410	2.94%	2.94%	2.95%	2.96%	2.97%	2.97%	2.97%	2.97%	2.97%	2.98%	2.98%	2.99%
5071.02	Retail	1,145	76,995	3.04%	3.05%	3.05%	3.06%	3.07%	3.07%	3.07%	3.07%	3.07%	3.08%	3.08%	3.09%
5072.01	Retail	1,087	61,581	2.63%	2.64%	2.65%	2.65%	2.66%	2.66%	2.66%	2.66%	2.66%	2.67%	2.67%	2.68%
5072.02	Retail	1,700	53,465	2.53%	2.54%	2.55%	2.56%	2.56%	2.56%	2.56%	2.57%	2.57%	2.57%	2.57%	2.58%
5072.03	Retail	1,913	71,959	1.77%	1.77%	1.78%	1.78%	1.79%	1.79%	1.79%	1.79%	1.79%	1.79%	1.80%	1.80%
5073	Retail	1,469	41,486	3.21%	3.22%	3.23%	3.23%	3.24%	3.24%	3.24%	3.25%	3.25%	3.25%	3.26%	3.26%
5074	Retail	424	17,255	6.66%	6.68%	6.70%	6.72%	6.73%	6.73%	6.74%	6.74%	6.74%	6.75%	6.76%	6.78%
5075	Retail	2,386	33,645	4.16%	4.18%	4.19%	4.20%	4.21%	4.21%	4.21%	4.22%	4.22%	4.22%	4.23%	4.24%
5076	Retail	1,654	39,815	2.98%	2.99%	3.00%	3.01%	3.01%	3.02%	3.02%	3.02%	3.02%	3.02%	3.03%	3.04%
5080	Retail	1,745	46,670	3.57%	3.58%	3.59%	3.60%	3.61%	3.61%	3.61%	3.61%	3.62%	3.62%	3.62%	3.63%
5083.01	Retail	913	10,574	7.28%	7.30%	7.32%	7.34%	7.36%	7.36%	7.37%	7.37%	7.37%	7.38%	7.39%	7.41%
5083.99	Retail	1,948	29,814	4.78%	4.80%	4.81%	4.83%	4.84%	4.84%	4.84%	4.84%	4.85%	4.85%	4.86%	4.87%
5086	Retail	1,236	31,537	5.18%	5.19%	5.21%	5.22%	5.23%	5.23%	5.24%	5.24%	5.24%	5.25%	5.26%	5.27%
5088	Retail	2,057	24,889	5.22%	5.23%	5.25%	5.26%	5.27%	5.28%	5.28%	5.28%	5.28%	5.29%	5.30%	5.31%
5089	Retail	990	23,396	5.47%	5.49%	5.50%	5.52%	5.53%	5.53%	5.53%	5.54%	5.54%	5.54%	5.55%	5.57%
5090	Retail	701	21,451	3.94%	3.95%	3.96%	3.97%	3.98%	3.98%	3.99%	3.99%	3.99%	3.99%	4.00%	4.01%
5103.02	Retail	79	52,068	2.90%	2.91%	2.92%	2.93%	2.94%	2.94%	2.94%	2.94%	2.94%	2.94%	2.95%	2.96%

Census Tract	Customer	Number of Households	MHI	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034	Projected 2035	Projected 2036	Projected 2037	Projected 2038	Projected 2039	Projected 2040
5201.03	Cuyahoga Falls	826	47,468	1.42%	1.42%	1.41%	1.41%	1.40%	1.40%	1.40%	1.41%	1.41%	1.41%	1.41%	1.40%
5201.04	Cuyahoga Falls	2,004	43,593	1.73%	1.72%	1.72%	1.71%	1.71%	1.71%	1.71%	1.71%	1.72%	1.72%	1.72%	1.71%
5201.05	Cuyahoga Falls	1,640	51,724	1.45%	1.45%	1.44%	1.44%	1.43%	1.43%	1.43%	1.44%	1.44%	1.44%	1.44%	1.43%
5201.06	Cuyahoga Falls	446	43,140	1.57%	1.56%	1.56%	1.55%	1.55%	1.55%	1.55%	1.55%	1.56%	1.56%	1.56%	1.55%
5202.01	Cuyahoga Falls	1,223	59,776	1.00%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%	0.99%
5202.02	Cuyahoga Falls	2,168	45,375	1.93%	1.92%	1.92%	1.91%	1.91%	1.90%	1.91%	1.91%	1.92%	1.92%	1.91%	1.91%
5203.01	Cuyahoga Falls	1,286	49,419	1.81%	1.81%	1.80%	1.79%	1.79%	1.79%	1.79%	1.80%	1.80%	1.81%	1.80%	1.79%
5203.02	Cuyahoga Falls	1,575	60,099	1.03%	1.03%	1.03%	1.02%	1.02%	1.02%	1.02%	1.02%	1.03%	1.03%	1.03%	1.02%
5204	Cuyahoga Falls	2,017	46,010	1.37%	1.37%	1.37%	1.36%	1.36%	1.36%	1.36%	1.36%	1.37%	1.37%	1.36%	1.36%
5205	Cuyahoga Falls	1,722	56,699	1.33%	1.32%	1.32%	1.31%	1.31%	1.31%	1.31%	1.31%	1.32%	1.32%	1.32%	1.31%
5206	Cuyahoga Falls	815	50,901	1.39%	1.38%	1.38%	1.38%	1.37%	1.37%	1.37%	1.38%	1.38%	1.38%	1.38%	1.37%
