



Toledo Metropolitan Area Council of Governments

Toledo, Ohio

**Regional Water Study
Update Technical Report
May 2012**

**MALCOLM
PIRNIE**



ARCADIS

The Water Division of ARCADIS

Imagine the result



The Water Division of ARCADIS

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Mr. Anthony L. Reams
President of TMACOG
300 Martin Luther King Jr. Drive
Toledo, OH 43604

WATER RESOURCES

Subject:
Regional Water Study Update

Date:
February 28, 2012

Dear Mr. Reams:

ARCADIS is pleased to submit this Technical Report which updates the original 2000 Regional Water Study and includes new approaches of developing a Regional Water System to serve customers in Toledo and surrounding communities.

Contact:
Kurt Smith

Phone:
419.213.1644

Information contained in this report is organized as follows:

Email:
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1. **Executive Summary** - A brief summary of the information compiled in the Study.
2. **Scope of District** - Various figures and tables show proposed existing and future service areas and estimates existing and future water demands.
3. **Inventory and Assets** - Reviews valuation basis and summarizes replacement costs and current values of each community's water system.
4. **Existing Water Rates & Agreements** - Summarizes existing water agreements and rates for each community.
5. **Cost of Water & New Approaches to a Regional Water System** - Summarizes each community's existing cost of water and projects the cost of water for a regional water authority under several types of approaches.

Our ref:
TO000508.R001

Imagine the result

In closing, we would like to express our appreciation to TMACOG and all of the community members of the Advisory, Technical, Policy and Legal Committees in their willing cooperation and assistance during the preparation of this study. We realize our responsibility in this effort and offer our assistance in the further development of a Regional Water System.

Sincerely,

ARCADIS U.S., Inc.



Kurt A. Smith, PE
Project Manager



Robert C. Stevenson
Water Resources Manager



Kurt A. Smith, PE
Project Manager



Robert C. Stevenson
Water Resources Manager

Regional Water Study Update

Technical Report

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City of Toledo

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1. Executive Summary

1.1 Mission Statement

This Executive Summary presents a broad overview of the technical aspects of the existing regional water supply and provides various new options developed by the Technical Subcommittee since the release of the last Regional Water Study, January 2000. The mission statement and primary task developed by the Technical Subcommittee as part of this study is *"To provide a reliable regional water system to the greater region in a cost effective manner that will properly address present and future regulatory requirements."*

1.2 Objective

The objective of this study is to develop and provide potential approaches of the formation of a regional water district under an ORC 6119 structure by including existing water systems located in Fulton, Lucas, Monroe and Wood Counties as part of the regional water system. To accomplish this objective, the following scope of work has been performed:

- Identified potential regional members (Scope of District) and water demands.
- Inventory and asset valuations of existing community's water systems.
- Summarized existing community's water rates and agreements.
- Summarized the cost of water.
- Generated purchase and guaranteed revenue stream values of the Toledo water system.
- Projected the cost of water based on regional water system approaches.

1.3 Scope of District

The existing systems that are included in this study provide water service to customers located in Fulton County, Lucas County, and Wood County in Ohio, Monroe County in Michigan and the communities of Bowling Green, Maumee, Northwood, Perrysburg,

Rossford, Sylvania, Toledo, Waterville, and Whitehouse all in Ohio. Maps showing the trunk water mains in these water systems are included in Section 2.

At the present time, two water treatment plants (Toledo 150 MGD and Bowling Green 10.6 MGD) serve the study area. These plants delivered a combined total of 21.8 billion gallons (2,909,888 MCF) to 178,000 residential and commercial customers in 2010.

The existing Toledo raw water intake supply and water treatment plant has adequate capacity to service the year 2035 projected water demand for all existing satellite customers. To meet future demands in service areas presently supplied from Bowling Green's water system, an expansion of Bowling Green's WTP would be required to meet their year 2035 projected water demand.

1.4 Inventory and Assets

An inventory was developed for each water system comprised of trunk water mains 16-inch and larger, pumping stations, storage tanks, water treatment plants and local service water mains. With the inventory, a replacement cost and current value based on age and condition of the asset was developed.

The replacement cost of all water systems combined is estimated to be approximately \$2,247,300,000. The current value factoring in the age and condition of the assets is estimated to be approximately \$1,669,100,000. A detailed breakdown by water system of the replacement cost and current value is shown in Appendix A.

Capital improvement plans (CIP's) for the City of Toledo regional water supply system for 2011 through 2014 were compiled and total approximately \$89,100,000 (it should be noted that this CIP total does not include any satellite customers or Bowling Green's CIP's). A detailed breakdown of these capital improvements are shown in Appendix A. Of special note, subsequent to the compilation of these improvements the City is in the process of completing the Collins Park WTP 20-Year Master Plan and Needs Assessment, that further identifies additional major infrastructure improvements at the WTP facilities.

1.5 Existing Water Rates and Agreements

The average water rate based on 1000 cubic feet per month (typical avg. household usage of 3-4 persons) for the State of Ohio in 2009 was \$38.89. A summary showing

existing January 2011 water rates for all the water systems is shown on Figure 1-1 at the end of this Executive Summary. This summary also shows the breakdown of individual water costs by each water system. Water rates range from a low of \$12.23 per 1000 cubic feet for water customers located inside the City of Toledo to a high of \$53.79 for residential customers located in Fulton County.

Long-term water agreements for water systems purchasing water from the City of Toledo presently extend from between March 2016 to May 2031. A summary showing water agreement expiration dates may be seen on Figure 1-2 at the end of this Executive Summary.

Presently, Toledo agreement surcharges exist that range from 40% to 75% of the base charge of water. The formation of a regional water system could eliminate the use of water surcharges. However, in exchange for the elimination of the surcharge the oldest and largest water system (i.e. - Toledo) may be justified in recovering from the newer customers (i.e. - outlying communities) a portion of its capital investment (i.e. - major infrastructure) that has been paid for by City customers long ago prior to connection of the newer outside customer.

1.6 Cost of Water and Approaches to a Regional Water System

A combined total of approximately \$37,400,000 of water revenue was generated in 2010 for the Toledo regional water supply system. Of this total revenue, approximately \$18,600,000 was generated from the satellite water systems served by the Toledo regional water system.

Based on the Toledo regional water supply system 2011 Capital Improvements Plan, \$89,100,000 of proposed capital improvement projects have been projected over the next four years. Additional annual debt service is estimated to be \$2,330,000/year in 2011 and increase to \$7,820,000/year in 2014. It should be noted that this additional debt service does not include additional major improvements recently identified in the Collins Park WTP 20 Year Master Plan Needs Assessment and that no allowance for bond reserves has been included. Existing annual debt service for this same period totals approximately \$9,200,000.

Initial operation and maintenance costs have been estimated to be approximately \$28,300,000/year for the new 6119 regional water system (this does not represent O&M costs of other communities such as Lucas County, should they decide to be a part of the ORC 6119 regional water district). Note that the benefits of economies of

scale (i.e. - consolidation of water systems personnel & operations such as with Lucas County) of a regional water system have not been considered in projecting these operation and maintenance costs. A subsequent evaluation to explore possible savings will be necessary.

With the creation of a regional water system, surcharges as they exist today could be eliminated. However, as mentioned earlier the largest and oldest water system (i.e. - Toledo) may be justified in recovering from the outside (newer) customers a portion of its capital investment (i.e. - major infrastructure) that have been paid for by City customers long ago prior to connection of the newer outside customer. This recovery of capital investment could be structured in a form of a purchase or guaranteed revenue stream. Water demand projections indicate that by year 2035, roughly 55% of the water used will be from outside City of Toledo customers (Current outside usage is 39%). Based on this future projected usage, 55% of the City of Toledo's major infrastructure that provides service to Toledo and the surrounding communities is valued at approximately \$314,900,000. If an ORC 6119 regional water district were to purchase the Toledo water system for this value from Toledo, the annual debt service to retire this expense is estimated to be approximately \$21,100,000/year. As an alternate means of purchasing the Toledo Water System, a guaranteed revenue stream for the City of Toledo has also been explored as a means to make rates more affordable.

Several approaches as to the structure of a regional water system were considered and are listed as follows:

Table 1-1	
ORC 6119 Regional Water System Approaches	
Option 1 – Purchase Toledo Water System	
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo selling their water system to the district. 	
<ul style="list-style-type: none"> • Each community will be a member of the district and be charged respective portion of the debt retirement of 55% of projected capacity needs (Based on projected 2035 water demand). 	
<ul style="list-style-type: none"> • The Regional Water District purchases 55% of Toledo System Capacity for \$314,900,000. 	
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates. 	
<ul style="list-style-type: none"> • Separate rate structure for Toledo customers will be created for their respective portion of the Water District. 	
<ul style="list-style-type: none"> • Cost of Water from ORC 6119 calculated in a base rate/1000 CF. <ul style="list-style-type: none"> - Debt to buy water system (except Toledo customers). - O& M, R, Existing & Future Debt/major infrastructure improvements. - Capacity Buy-In - Each community to buy % of regional water system capacity based on projected 2035 water demand. Remaining capacity above 2035 water demand to be spread proportionately between all communities including Toledo. 	
<ul style="list-style-type: none"> • Bowling Green not included in water district. 	
Option A1 - \$10 Million Guaranteed Revenue Stream	
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County. 	
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost. 	
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$10 million per year. <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Water rates in all communities including City of Toledo would fund the revenue stream. 	
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates. 	
<ul style="list-style-type: none"> • Existing rate structures are retained (including water surcharge provisions). 	
<ul style="list-style-type: none"> • Existing JEDD/JEDZ agreements would be terminated for district member jurisdictions. 	
<ul style="list-style-type: none"> • Bowling Green not included in water district. 	

Option A1 - \$10 Million Guaranteed Revenue Stream (With Equal Rate)
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost.
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$10 million per year. <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Water rates in all communities including City of Toledo would fund the revenue stream.
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates.
<ul style="list-style-type: none"> • New flat rate structure is applied equally to all users (including Toledo customers).
<ul style="list-style-type: none"> • Existing JEDD/JEDZ agreements would be terminated for district member jurisdictions.
<ul style="list-style-type: none"> • Bowling Green not included in water district.
Option A2 - \$7.2 Million Guaranteed Revenue Stream
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost.
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$7.2 million per year (Lucas County only) <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Only water rates in Lucas County and City of Toledo would fund the revenue stream.
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates.
<ul style="list-style-type: none"> • Existing rate structures are retained.
<ul style="list-style-type: none"> • Existing terms and conditions of water contracts with satellite communities would remain in place including surcharges and JEDD/JEDZ agreements.
<ul style="list-style-type: none"> • Bowling Green not included in water district.

These options and their associated projected water rates are reviewed in detail in Figures 1-2 thru 1-6 at the end of this Executive Summary. It should be noted that subsequent rate increases will be required for 2012 thru 2014 and beyond to cover additional capital improvement projects and general projected inflationary increases.

The communities will need to carefully consider the positives and negatives of the regional options presented. These options provide information that will hopefully permit all entities to determine whether a regional water system concept is truly desirable. Social and economic factors need to be seriously factored into the decision. Provided this study results in a continuation of dialog between communities regarding a regional system, some next steps would involve addressing issues regarding existing debt



Regional Water Study Update

Technical Report

service payments; details regarding rate structure and revenue stream; how to handle existing replacement reserve funds; retaining of legal counsel and financial consultants to assist with formation of a regional water authority and development of a step-by-step action plan to coordinate formation of O&M and billing departments.

Regional Water Study
Consumer Water Cost Summary 2011

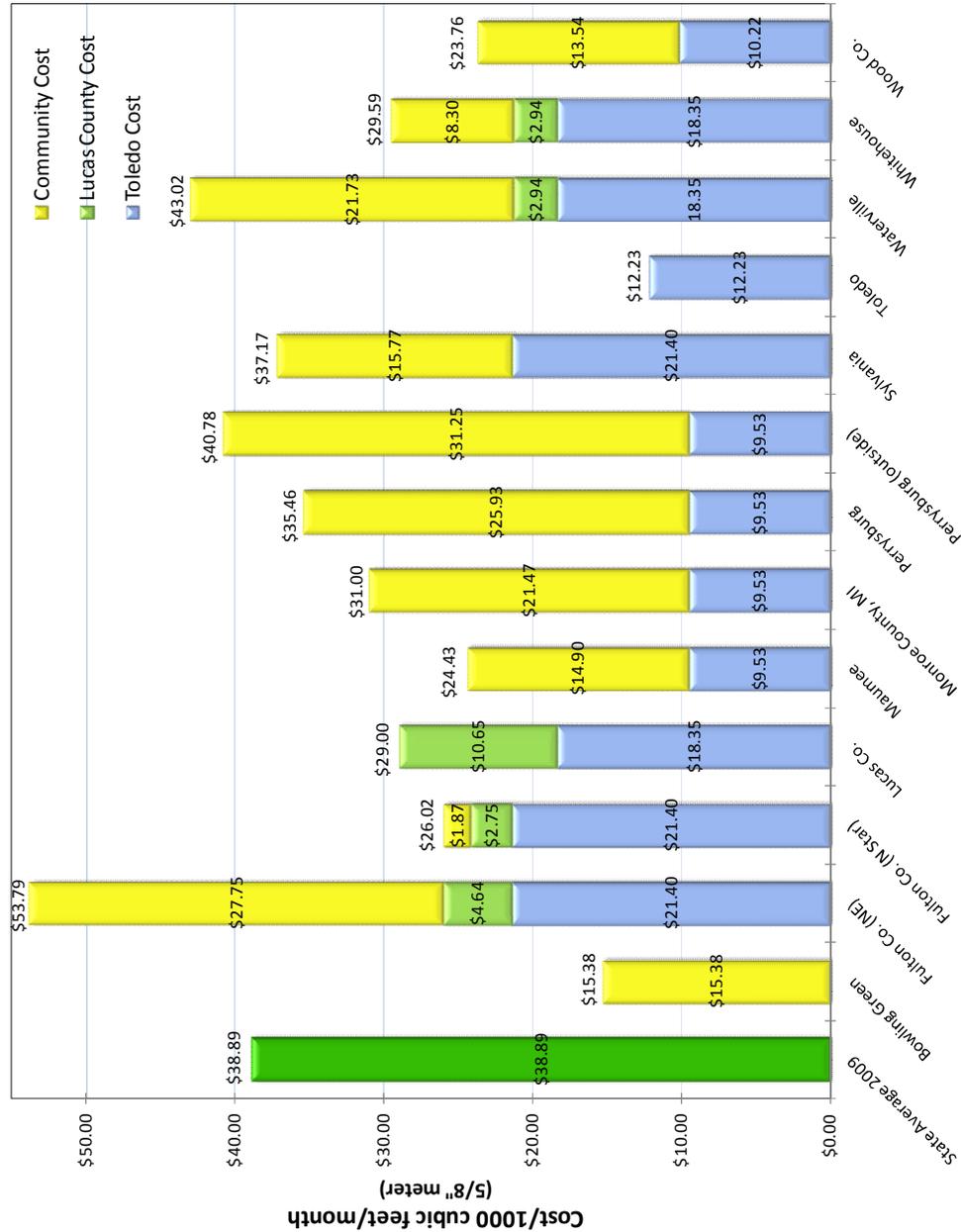


Figure 1-1



Regional Water Study	PROJECTED COST OF WATER AND EXISTING WATER AGREEMENT SUMMARY					
	COST/1000 CF					
Existing Jan 2011 Rates	Option 1	Option A1	Option A1	Equal Rate Option A1	Option A2	Agreement Expiration Date

State Average 2009	\$38.89	\$38.89	\$38.89	\$38.89	\$38.89	\$38.89
Bowling Green*	\$15.38	\$15.38	\$15.38	\$15.38	\$15.38	n/a
Fulton County (NE)	\$53.79	\$64.79	\$57.48	\$49.54	\$53.79	March 14, 2016
Fulton County (N Star)	\$26.02	\$37.02	\$29.71	\$21.77	\$26.02	March 14, 2016
Lucas County	\$29.00	\$43.05	\$32.68	\$27.80	\$34.00	October 10, 2024
Maumee	\$24.43	\$47.30	\$28.12	\$32.05	\$24.43	February 1, 2026
Monroe County, MI	\$31.00	\$53.87	\$34.69	\$38.62	\$31.00	May 26, 2031
Perrysburg	\$35.46	\$58.33	\$39.15	\$43.08	\$35.46	December 10, 2027
Sylvania	\$37.17	\$48.17	\$40.86	\$32.92	\$37.17	July 23, 2028
Toledo	\$12.23	\$15.53	\$15.91	\$17.15	\$15.51	n/a
Waterville	\$43.02	\$57.07	\$46.70	\$41.82	\$43.02	October 10, 2024
Whitehouse	\$29.59	\$43.64	\$33.27	\$28.39	\$29.59	October 10, 2024
Wood County	\$23.76	\$45.94	\$27.44	\$30.69	\$23.76	October 1, 2024

*Bowling Green has its own water treatment plant and complete water system and chose not to participate in the Regional Water District options

Note - Other major infrastructure needs beyond 2011 are not included.

Figure I - 2

**6119 Regional Water System - \$10M Revenue Stream (Option A1)
Consumer Water Cost Summary Comparison**

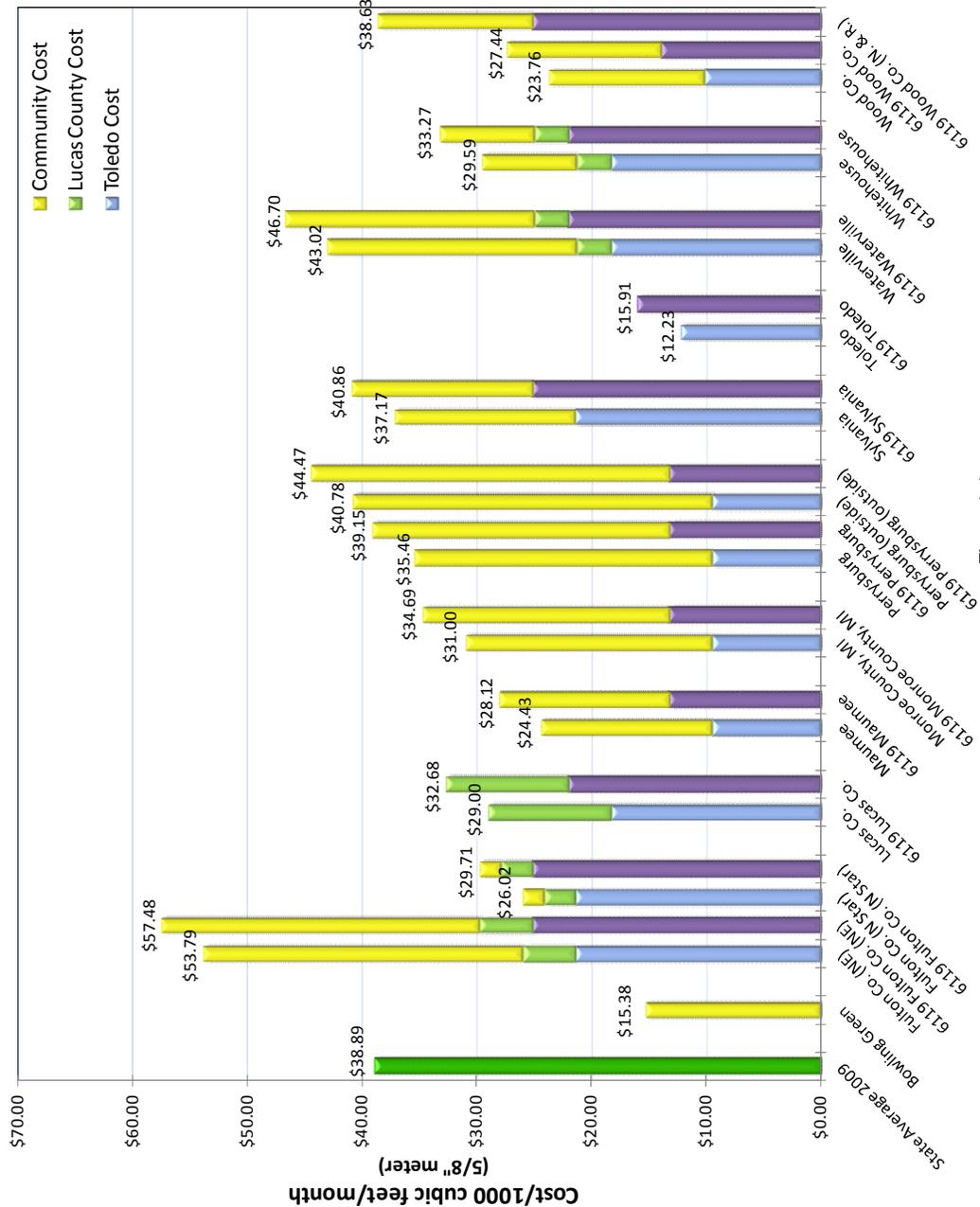


Figure 1-4

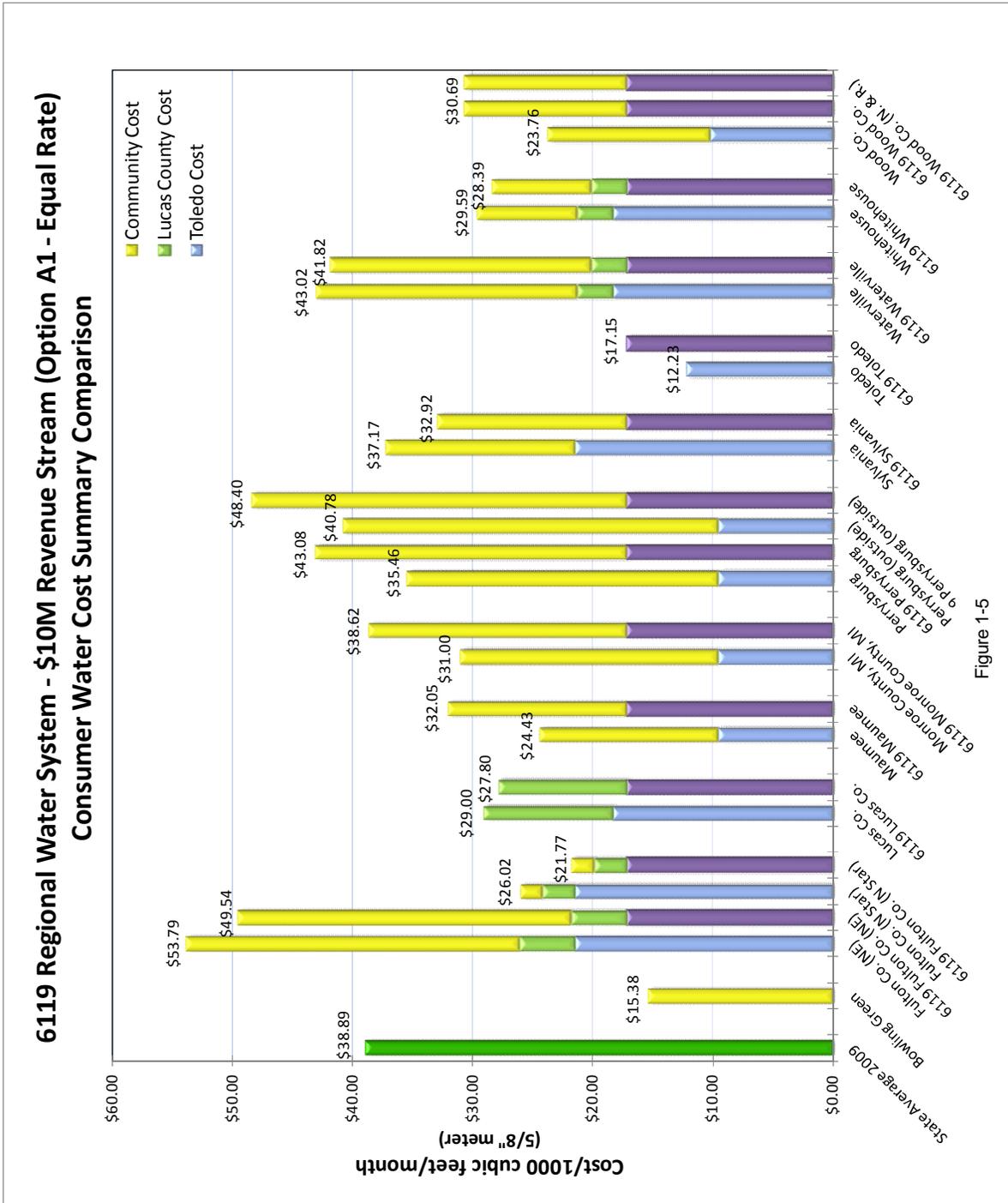


Figure 1-5

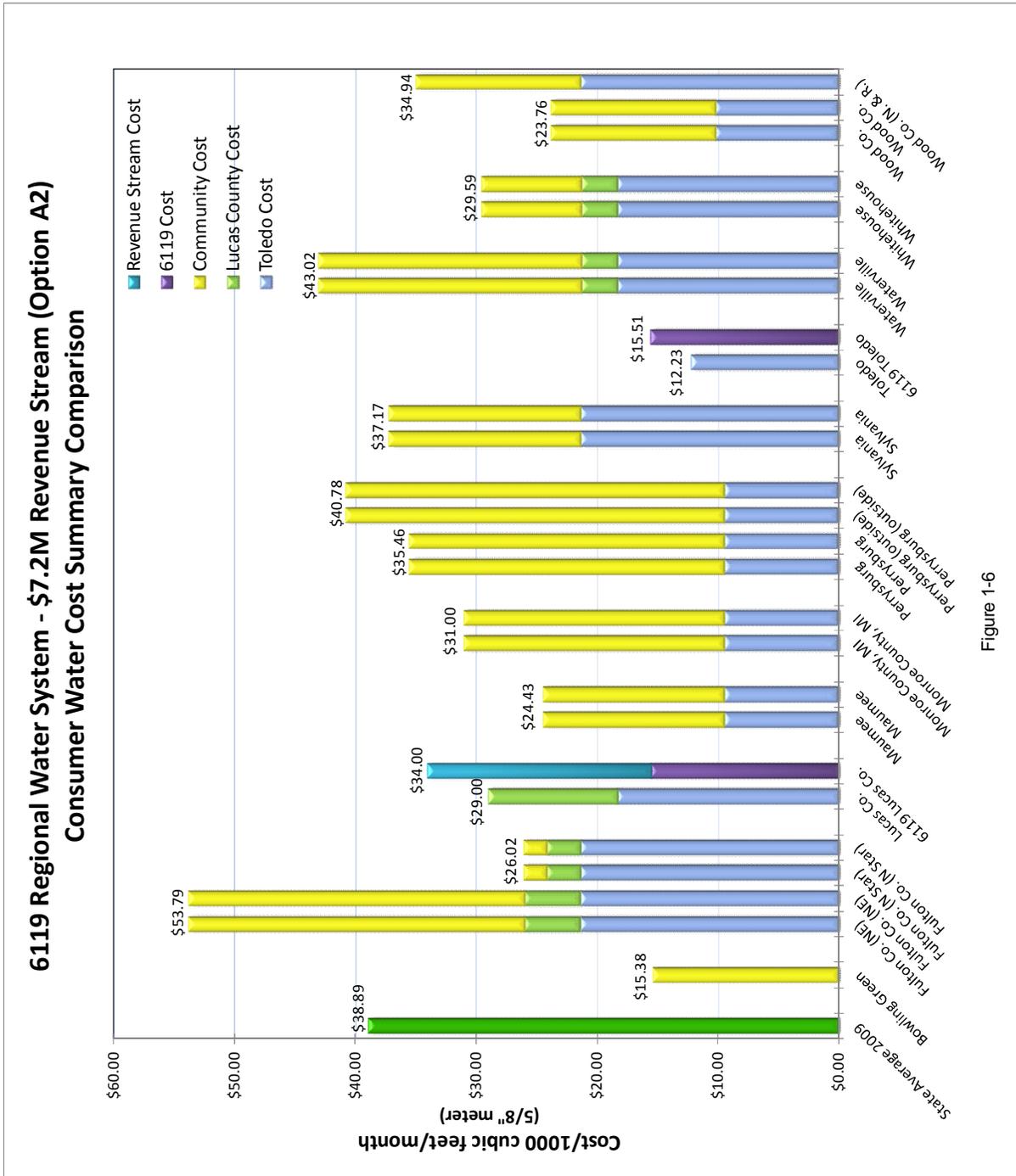


Figure 1-9

2. Scope of District

2.1 Service Areas

The existing systems that are included in this study provide water service to customers located in Fulton County, Lucas County, and Wood County in Ohio, Monroe County in Michigan and the municipalities of Bowling Green, Maumee, Northwood, Perrysburg, Rossford, Sylvania, Toledo, Waterville and Whitehouse all in Ohio. As a part of this study maps were developed showing the trunk water mains 16" and larger in the existing service areas. Figure 2-1 shows these trunk mains for all the existing systems (with exception of Bowling Green) and Figure 2-2 shows these trunk mains owned by the City of Toledo.