5304.01	Mudbrook	1,340	57,908	1.42%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%	1.41%
5304.02	Mudbrook	173	61,717	1.60%	1.60%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.60%	1.59%	1.59%
5305.01	Mudbrook	989	52,189	1.78%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%	1.77%
5305.02	Mudbrook	297	66,541	1.78%	1.78%	1.78%	1.77%	1.77%	1.77%	1.77%	1.78%	1.78%	1.78%	1.78%	1.77%
5306.03	Mudbrook	1,393	51,597	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%
5306.04	Mudbrook	834	81,099	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%
5306.05	Mudbrook	86	88,632	1.25%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%
5307	Mudbrook	1,040	100,058	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%	1.16%
5308	Mudbrook	1,780	71,076	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%	1.17%
5309.01	Tallmadge	1,865	39,157	1.78%	1.77%	1.77%	1.77%	1.76%	1.76%	1.76%	1.77%	1.77%	1.77%	1.77%	1.76%
5309.02	Tallmadge	1,448	54,483	1.37%	1.37%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.37%	1.36%	1.36%
5309.03	Tallmadge	501	70,608	0.86%	0.86%	0.86%	0.86%	0.86%	0.85%	0.86%	0.86%	0.86%	0.86%	0.86%	0.86%
5310.01	Retail	977	49,346	1.80%	1.81%	1.81%	1.82%	1.82%	1.82%	1.82%	1.83%	1.83%	1.83%	1.83%	1.84%
5310.02	Springfield	1,508	45,759	1.97%	1.97%	1.97%	1.97%	1.96%	1.96%	1.96%	1.97%	1.97%	1.97%	1.97%	1.96%
5311.01	Lakemore	776	44,928	1.69%	1.67%	1.67%	1.66%	1.65%	1.65%	1.65%	1.66%	1.67%	1.67%	1.67%	1.65%
5311.02	Lakemore	122	59,473	1.32%	1.32%	1.31%	1.30%	1.30%	1.30%	1.30%	1.30%	1.31%	1.31%	1.31%	1.30%
5311.03	Springfield	0	58,822	1.57%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%
5318.01	Retail	574	49,824	3.05%	3.06%	3.06%	3.07%	3.08%	3.08%	3.08%	3.08%	3.08%	3.09%	3.09%	3.10%
5318.02	Retail	641	52,357	2.24%	2.25%	2.26%	2.26%	2.27%	2.27%	2.27%	2.27%	2.27%	2.27%	2.28%	2.28%
5322.02	Retail	2,820	66,926	1.56%	1.57%	1.57%	1.58%	1.58%	1.58%	1.58%	1.58%	1.58%	1.58%	1.59%	1.59%
5323.01	Montrose	173	107,716	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%
5323.02	Retail	246	89,096	1.41%	1.41%	1.42%	1.42%	1.42%	1.43%	1.43%	1.43%	1.43%	1.43%	1.43%	1.43%
5326	Mudbrook	1	78,143	1.45%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%	1.44%
5329.01	Mudbrook	131	75,083	1.10%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
5329.02	Mudbrook	3,046	62,751	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%
5330	Retail	0	50,086	2.18%	2.19%	2.19%	2.20%	2.20%	2.21%	2.21%	2.21%	2.21%	2.21%	2.21%	2.22%
5334	Retail	405	57,813	2.15%	2.16%	2.16%	2.17%	2.17%	2.17%	2.18%	2.18%	2.18%	2.18%	2.18%	2.19%
5335.01	Montrose	2,376	99,151	0.94%	0.94%	0.94%	0.94%	0.94%	0.93%	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%
5335.02	Retail	56	83,130	1.45%	1.46%	1.46%	1.47%	1.47%	1.47%	1.47%	1.47%	1.47%	1.47%	1.48%	1.48%
6021	Retail	53	58,979	1.98%	1.99%	1.99%	2.00%	2.00%	2.00%	2.01%	2.01%	2.01%	2.01%	2.01%	2.02%
Total		**121,310**	**$43,933.75**	**3.72%**	**3.73%**	**3.74%**	**3.74%**	**3.75%**	**3.75%**	**3.75%**	**3.75%**	**3.75%**	**3.76%**	**3.76%**	**3.77%**