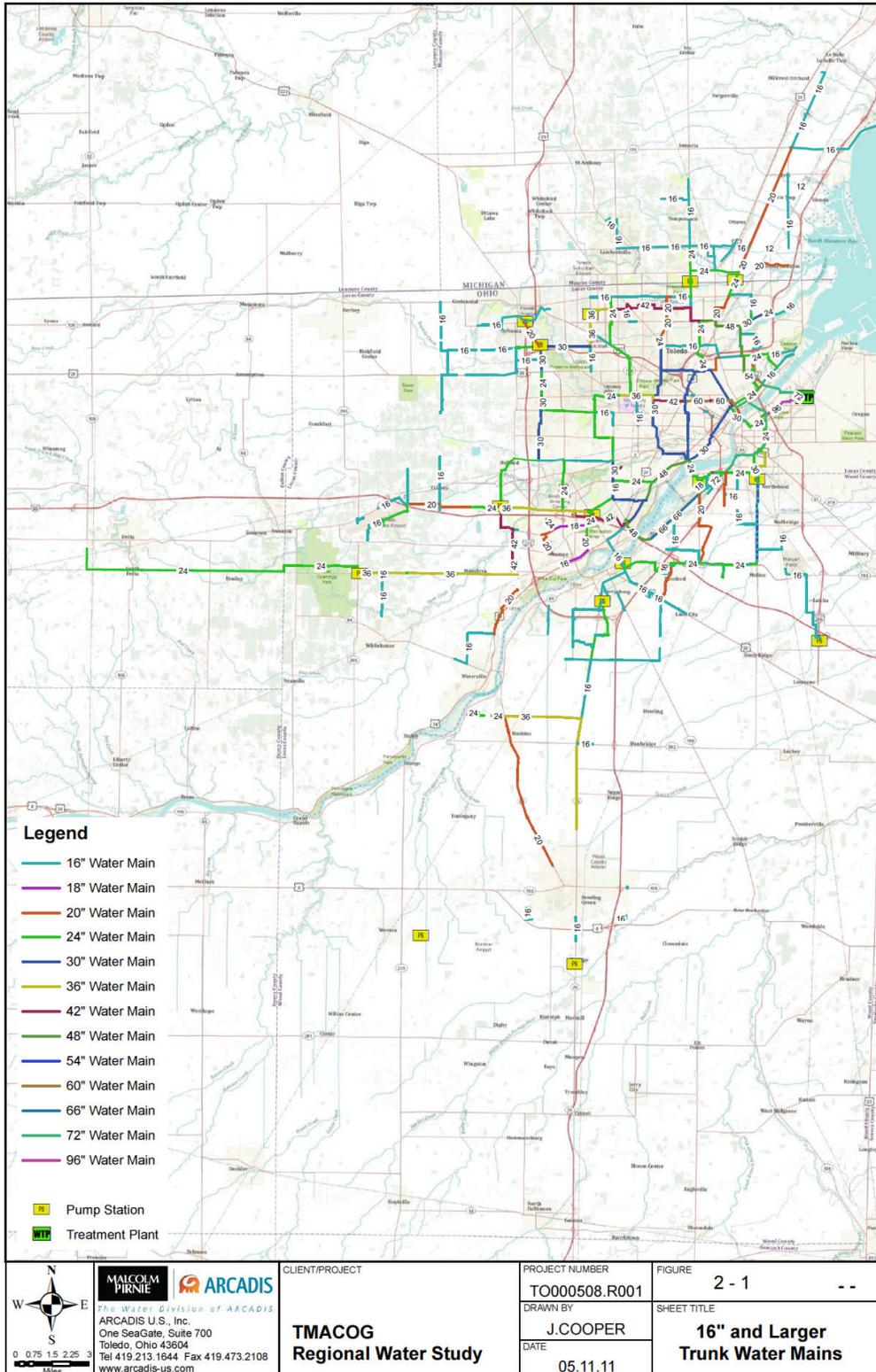
At the present time, two water treatment plants serve the study area. These water treatment plants are Toledo rated at 150 MGD and Bowling Green at 10.6 MGD capacity.

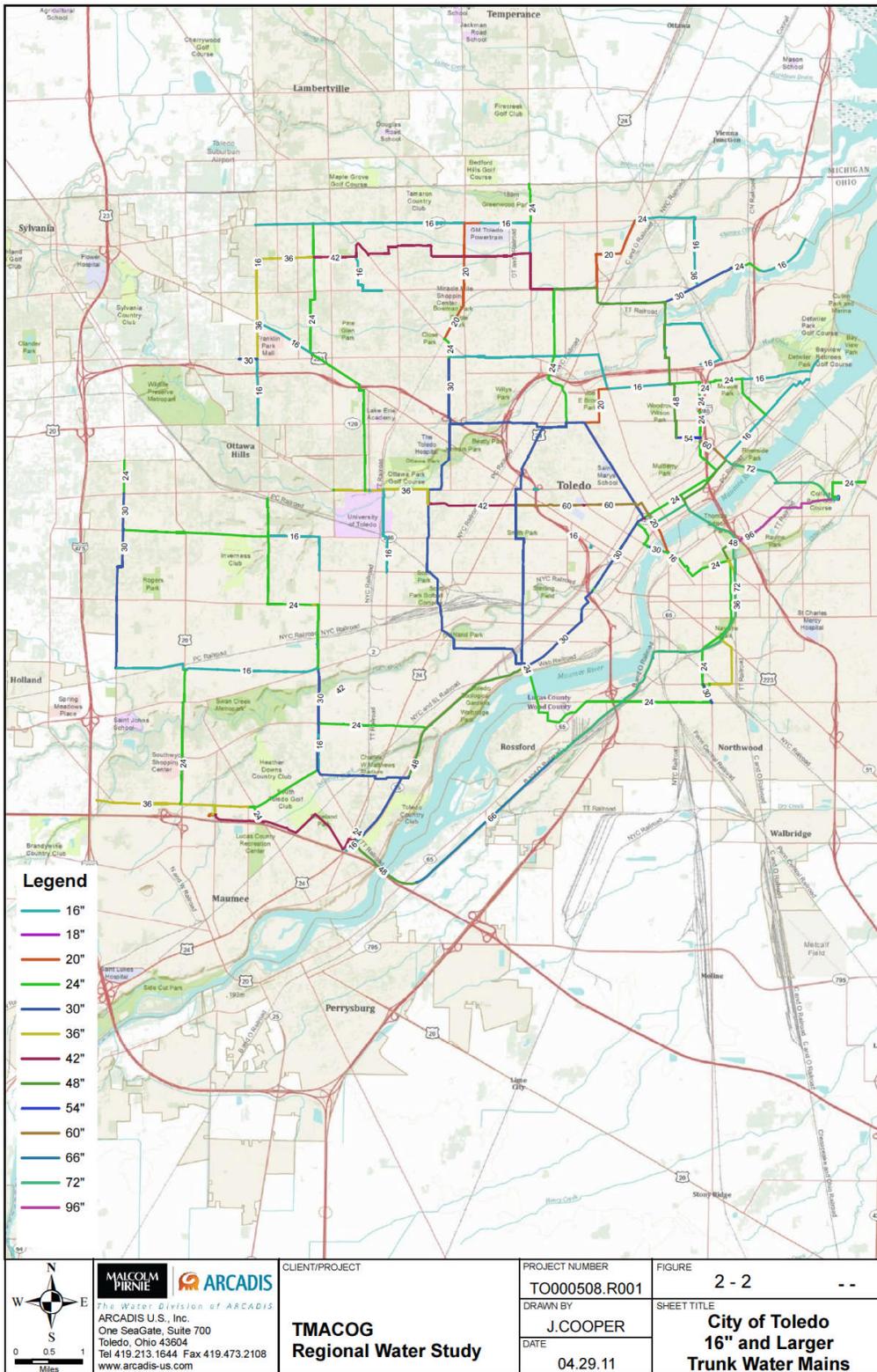
2.2 Existing and Projected Water Demands

A total of 21.8 billion gallons (2,909,888 MCF) of water was delivered to 178,000 residential and commercial customers in 2010. A summary of existing water billing volumes and projected 2035 water billing volumes are shown on Figure 2-3. Additional projections regarding water billing demand and water system demand to the year 2035 are shown on Figure 2-4.

Existing water demand (including unaccounted for water) for all the water systems' total approximately 137 MGD maximum day. The year 2035 maximum day demands are projected to be 145 MGD.

The existing Toledo raw water intake and water treatment plant has adequate capacity to supply water to its existing service areas through the year 2035 and beyond. To meet future demands in service areas presently supplied from Bowling Green's water system, an expansion would be required to meet the year 2035 projected water demand.





Regional Water Study	2010 EXISTING WATER BILLING VOLUMES			
	Volume /1000 CF/YR.	Average Day MGD	% of Total Average Day	% of Total Average Day**
Bowling Green*	194,732	4.0	6.7%	
Fulton County	71,919	1.5	2.5%	2.6%
Lucas County	389,909	8.0	13.4%	14.4%
Maumee	99,539	2.0	3.4%	3.7%
Monroe County, MI	142,490	2.9	4.9%	5.2%
Perrysburg	132,250	2.7	4.5%	4.9%
Sylvania	97,500	2.0	3.4%	3.6%
Toledo	1,604,003	32.9	55.1%	59.1%
Waverille	22,047	0.5	0.8%	0.8%
Whitehouse	25,961	0.5	0.9%	1.0%
Wood County (Toledo)	93,653	1.9	3.2%	3.4%
Wood Co.(Northwood/Rossford)	35,886	0.7	1.2%	1.3%
TOTAL	2,909,888	59.6	100.0%	100.0%
TOTAL**	2,715,157	55.6	93.3%	

*Not Served by Toledo WTP

**Bowling Green excluded from totals.

Regional Water Study	PROJECTED 2035 WATER BILLING VOLUMES			
	Volume /1000 CF/YR.	Average Day MGD	% of Total Average Day	% of Total Average Day**
Bowling Green*	303,781	6.2	9.3%	
Fulton County	239,730	4.9	7.3%	8.1%
Lucas County	561,151	11.5	17.2%	19.0%
Maumee	84,714	1.7	2.6%	2.9%
Monroe County, MI	254,447	5.2	7.8%	8.6%
Perrysburg	205,836	4.2	6.3%	7.0%
Sylvania	97,500	2.0	3.0%	3.3%
Toledo	1,267,656	26.0	38.8%	42.8%
Waverille	25,438	0.5	0.8%	0.9%
Whitehouse	31,332	0.6	1.0%	1.1%
Wood County	193,342	4.0	5.9%	6.5%
TOTAL	3,264,927	66.9	100.0%	100.0%
TOTAL**		60.7	90.7%	

*Not Served by Toledo WTP

**Bowling Green excluded from totals.

Figure 2 - 3

Regional Water Study	EXISTING WATER SYSTEM DEMANDS		
	Average Day MGD	Maximum Day MGD	% of Total Maximum Day**
Bowling Green*	5.0	7.5	
Fulton County	1.5	1.8	1.4%
Lucas County	10.8	18.6	14.4%
Maumee	2.4	4.7	3.6%
Monroe County, MI	3.4	7.4	5.7%
Perrysburg	2.6	4.8	3.7%
Sylvania	2.1	4.9	3.8%
Toledo	53.7	79.3	61.4%
Waterville	0.5	0.8	0.6%
Whitehouse	0.6	1.0	0.8%
Wood County	3.4	6.0	4.7%
TOTAL	85.8	136.7	100.0%
TOTAL**	80.8	129.2	

*Not Served by Toledo WTP

**Bowling Green excluded from totals.

Regional Water Study	PROJECTED 2035 WATER SYSTEM DEMANDS		
	Average Day MGD	Maximum Day MGD	% of Total Maximum Day**
Bowling Green*	7.8	11.7	
Fulton County	5.0	7.0	5.3%
Lucas County	15.5	27.9	20.9%
Maumee	2.0	4.0	3.0%
Monroe County, MI	6.0	11.4	8.6%
Perrysburg	4.0	7.2	5.4%
Sylvania	2.1	4.9	3.6%
Toledo	42.4	59.8	44.9%
Waterville	0.6	0.9	0.7%
Whitehouse	0.7	1.2	0.9%
Wood County	5.0	9.0	6.8%
TOTAL	91.1	145.0	100.0%
TOTAL**	83.3	133.3	

*Not Served by Toledo WTP

**Bowling Green excluded from totals.

Figure 2 - 4

3. Inventory and Assets

3.1 Valuation Basis

An inventory was developed for each water system comprised of trunk water mains 16-inch and larger, pumping stations, ground and elevated storage tanks, water treatment plants, raw water intakes and local service water mains.

With the inventory, total project costs were generated for replacement cost and current values determined based on the age and current condition of the asset. In instances where actual historical construction costs were available, the ENR (Engineering News Record) construction cost index was used as a guide to confirm the replacement cost basis used. The value of the local service water mains was based on the total lineal footage of mains under 16-inch in each respective water. A detailed summary showing the unit costs used for individual assets is located in Appendix A.

3.2 Inventory and Assets

The replacement cost of all water systems combined is estimated to be approximately \$2,247,300,000. The current value, considering the useful life of the assets, is estimated to be approximately \$1,669,100,000. Of the estimated current value, 56.5% or \$942,650,000 is within Toledo, 13.5% or \$225,630,000 within Lucas County and 7.6% or \$127,250,000 within Wood County. The current values of the remaining water systems are shown in Figure 3-1 Inventory and Assets Summary at the end of this chapter. Figure 3-2 shows further detail of water system assets by water mains, pumping stations, elevated and ground storage tanks and water treatment plants for each water system.

Detailed listings of each water system's inventory and assets are located in Appendix A.

3.3 Capital Improvement Plans

Capital improvement plans for the City of Toledo regional water supply system (not including satellite communities CIP's) were compiled from 2011 through 2014 and total \$89,107,000. These capital improvement projects were further categorized to identify projects that primarily benefited 1) All Users in the amount of \$52,800,000, 2) Satellite Communities in the amount of \$22,800,000 and 3) City of Toledo Local Users in the

amount of \$13,500,000. A detailed listing of these improvements is shown on Figure 3-3 at the end of this chapter.

It should be noted that subsequent to compiling these improvements, there have been additional major improvements recently identified in the Collins Park WTP 20-Year Master Plan Needs Assessment that need to be considered. These improvements would benefit All Users.

Regional Water Study	INVENTORY & ASSETS SUMMARY (BY COMMUNITY)			
		Replacement Cost	Current Value	% of Total Current Value
Bowling Green		141,976,317	106,674,959	6.4%
Fulton County		26,775,604	26,775,604	1.6%
Lucas County		263,189,128	225,625,295	13.5%
Maumee		44,968,064	34,326,908	2.1%
Monroe County, MI		108,356,048	84,397,265	5.1%
Perrysburg		68,103,324	60,625,310	3.6%
Sylvania		49,957,744	35,982,921	2.2%
Toledo		1,362,122,999	942,645,157	56.5%
Waterville		16,996,125	12,734,513	0.8%
Whitehouse		16,011,739	12,054,001	0.7%
Wood County		148,868,575	127,248,721	7.6%
TOTAL		\$2,247,325,666	\$1,669,090,654	100.0%

Figure 3 - 1

Regional Water Study	INVENTORY & ASSETS SUMMARY (BY DESCRIPTION)			
	Length	Capacity	Replacement Cost	Current Value
Water Mains, Raw Water Mains & Intakes				
Bowling Green	602,397		\$77,883,979	\$54,857,185
Fulton County	236,750		19,549,354	19,549,354
Lucas County	2,284,185		240,619,753	204,705,451
Maumee	372,615		35,336,189	26,360,033
Monroe County, MI	851,760		91,406,048	69,314,765
Perrysburg	541,669		55,982,387	50,589,560
Sylvania	438,554		41,173,369	28,821,358
Toledo	6,284,557		848,710,499	579,108,813
Wartville	166,200		14,958,000	11,218,500
Whitehouse	153,000		13,909,864	10,381,876
Wood County	2,038,393		136,715,763	117,287,746
Subtotal	13,970,080	Feet	\$1,576,245,203	\$1,172,194,642
Pumping Stations				
Bowling Green		38.2	\$9,801,000	\$7,947,900
Fulton County		8.6	4,650,000	4,650,000
Lucas County		23.6	12,856,875	11,478,750
Maumee		5.5	3,196,875	2,717,344
Monroe County, MI		17.0	8,025,000	7,473,750
Perrysburg		9.0	5,456,250	4,201,875
Sylvania		7.0	3,675,000	2,572,500
Toledo		408.1	106,837,500	74,900,719
Wartville		0.0	30,000	30,000
Whitehouse		1.1	763,125	534,188
Wood County		17.1	8,248,500	6,628,725
Subtotal		MGD	\$163,540,125	\$123,135,750
Elevated & Ground Storage Tanks				
Bowling Green		6.00	\$10,183,125	\$7,042,875
Fulton County		1.25	2,576,250	2,576,250
Lucas County		6.50	9,712,500	9,441,094
Maumee		4.00	6,435,000	5,249,531
Monroe County, MI		6.00	8,925,000	7,608,750
Perrysburg		4.00	6,664,688	5,833,875
Sylvania		3.00	5,109,375	4,589,063
Toledo		78.00	46,575,000	36,635,625
Wartville		0.75	2,008,125	1,486,013
Whitehouse		0.50	1,338,750	1,137,938
Wood County		2.60	3,904,313	3,332,250
Subtotal		MG	\$103,432,125	\$84,933,263
Water Treatment Plants				
Bowling Green		10.6	\$44,108,212	\$36,826,999
Toledo		150	\$360,000,000	\$252,000,000
Subtotal		MGD	\$404,108,212	\$288,826,999
TOTAL			\$2,247,325,666	\$1,669,090,654

Figure 3 - 2

Regional Water Study 6119 Regional Authority	CAPITAL IMPROVEMENT PROJECTS 2011 DOLLARS				
	Total Est. Cost	2011	2012	2013	2014
6119 REGIONAL PROJECTS (ALL USERS)					
Distribution Grid Improvements	4,300,000	1,300,000	2,500,000	500,000	
Steel Main Replacement	3,000,000		1,500,000		1,500,000
Water Manhole Adjustments	450,000	150,000	100,000	100,000	100,000
SAP Software Upgrades	350,000	350,000			
Vehicle Replacement	167,600	112,600		55,000	
Safety/Large Equipment Replacemen	105,000	40,000	25,000	20,000	20,000
Chemical Handling	2,000,000			2,000,000	
SDF Plate Reconditioning	300,000				300,000
Lagoon Improvements	1,500,000				1,500,000
Low Service Security	960,000	960,000			
Basin 7 & 8 Feasibility Study	300,000				300,000
Basins 3 & 4 Flocc Drive Chains	1,000,000	500,000	500,000		
Building Restoration	11,000,000	5,000,000	2,000,000	2,000,000	2,000,000
Chemical Lab Equipment	400,000		200,000		200,000
Elevated Tank Pump 2 Repair	200,000	200,000			
Maintenance Shop Construction	1,500,000	1,500,000			
Municipal Solar Field	1,500,000	1,500,000			
Pipe Gallery Restoration (HS/LS)	250,000				250,000
SDF Expansion Study Eng/Design/Cr	4,200,000		200,000	4,000,000	
Tank Removal - Low Service	55,000		55,000		
Low Service Pump/Motor Replaceme	1,000,000	1,000,000			
Substation Design/Analysis	500,000	500,000			
Chlorination Facility Construction	3,000,000	3,000,000			
LCMSMS System Test Drinking Wtr (200,000				200,000
Refurbish 40 MGD Filter Plant (floc w	500,000		500,000		
Substation Construction	3,000,000		3,000,000		
Pump/Motor/Large Valve/Repair/Reb	3,175,000	925,000	750,000	750,000	750,000
Vehicle /Equip Replace/Capital Outla	1,240,000	490,000	250,000	250,000	250,000
Chemical Lab Instrumentation/Equipr	450,000	200,000		250,000	
Pump 1 Rebuild/VFD Motor	1,000,000	1,000,000			
New Roof - 40 & 80 MGD Plants	3,654,000	3,654,000			
Infrastructure Development Fund	1,520,000	380,000	380,000	380,000	380,000
Sub Total	52,776,600	\$22,761,600	\$11,960,000	\$10,305,000	\$7,750,000
SATELLITE PROJECTS					
Indian/Corey 36" WM & Peak Hr PS	22,800,000	1,000,000	11,000,000	10,800,000	
Sub Total	22,800,000	\$1,000,000	\$11,000,000	\$10,800,000	
CITY OF TOLEDO LOCAL PROJECTS					
Loop Closures and Other Impts.	800,000	200,000	200,000	200,000	200,000
Hydrants	1,300,000	400,000	300,000	300,000	300,000
Local Waterline Replacement Progra	10,340,000	2,840,000	2,500,000	2,500,000	2,500,000
Vehicle Replacement	670,400	450,400	0	220,000	0
Safety/Large Equipment Replacemen	420,000	160,000	100,000	80,000	80,000
Sub Total	13,530,400	\$4,050,400	\$3,100,000	\$3,300,000	\$3,080,000
TOTAL	\$89,107,000	\$27,812,000	\$26,060,000	\$24,405,000	\$10,830,000

Figure 3 - 3

4. Existing Water Rates and Agreements

4.1 Existing Water Rates

4.1.1 Types of Rate Structures

Several types of water rate structures are currently being used by the water systems included in this study.

- A flat rate is charged per cubic feet by Bowling Green, Fulton County, Monroe County, Perrysburg, Sylvania, Waterville, Whitehouse and Wood County.
- A declining block rate (i.e. a declining charge per gallon/cubic foot as the volume of water increases) is utilized by Lucas County, Maumee and Toledo.
- Minimum charges per month or quarter are established and in place by Bowling Green, Fulton County, Lucas County, Maumee, Monroe County, Perrysburg, Toledo, Waterville, Whitehouse and Wood County.

Detailed summary sheets outlining each water system's rate structure are located in Appendix B.

4.1.2 Surcharges

To recover capital cost of infrastructure improvements old and new, surcharges are added by utilities to outside City limit customers. Surcharges that City of Toledo charges range from 40% to 75%, depending upon the specific contract with each water system.

Surcharges can be the most misunderstood portion of the water bill and are sometimes viewed by customers as arbitrary or unsubstantiated. Typically, surcharges are levied by the primary water source supplier and reflect a differential rate between the customer of the older original system and a new customer who does not reside within that community. The new customer receives the benefit of the entire water utility, which has been paid for by past users who have primarily resided within the boundaries of the primary source supplier. Surcharges are also used to provide revenue to support capital improvements that are needed to supply water to outside customers.

One of the overlooked advantages to outside users of surcharge systems is that the primary source supplier cannot arbitrarily raise its rates without also raising the rates of the inside user. While the concept of a surcharge suggests an unfair and capricious charge, the structure used here does have a distinct advantage to outside users in controlling what might be considered political manipulation of water rates.

4.1.3 Water Rate Cost Summary

The average water charges based on 1,000 cubic feet per month of usage (typical average household of three to four persons) for the State of Ohio in 2009 was \$38.89 per 1000 cubic feet. Water rates range from a low of \$12.23 per 1000 cubic feet for water customers located inside the City of Toledo to a high of \$53.79 for residential customers located in Fulton County. A summary showing existing 2011 water rates for all the water systems is shown on Figure 4-1 at the end of this chapter. This summary also shows the breakdown of individual water costs by each system.

4.2 Water Agreements

Major water agreements presently exist between Toledo and Maumee, Monroe County, Perrysburg, Sylvania, Lucas and Wood Counties, and Waterville and Whitehouse and Fulton County through Lucas County.

A summary of most of the major water agreements and their expiration dates are shown on Figure 4-2 at the end of this chapter.

Regional Water Study
Consumer Water Cost Summary 2011

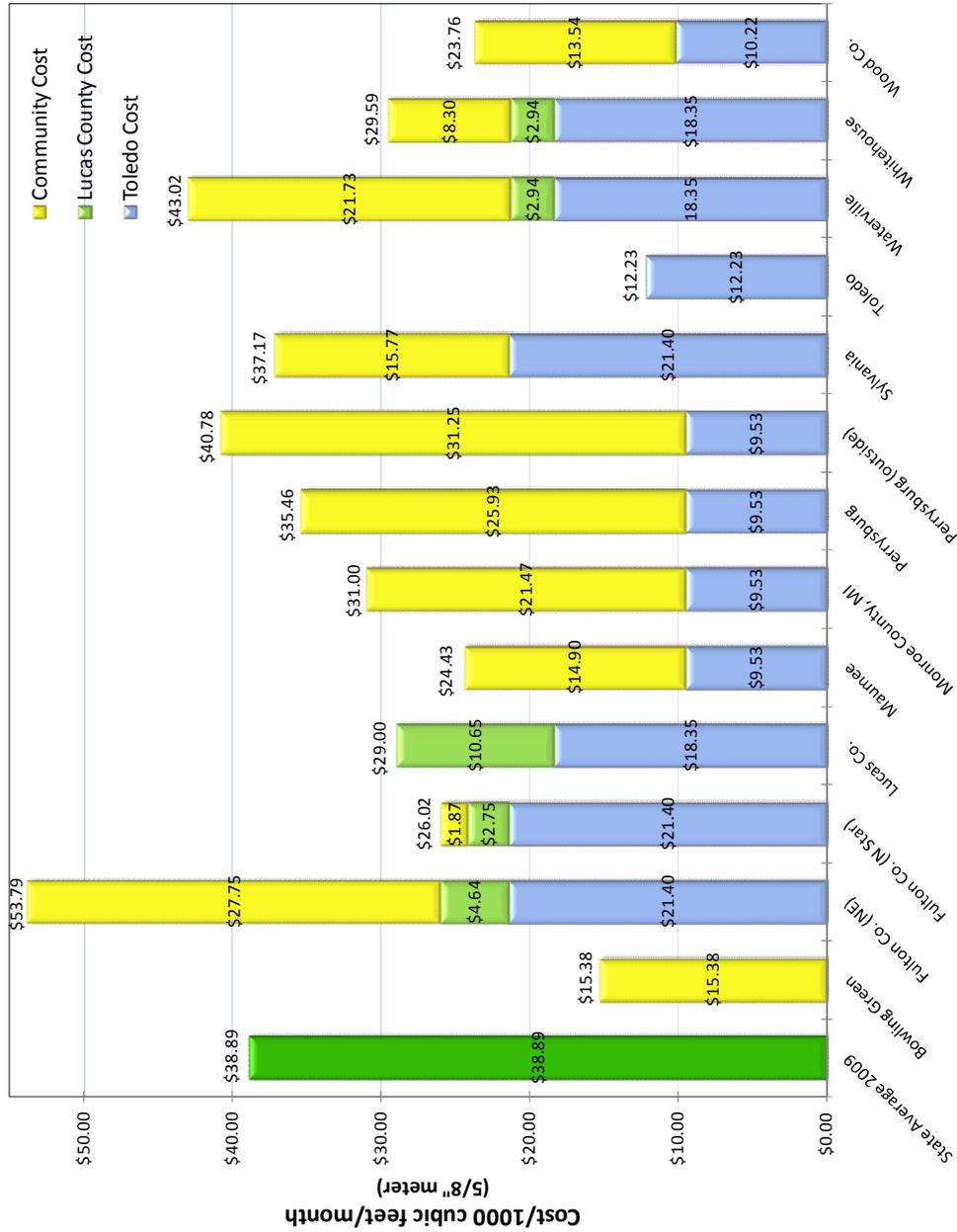


Figure 4-1

Regional Water Study Water Agreement Expiration Dates
 (With City of Toledo unless noted)

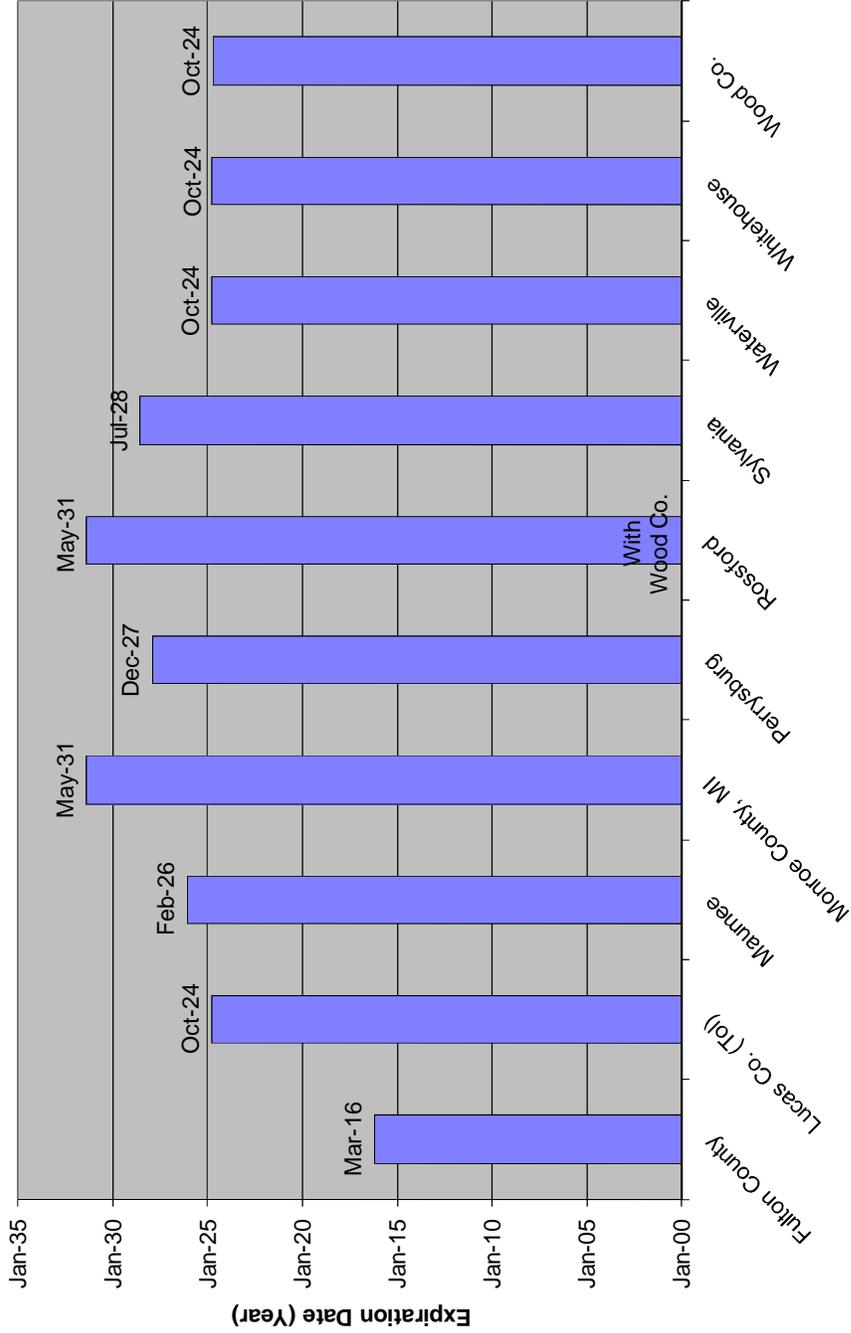


Figure 4-2

5. Cost of Water and Approaches to a Regional Water System

5.1 Existing Cost of Water

5.1.1 Toledo Water Revenue

Approximately \$37,400,000 of water revenue was collected by the Toledo regional water system in 2010. Of this revenue, approximately 52% or \$19,400,000 was from within the City of Toledo. Approximately \$18,000,000 or 48% of the revenue was from outside customers.

In 2010, the City of Toledo had a total number of customers of approximately 99,130. With all the water systems combined there are a total of approximately 178,000 customers. The yearly billed water volume of all the water systems for 2010 was 21.8 billion gallons or 2,909,888 MCF.

A revenue summary for 2010 for the Toledo water system is shown in Figure 5-1 at the end of this chapter.

5.1.2 Satellite Communities Water Revenue (Local Costs)

Of all the satellite communities that receive water from the Toledo regional water system, it is estimated that additional revenue is generated in the amount of \$18,600,000 to cover local costs of their respective water systems.

5.1.3 Combined Water System Revenue

Combining the Toledo regional water system revenue with the satellite communities' revenue generates total water system revenue of approximately \$56,000,000.

5.2 Existing Debt

Existing annual debt service for the existing Toledo regional water supply system for 2010 was approximately \$9,200,000/year. With several large capital improvement projects identified in the future, the existing annual debt service for the Toledo water system will significantly increase and will need to be factored in with future rates. Annual debt service for the satellite communities was not collected and therefore is not available.

5.3 Purchase Valuation and Guaranteed Revenue Stream

Two types of valuations were considered and are summarized as follows:

5.3.1 Purchase Toledo System

The ORC 6119 water district purchases the entire City of Toledo regional water system for \$314,900,000. This purchase is based on a current valuation of 55% of the major assets of the Toledo system and is also equal to the projected capacity needs of the satellite communities in 2035 (i.e. – Projected 2035 satellite communities system water demand is 55% and City of Toledo is 45%). The annual debt service to finance this amount is approximately \$21,100,000/year.

5.3.2 Guaranteed Revenue Stream

The ORC 6119 water district would provide a guaranteed revenue stream to the City of Toledo in exchange for the City's water system assets. This guaranteed revenue stream would be less than the annual debt service to finance the purchase of the Toledo system thus making it more affordable to rate payers.

The detailed worksheets used to develop the purchase valuations can be found in Appendix C.

5.4 Approaches and Projected Cost of Water

5.4.1 Projected Operation and Maintenance

Operation and maintenance costs were projected and have been estimated to initially be \$28,300,000/year. Note that economies of scale (i.e. – consolidation of water system personnel and operations) of a regional water system have not been factored in projecting these operation and maintenance costs. Detailed worksheets used to develop the operation and maintenance costs are located in Appendix D.

5.4.2 Projected Capital Improvement Plans

A total of approximately \$89,107,000 of capital improvements are planned from 2011 through 2014. Annual debt service to retire these improvements is estimated to be \$2,330,000 in 2011 and increase to \$7,820,000 by 2014. Of special note, subsequent to compiling these improvements, there have been additional major improvements

recently identified in the Collins Park WTP 20-Year Master Plan Needs Assessment that also need to be considered. A summary of the annual debt service schedule is shown in Appendix D. It should also be noted that no allowance for bond reserves has been included.

5.4.3 Approaches to a Regional Water System

Several approaches as to the structure of a regional water system were considered and are listed as follows:

Table 5 - 1	
ORC 6119 Regional Water System Approaches	
Option 1 – Purchase Toledo Water System	
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo selling their water system to the district. 	
<ul style="list-style-type: none"> • Each community will be a member of the district and be charged respective portion of the debt retirement of 55% of projected capacity needs (Based on projected 2035 water demand). 	
<ul style="list-style-type: none"> • The Regional Water District purchases 55% of Toledo System Capacity for \$314,900,000. 	
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates. 	
<ul style="list-style-type: none"> • Separate rate structure for Toledo customers will be created for their respective portion of the Water District. 	
<ul style="list-style-type: none"> • Cost of Water from ORC 6119 calculated in a base rate/1000 CF. <ul style="list-style-type: none"> - Debt to buy water system (except Toledo customers). - O& M, R, Existing & Future Debt/major infrastructure improvements. - Capacity Buy-In - Each community to buy % of regional water system capacity based on projected 2035 water demand. Remaining capacity above 2035 water demand to be spread proportionately between all communities including Toledo. 	
<ul style="list-style-type: none"> • Bowling Green not included in water district. 	

Option A1 - \$10 Million Guaranteed Revenue Stream
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost.
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$10 million per year. <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Water rates in all communities including City of Toledo would fund the revenue stream.
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates.
<ul style="list-style-type: none"> • Existing rate structures are retained (including water surcharge provisions).
<ul style="list-style-type: none"> • Existing JEDD/JEDZ agreements would be terminated for district member jurisdictions.
<ul style="list-style-type: none"> • Bowling Green not included in water district.
Option A1 - \$10 Million Guaranteed Revenue Stream (With Equal Rate)
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost.
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$10 million per year. <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Water rates in all communities including City of Toledo would fund the revenue stream.
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates.
<ul style="list-style-type: none"> • New flat rate structure is applied equally to all users (including Toledo customers).
<ul style="list-style-type: none"> • Existing JEDD/JEDZ agreements would be terminated for district member jurisdictions.
<ul style="list-style-type: none"> • Bowling Green not included in water district.
Option A2 - \$7.2 Million Guaranteed Revenue Stream
<ul style="list-style-type: none"> • An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
<ul style="list-style-type: none"> • Both jurisdictions convey water system assets to district at no cost.
<ul style="list-style-type: none"> • City of Toledo provided guaranteed revenue stream of \$7.2 million per year (Lucas County only) <ul style="list-style-type: none"> - Term of revenue stream to be negotiated. - Only water rates in Lucas County and City of Toledo would fund the revenue stream.
<ul style="list-style-type: none"> • Satellite communities will retain their water system and existing local costs and rates.
<ul style="list-style-type: none"> • Existing rate structures are retained.
<ul style="list-style-type: none"> • Existing terms and conditions of water contracts with satellite communities would remain in place including surcharges and JEDD/JEDZ agreements.
<ul style="list-style-type: none"> • Bowling Green not included in water district.

Figures 5-2 through Figure 5-6 at the end of this chapter show a summary of the projected water rates for each respective option.

With the creation of a 6119 water district, with either purchasing or providing a guaranteed revenue stream to the Toledo water system, it could be used as a means to eliminate or reduce future surcharges to outside City users. Over time, rates could then be brought more into parity between all communities.

Detailed worksheets showing the breakdown of the projected water rates for Options 1, A1, A1 (With Equal Rate), and A2 are located in Appendix E.

5.5 Other Considerations

5.5.1 Reserves

With the formation of an ORC 6119 regional water district, the system must retain adequate reserve balances to meet potential costs to repair/replace portions of its aging infrastructure. Costs associated with the creation of a reserve balance have not been factored in any of the approaches in this study. To what level reserve balances can or would be transferred to the regional water system would need to be determined during the formation of the system.

Regional Water Study	EXISTING REVENUE SUMMARY TOLEDO WATER SYSTEM		
	2010 Base Revenue	2010 Surcharge	2010 Total Revenue
Fulton County	804,470	603,352	1,407,822
Lucas County	5,659,225	2,829,612	8,488,837
Maumee	659,537	263,815	923,351
Monroe County, MI	925,040	370,016	1,295,056
Perrysburg	899,634	359,854	1,259,488
Sylvania	1,092,889	819,667	1,912,556
Toledo	19,370,280	0	19,370,280
Waterville	With Lucas Co.	-	-
Whitehouse	With Lucas Co.	-	-
Wood County (Toledo)	1,261,183	630,592	1,891,775
Wood County (N. & R.)	565,116	282,558	847,674
TOTAL	\$31,237,373	\$6,159,465	\$37,396,838

Figure 5 - 1

Regional Water Study	OPTION 1 (Without Bowling Green) PURCHASE TOLEDO WATER SYSTEM PROJECTED COST OF WATER SUMMARY COST/1000 CF				
	Existing Rates	2011	2012	2013	2014
Bowling Green	\$15.38				
Fulton County (NE)	\$53.79	\$64.79	\$66.34	\$67.88	\$68.47
Fulton County (North Star)	\$26.02				
Lucas County	\$29.00	\$43.05	\$44.60	\$46.14	\$46.74
Maumee	\$24.43	\$47.29	\$48.85	\$50.39	\$50.98
Monroe County, MI	\$31.01	\$53.87	\$55.42	\$56.96	\$57.56
Perrysburg	\$35.46	\$58.32	\$59.88	\$61.42	\$62.01
Sylvania	\$37.18	\$48.17	\$49.72	\$51.26	\$51.86
Toledo	\$12.23	\$15.53	\$16.58	\$17.63	\$18.61
Waterville	\$43.01	\$57.06	\$58.61	\$60.15	\$60.75
Whitehouse	\$29.58	\$43.63	\$45.18	\$46.72	\$47.32
Wood County	\$23.75	\$45.93	\$47.48	\$49.02	\$49.62

APPROACH:

- 1) An ORC 6119 Regional Water District is formed with City of Toledo selling water system assets to District.
- 2) Each satellite community will be a member of the Water District and be charged respective portion of the debt retirement of 55% of projected capacity needs (Approximately Year 2035 Outside Water Demand).
- 3) The Regional Water Authority Purchases 55% of the Toledo System Capacity for \$314,888,292
- 4) Satellite communities will retain their water system and existing local costs and rates.
- 5) A separate rate structure for Toledo customers will be created for their respective portion of the Water District.

5) Cost of Water from ORC 6119 calculated into a base rate /1000 CF.

- Debt to buy water system (except Toledo customers).
- O & M, R, Existing & Future Debt/major infrastructure improvements.
- Capacity Buy-In - Each community to buy % of regional water system capacity based on projected 2035 water demand. Remaining capacity above 2035 water demand to be spread proportionately between all communities including Toledo.

Figure 5 - 2

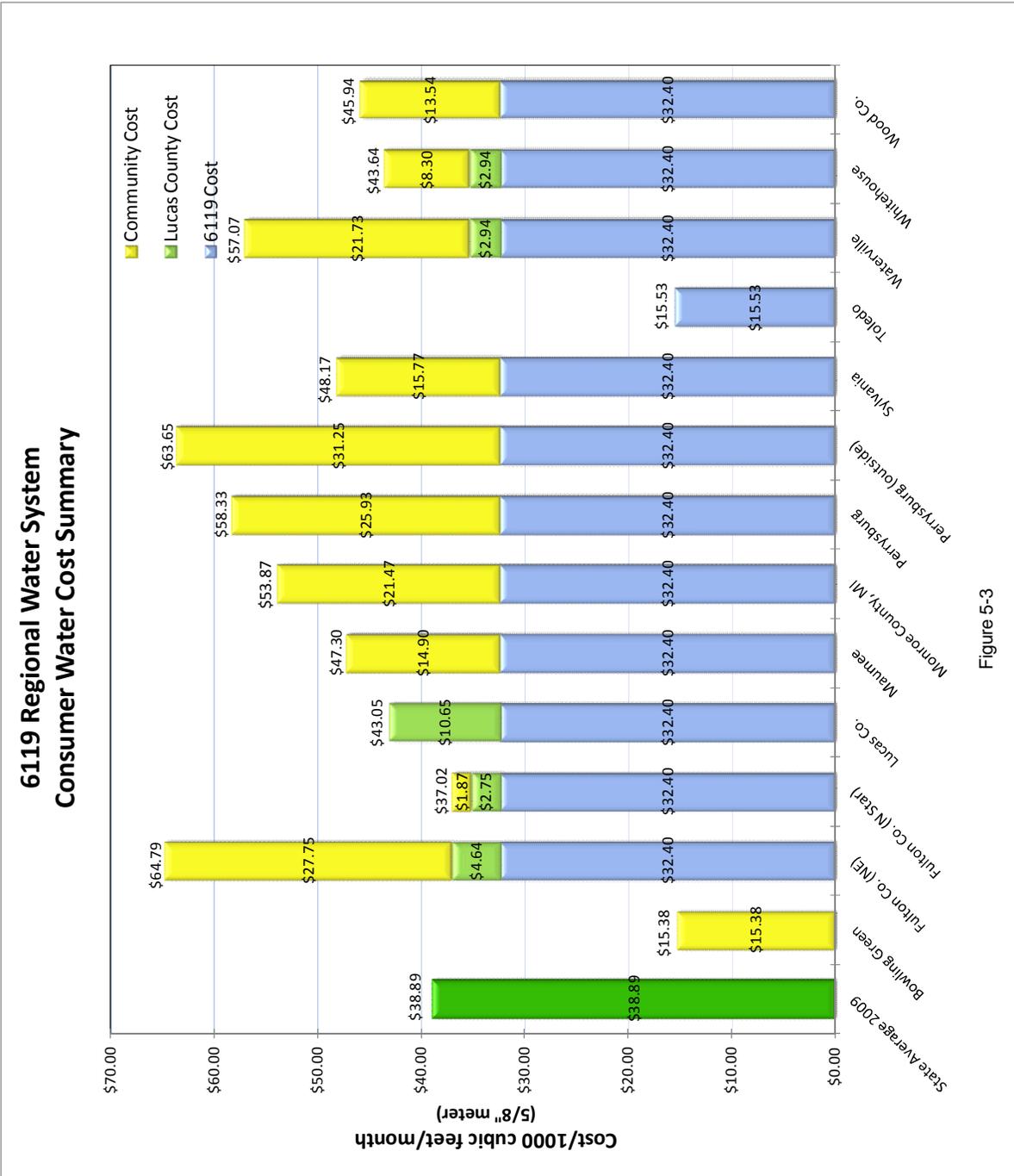


Figure 5-3

61119 Regional Water System - \$10M Revenue Stream (Option A1)
Consumer Water Cost Summary

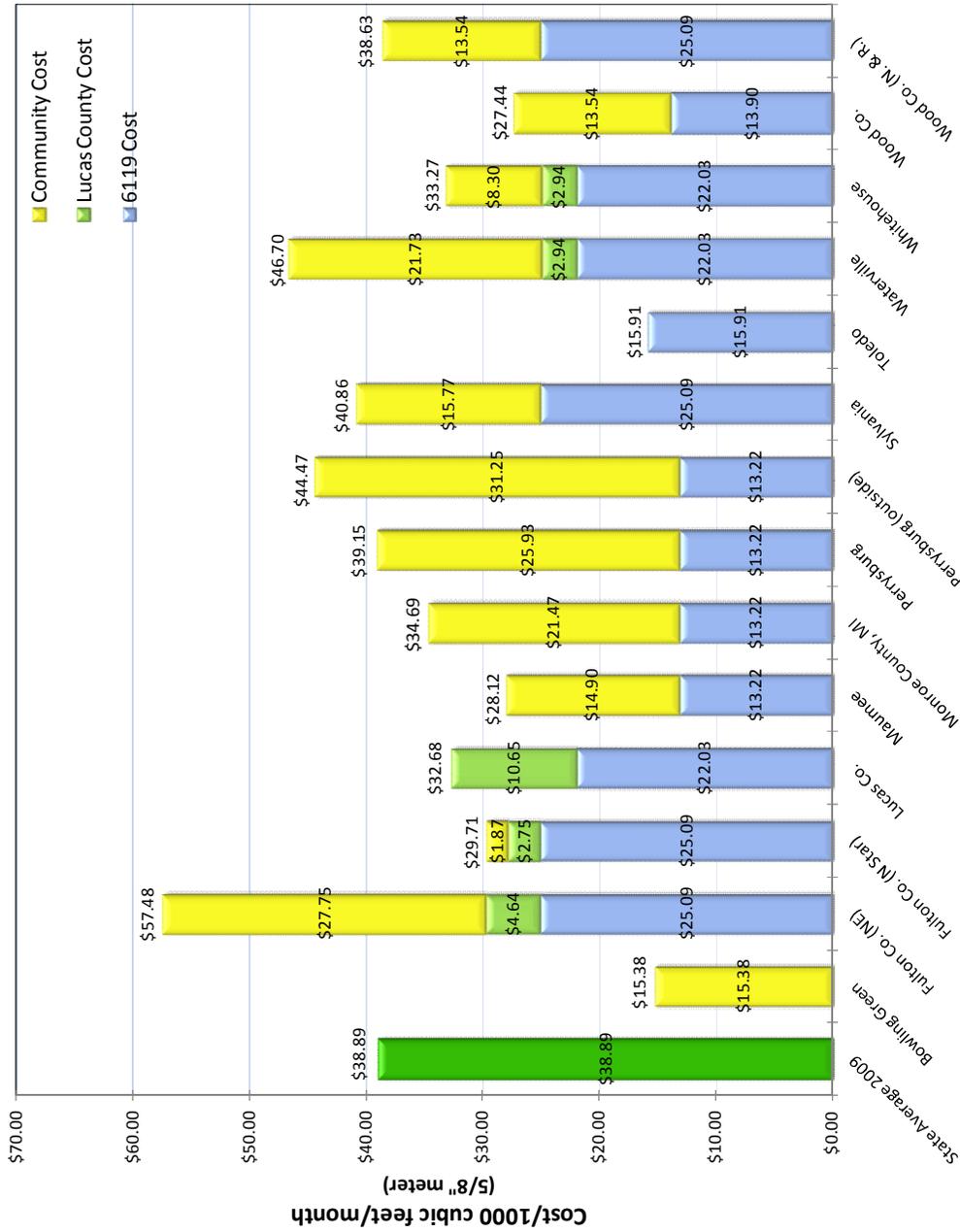


Figure 5-4

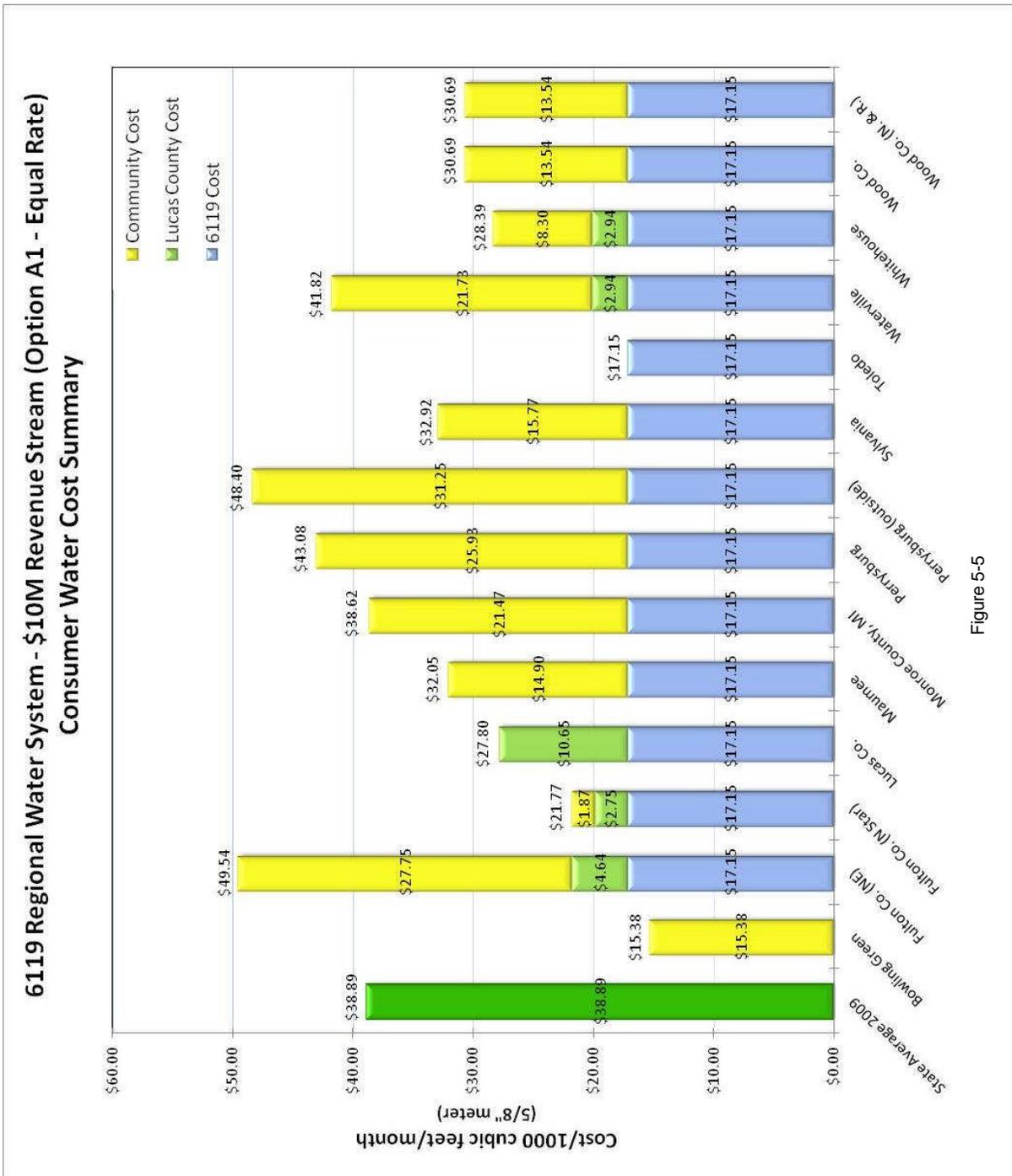


Figure 5-5

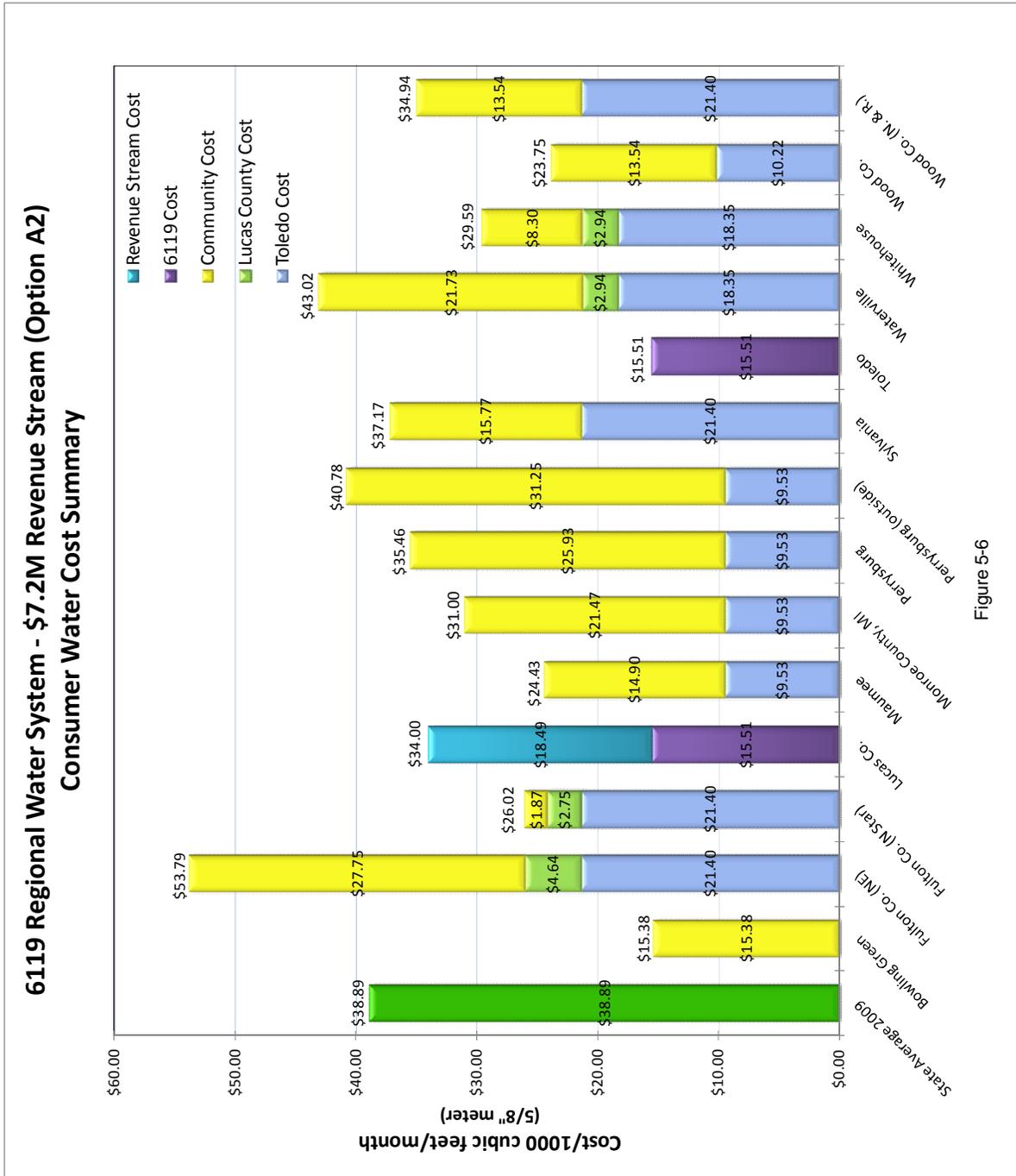


Figure 5-6

Appendix A

Inventory and Assets

COST ESTIMATE DATA

Water Mains

Urban:	<u>Diameter</u>	2011 Const. <u>cost/ft</u>	Total Project Cost <u>cost/ft</u>
	<16	\$72	\$90
	16	\$115	\$144
	20	\$153	\$191
	24	\$177	\$221
	30	\$225	\$282
	36	\$251	\$314
	42	\$300	\$375
	48	\$358	\$447
	54	\$427	\$533
	60	\$508	\$635
	66	\$606	\$758
	72	\$721	\$902
	78	\$860	\$1,076
	96	\$1,453	\$1,817

Non-Urban

/Rural:	<u>Diameter</u>	2011 Const. <u>cost/ft</u>	Total Project Cost <u>cost/ft</u>
	<16	\$46	\$53
	24	\$113	\$141
	36	\$161	\$201
	60	\$325	\$406
	78	\$551	\$688

(e.g. - Fulton County and raw water mains)

Pumping Stations

<u>Capacity (MGD)</u>		2011 Const. <u>cost/MGD</u>	Total Project Cost <u>cost/MGD</u>
0-1	0	\$600,000	\$750,000
1-3	0.9	\$555,000	\$693,750
3-5	3	\$510,000	\$637,500
5-7	5	\$465,000	\$581,250
7-10	7	\$420,000	\$525,000
10-15	10	\$348,000	\$435,000
15-20	15	\$277,500	\$346,875
>20	20	\$208,500	\$260,625

Ground Storage Reservoirs

<u>Capacity (MG)</u>		2011 Const. <u>cost/MG</u>	Total Project Cost <u>cost/MG</u>
0-1	0	\$1,050,000	\$1,312,500
1-3	1	\$922,500	\$1,153,125
3-5	3	\$855,000	\$1,068,750
5-7	5	\$787,500	\$984,375
7-10	7	\$720,000	\$900,000
10-15	10	\$630,000	\$787,500
15-20	15	\$540,000	\$675,000
>20	20	\$450,000	\$562,500

Regional Water Study	VALUATION BASIS
-----------------------------	------------------------

Elevated Storage Tanks

<u>Capacity (MG)</u>		<u>2011 Const. cost/MG</u>	<u>Total Project Cost cost/MG</u>
0.25	0.0	\$2,142,000	\$2,677,500
0.50	0.5	\$1,725,000	\$2,156,250
0.75	0.8	\$1,587,960	\$1,984,950
1.00	1.0	\$1,525,500	\$1,906,875
2.00	2.0	\$1,350,000	\$1,687,500

Intakes

<u>Diameter</u>	<u>2011 Const. cost/ft</u>	<u>Total Project Cost cost/ft</u>
48	\$900	\$1,125
108	\$3,750	\$4,688

Water Treatment Plants

<u>Capacity (MGD)</u>		<u>2011 Const. cost/MGD</u>	<u>Total Project Cost cost/MGD</u>
0-20	1	\$3,000,000	\$3,750,000
>20	21	\$1,920,000	\$2,400,000

CONDITION & CURRENT VALUE

Watermains & Elevated Tanks

<u>Condition</u>	<u>Age</u>	<u>% of Replacement Value</u>
Excellent	<=	25 100%
Good	<=	55 70%
Fair	<=	85 50%
Poor	>	85 30%

Pumping Stations & Ground Storage Tanks

<u>Condition</u>	<u>% of Replacement Value</u>
Excellent	100%
Very Good	85%
Good	70%

Water Treatment Plants

<u>Condition</u>	<u>% of Replacement Value</u>
Bowling Green Very Good	85%
Toledo Good Expansion	70%
Toledo Good Original	70%

Intakes

Oregon	Excellent	100%
Toledo	Very Good	85%

INFLATION ADJUSTMENTS

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Inflation Rate	0.0%	4.0%	4.0%	4.0%	4.0%

Regional Water Study	INVENTORY & ASSETS SUMMARY (BY DESCRIPTION)			
	Length	Capacity	Replacement Cost	Current Value

Water Mains, Raw Water Mains & Intakes

Bowling Green	602,397		\$77,883,979	\$54,857,185
Fulton County	236,750		19,549,354	19,549,354
Lucas County	2,284,185		240,619,753	204,705,451
Maumee	372,615		35,336,189	26,360,033
Monroe County, MI	851,760		91,406,048	69,314,765
Perrysburg	541,669		55,982,387	50,589,560
Sylvania	438,554		41,173,369	28,821,358
Toledo	6,284,557		848,710,499	579,108,813
Waterville	166,200		14,958,000	11,218,500
Whitehouse	153,000		13,909,864	10,381,876
Wood County	<u>2,038,393</u>		<u>136,715,763</u>	<u>117,287,746</u>
Subtotal	13,970,080	Feet	\$1,576,245,203	\$1,172,194,642

Pumping Stations

Bowling Green		38.2	\$9,801,000	\$7,947,900
Fulton County		8.6	4,650,000	4,650,000
Lucas County		23.6	12,856,875	11,478,750
Maumee		5.5	3,196,875	2,717,344
Monroe County, MI		17.0	8,025,000	7,473,750
Perrysburg		9.0	5,456,250	4,201,875
Sylvania		7.0	3,675,000	2,572,500
Toledo		408.1	106,837,500	74,900,719
Waterville		0.0	30,000	30,000
Whitehouse		1.1	763,125	534,188
Wood County		<u>17.1</u>	<u>8,248,500</u>	<u>6,628,725</u>
Subtotal		MGD	\$163,540,125	\$123,135,750

Elevated & Ground Storage Tanks

Bowling Green		6.00	\$10,183,125	\$7,042,875
Fulton County		1.25	2,576,250	2,576,250
Lucas County		6.50	9,712,500	9,441,094
Maumee		4.00	6,435,000	5,249,531
Monroe County, MI		6.00	8,925,000	7,608,750
Perrysburg		4.00	6,664,688	5,833,875
Sylvania		3.00	5,109,375	4,589,063
Toledo		78.00	46,575,000	36,635,625
Waterville		0.75	2,008,125	1,486,013
Whitehouse		0.50	1,338,750	1,137,938
Wood County		<u>2.60</u>	<u>3,904,313</u>	<u>3,332,250</u>
Subtotal		MG	\$103,432,125	\$84,933,263

Water Treatment Plants

Bowling Green		10.6	\$44,108,212	\$36,826,999
Toledo		<u>150</u>	<u>\$360,000,000</u>	<u>\$252,000,000</u>
Subtotal		MGD	\$404,108,212	\$288,826,999

TOTAL

\$2,247,325,666 \$1,669,090,654

Regional Water Study	INVENTORY & ASSETS SUMMARY (BY COMMUNITY)		
		Replacement Cost	Current Value
Bowling Green	141,976,317	106,674,959	6.4%
Fulton County	26,775,604	26,775,604	1.6%
Lucas County	263,189,128	225,625,295	13.5%
Maumee	44,968,064	34,326,908	2.1%
Monroe County, MI	108,356,048	84,397,265	5.1%
Perrysburg	68,103,324	60,625,310	3.6%
Sylvania	49,957,744	35,982,921	2.2%
Toledo	1,362,122,999	942,645,157	56.5%
Waterville	16,996,125	12,734,513	0.8%
Whitehouse	16,011,739	12,054,001	0.7%
Wood County	148,868,575	127,248,721	7.6%
TOTAL	<u>\$2,247,325,666</u>	<u>\$1,669,090,654</u>	<u>100.0%</u>

Regional Water Study Bowling Green	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
16" Mains	48,173	16	Various	Various	Various	6,926,976	4,848,883
18" Mains	800	18	Various	Various	Various	115,035	80,525
20" Mains	65,233	20	Various	Various	Various	12,474,588	8,732,212
24" Mains	21,748	24	Various	Various	Various	4,805,628	3,363,940
36" Mains	46,660	36	Various	Various	Various	14,653,281	10,257,297
Local Water Mains	<u>419,783</u>	<16				<u>37,780,470</u>	<u>26,446,329</u>
Subtotal	602,397					\$76,755,979	\$53,729,185
Raw Water Mains							
2010			2010	1		<u>372,000</u>	<u>372,000</u>
						\$372,000	\$372,000
Intake							
2010		36	2010	1		<u>756,000</u>	<u>756,000</u>
Subtotal						\$756,000	\$756,000
Pumping Stations							
Low Service	MGD	24.0	2010	1	Concrete	3,624,000	3,624,000
High Service	MGD	<u>14.2</u>			Concrete	<u>6,177,000</u>	<u>4,323,900</u>
Subtotal		38.2				\$9,801,000	\$7,947,900
Elevated & Ground Storage Tanks							
WTP Ground Storage	MG	1.00	1951	60	Concrete	1,153,125	807,188
WTP Ground Storage	MG	1.00	2003	8	Concrete	1,153,125	1,153,125
Haskins Rd.	MG	0.50			Steel	1,078,125	754,688
Manville	MG	0.50			Steel	1,078,125	323,438
Campbell Hill	MG	1.50			Steel	2,860,313	2,002,219
Mitchell Rd.	MG	<u>1.50</u>			Steel	<u>2,860,313</u>	<u>2,002,219</u>
Subtotal		6.00				\$10,183,125	\$7,042,875
Water Treatment Plant							
168 MG Raw Water Reservoir			1989	22		4,433,212	3,103,249
Bowling Green WTP	MGD	<u>10.6</u>	1960's to 2010	Various	Concrete	<u>39,675,000</u>	<u>33,723,750</u>
Subtotal		10.6				\$44,108,212	\$36,826,999
TOTAL						<u>\$141,976,317</u>	<u>\$106,674,959</u>

Regional Water Study Fulton County	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value

Water Mains

Assumption	55,000	<16	1991	20	PVC	2,914,560	2,914,560
Teleflex	15,840	<16	2000	11	PVC	839,393	839,393
Iozzo Lane	2,230	<16	2005	6	PVC	118,172	118,172
Northeast Water Mains	84,480	<16	2010	1	PVC	4,476,764	4,476,764
North Star Transmission	<u>79,200</u>	24	1996	15	Ductile Iron	<u>11,200,464</u>	<u>11,200,464</u>
Subtotal	236,750					\$19,549,354	\$19,549,354

Pumping Stations

Northeast Water System	MGD	0.6	2010	1	Concrete	450,000	450,000
Northstar Steel	MGD	<u>8.0</u>	1996	15	Concrete	<u>4,200,000</u>	<u>4,200,000</u>
Subtotal		8.6				\$4,650,000	\$4,650,000

Elevated & Ground Storage Tanks

Northeast Water System	MG	0.25	1996	15	Steel	669,375	669,375
North Star	MG	<u>1.00</u>	1996	15	Steel	<u>1,906,875</u>	<u>1,906,875</u>
Subtotal		1.25				\$2,576,250	\$2,576,250

TOTAL \$26,775,604 \$26,775,604

Regional Water Study Lucas County	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value

Water Mains

1964	9	16	1964	47	CAST IRON	1,294	906
1964	5,271	24	1964	47	CAST IRON	1,164,726	815,308
1964	12,858	30	1964	47	CAST IRON	3,620,652	2,534,456
1965	16,409	16	1965	46	CAST IRON	2,359,512	1,651,658
1965	10,369	24	1965	46	CAST IRON	2,291,225	1,603,857
1965	6,462	30	1965	46	CAST IRON	1,819,618	1,273,733
1965	4,943	36	1965	46	CAST IRON	1,552,318	1,086,623
1969	14,099	16	1969	42	PSC	2,027,348	1,419,144
1969	1,292	16	1969	42	SP-5	185,782	130,047
1969	13,464	20	1969	42	PSC	2,574,738	1,802,316
1969	402	20	1969	42	SP-5	76,875	53,812
1969	9	24	1969	42	CI	1,989	1,392
1969	18,771	24	1969	42	PSC	4,147,804	2,903,463
1971	4	16	1971	40	CAST IRON	575	403
1972	4,090	24	1972	39		903,762	632,634
1972	2,262	24	1972	39	CI	499,831	349,882
1983	1,084	16	1983	28	PSC	155,872	109,111
1983	8,171	20	1983	28		1,562,551	1,093,785
1983	138	20	1983	28	PSC	26,390	18,473
1983	88	42	1983	28		32,982	23,087
1983	14,131	42	1983	28	PSC	5,296,210	3,707,347
1990	349	24	1990	21		77,118	77,118
1991	3	16	1991	20		431	431
1991	21,621	16	1991	20	DIP	3,108,965	3,108,965
1991	70	20	1991	20	DIP	13,386	13,386
1991	6,602	24	1991	20		1,458,836	1,458,836
1991	8,727	24	1991	20	DIP	1,928,394	1,928,394
1993	6,823	36	1993	18		2,142,721	2,142,721
1993	865	36	1993	18	DIP	271,648	271,648
1994	13,872	16	1994	17	DIP	1,994,707	1,994,707
1996	863	24	1996	15	DIP	190,696	190,696
1996	6,883	36	1996	15	PSC	2,161,563	2,161,563
1996	9	999	1996	15	DIP	16,350	16,350
1997	12,305	16	1997	14	DIP	1,769,382	1,769,382
1997	27,486	36	1997	14	PSC	8,631,807	8,631,807
1998	9,176	16	1998	13	DIP	1,319,451	1,319,451

Regional Water Study Lucas County	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
2000	1,402	16	2000	11	DIP	201,599	201,599
2001	9,067	16	2001	10	DIP	1,303,778	1,303,778
2003	15,080	16	2003	8	DIP	2,168,410	2,168,410
2005	9	16	2005	6	DIP	1,294	1,294
2006	4,106	16	2006	5	DIP	590,417	590,417
2007	1,288	16	2007	4	DIP	185,206	185,206
2009	3,416	16	2009	2	DIP	491,199	491,199
2009	3,013	20	2009	2	DIP	576,180	576,180
Local Water Mains	<u>1,996,824</u>	<16				<u>179,714,160</u>	<u>152,890,474</u>
	2,284,185					\$240,619,753	\$204,705,451
Pumping Stations							
Southwest	MGD	9.0	1974	37	Concrete	4,725,000	4,016,250
Southwest Impt.	MGD	5.0	1995	16	Concrete	2,906,250	2,906,250
Northwest	MGD	8.5	1983	28	Concrete	4,462,500	3,793,125
Corey Road	MGD	<u>1.1</u>	2002	9	Concrete	<u>763,125</u>	<u>763,125</u>
Subtotal		23.6				\$12,856,875	\$11,478,750
Elevated & Ground Storage Tanks							
Southwest Elevated Tank	MG	2.00	1998	13	Steel	3,375,000	3,375,000
Southwest Ground Storage	MG	0.50	1974	37	Concrete	656,250	557,813
Southwest Ground Storage Imp	MG	1.00	1995	16	Concrete	1,153,125	1,153,125
Northwest Elevated Storage	MG	2.00	2005	6	Steel	3,375,000	3,375,000
Northwest Ground Storage	MG	<u>1.00</u>	1983	28	Concrete	<u>1,153,125</u>	<u>980,156</u>
Subtotal		6.50				\$9,712,500	\$9,441,094
TOTAL						<u>\$263,189,128</u>	<u>\$225,625,295</u>

Regional Water Study Maumee	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value

Water Mains

Heatherdowns/Eastgate to PS	733	24	1963	48	PCCP	161,970	113,379
Pump Station to Key St	1,243	24	1963	48	PCCP	274,664	192,265
Key St to Centerfield	220	24	1963	48	PCCP	48,613	34,029
Key St	651	20	1963	48	PCCP	124,492	87,144
Anthony Wayne Trail	3,461	18	1963	48	PCCP	497,670	348,369
Anthony Wayne Trail	2,235	16	1963	48	Cast Iron	321,379	224,965
Dussel Dr	2,622	18	1966	45	Cast Iron	377,027	263,919
Dussel Dr	2,682	18	1975	36	Ductile Iron	385,655	269,958
Dussel Dr	3,009	20	2009	2	Ductile Iron	575,415	575,415
Holland Rd	2,015	24	1978	33	PCCP	445,252	311,676
Ford St	2,836	20	1979	32	Ductile Iron	542,332	379,632
Local Water Mains	<u>350,908</u>	<16				<u>31,581,720</u>	<u>23,559,281</u>
Subtotal	372,615					\$35,336,189	\$26,360,033

Pumping Stations

Michigan Ave & Ohio Turnpike	MGD	<u>5.5</u>	1963	48	Concrete	<u>3,196,875</u>	<u>2,717,344</u>
Subtotal		5.5				\$3,196,875	\$2,717,344

Elevated & Ground Storage Tanks

Illinois Ave		1.00	2001	10	Steel	1,906,875	1,906,875
W Dussel Drive	MG	2.00	1982	29	Steel	3,375,000	2,362,500
Michigan/Ohio Turnpike Reserv	MG	<u>1.00</u>	1963	48	Concrete	<u>1,153,125</u>	<u>980,156</u>
Subtotal		4.00				\$6,435,000	\$5,249,531

TOTAL

\$44,968,064 \$34,326,908

Regional Water Study Monroe County, MI	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
Dixie Hwy	12,650	16	1971	40	Ductile Iron	1,818,991	1,273,294
Dixie Hwy	35,350	20	1971	40	PCCP	6,760,025	4,732,017
Luna Pier Rd	23,350	16	1972	39	PCCP	3,357,584	2,350,309
Lotus Drive	12,000	20	1996	15	Ductile Iron	2,294,775	2,294,775
Telegraph, Sterns & Crabb Rds	20,600	16	1982	29		2,962,151	2,073,506
Lewis Ave	14,350	16	1972	39	PCCP	2,063,440	1,444,408
Lewis Ave	7,600	24	1971	40	PCCP	1,679,363	1,175,554
Smith & Lavoy Rds	12,600	24	1971	40	PCCP	2,784,206	1,948,944
Sterns Rd	10,600	16	1971	40	PCCP	1,524,214	1,066,950
Sterns & Secor Rds	15,400	16	1975	36	Ductile Iron	2,214,424	1,550,097
West Temperance Rd	6,500	16	1972	39	PCCP	934,659	654,262
Detroit Ave	3,700	24	2005	6	Ductile Iron	817,584	817,584
Dixie Hwy - PS to LaVoy	1,400	24	2005	6	Ductile Iron	309,356	309,356
Sterns Rd	3,400	16	2005	6	Ductile Iron	488,899	488,899
Suder Rd	14,000	16	2000	11	Ductile Iron	2,013,113	2,013,113
Suder Rd	2,600	16	2006	5	PVC	373,864	373,864
Local Water Mains	<u>655,660</u>	<16				<u>59,009,400</u>	<u>44,747,835</u>
Subtotal	851,760					\$91,406,048	\$69,314,765
Pumping Stations							
Lewis Ave	MGD	7.0	1971	40	Concrete	3,675,000	3,123,750
Dixie Hwy	MGD	<u>10.0</u>	2006	5	Concrete	<u>4,350,000</u>	<u>4,350,000</u>
Subtotal		17.0				\$8,025,000	\$7,473,750
Elevated & Ground Storage Tanks							
Luna Pier	MG	0.50	1971	40	Steel	1,078,125	754,688
Stein Rd	MG	0.50	1971	40	Steel	1,078,125	754,688
Temperance	MG	0.50	1995	16	Steel	1,078,125	1,078,125
Lambertville	MG	0.50	1975	36	Steel	1,078,125	754,688
Lewis Ave Reservoir	MG	2.00	1971	40	Concrete	2,306,250	1,960,313
Dixie Hwy Reservoir	MG	<u>2.00</u>	2006	5	Concrete	<u>2,306,250</u>	<u>2,306,250</u>
Subtotal		6.00				\$8,925,000	\$7,608,750
TOTAL						<u>\$108,356,048</u>	<u>\$84,397,265</u>

Regional Water Study Perrysburg	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
Anthony Wayne Trail to EBPS	11,600	16	1951	60	Cast Iron	1,668,008	834,004
Sandusky/East Boundary	4,084	16	1966	45	A/C	587,254	411,078
SBPS to Ft Meigs Tower	11,025	16	1968	43	A/C	1,585,326	1,109,728
East Boundary Impts	4,539	16	1992	19	PVC	652,680	652,680
Louisiana/South Boundary	4,000	16	1992	19	PVC	575,175	575,175
EBPS to SBPS	10,786	16	1995	16	PVC	1,550,959	1,550,959
Eckel Junction Road	1,071	16	1997	14	PVC	154,003	154,003
Ft Meigs Rd from Roachton	4,990	16	1998	13	PVC	717,531	717,531
Five Pt Rd from SR 25 to Pargil	5,760	16	1998	13	PVC	828,252	828,252
Hull Prairie Rd	5,008	16	1998	13	PVC	720,119	720,119
Simmons Rd Meter Pit to EB	9,044	24	1994	17	PVC	1,998,441	1,998,441
SBPS to Five Point Rd	16,417	24	1995	16	PVC	3,627,644	3,627,644
State Route 25	2,693	30	1995	16	PVC	758,315	758,315
Local Water Mains	<u>450,652</u>	<16				<u>40,558,680</u>	<u>36,651,631</u>
Subtotal	541,669					\$55,982,387	\$50,589,560
Pumping Stations							
East Boundary	MGD	5.0	1952	59	Concrete	2,906,250	2,034,375
South Boundary	MGD	<u>4.0</u>	1969	42	Concrete	<u>2,550,000</u>	<u>2,167,500</u>
Subtotal		9.0				\$5,456,250	\$4,201,875
Elevated & Ground Storage Tanks							
West Fifth	MG	0.25	1952	59	Steel	669,375	334,688
Ft Meigs Rd	MG	0.25	1969	42	Steel	669,375	468,563
State Route	MG	1.50	1993	18	Steel	2,860,313	2,860,313
East Boundary Reservoir	MG	0.50	1952	59	Concrete	656,250	459,375
South Boundary Reservoir	MG	1.00	2003	8	Concrete	1,153,125	1,153,125
South Boundary Reservoir	MG	<u>0.50</u>	1969	42	Concrete	<u>656,250</u>	<u>557,813</u>
Subtotal		4.00				\$6,664,688	\$5,833,875
TOTAL						<u>\$68,103,324</u>	<u>\$60,625,310</u>

Regional Water Study Sylvania	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
Holland Sylvania & Convent	5,500	16	1965	46	Cast Iron	790,866	553,606
I-475 Expressway	5,900	16	1977	34	Ductile Iron	848,383	593,868
Monroe to McGregor	2,200	16	1976	35	Ductile Iron	316,346	221,442
Silica & Brint	6,400	16	1979	32	Ductile Iron	920,280	644,196
Holland Sylvania	6,200	20	1965	46	PCCP	1,185,634	829,944
Local Water Mains	<u>412,354</u>	<16				<u>37,111,860</u>	<u>25,978,302</u>
Subtotal	438,554					\$41,173,369	\$28,821,358
Pumping Stations							
Brint Road	MGD	<u>7.0</u>	1965	46	Concrete	<u>3,675,000</u>	<u>2,572,500</u>
Subtotal		7.0				\$3,675,000	\$2,572,500
Elevated & Ground Storage Tanks							
Erie & Maplewood	MG	0.50	1965	46	Steel	1,078,125	754,688
Brint Road	MG	0.50	1965	46	Steel	656,250	459,375
2011 Tank	MG	<u>2.00</u>	2011	0	Steel	<u>3,375,000</u>	<u>3,375,000</u>
Subtotal		3.00				\$5,109,375	\$4,589,063
TOTAL						<u>\$49,957,744</u>	<u>\$35,982,921</u>

Regional Water Study Toledo	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value

Water Mains

1873	5,629	30	1873	138	CIP	1,585,056	475,517
1874	2,903	24	1874	137	CIP	641,472	192,442
1874	10,092	30	1874	137	CIP	2,841,781	852,534
1882	218	24	1882	129	CIP	48,171	14,451
1887	2,117	30	1887	124		596,121	178,836
1888	610	16	1888	123		87,714	26,314
1896	5,544	30	1896	115		1,561,121	468,336
1897	5,599	30	1897	114		1,576,608	472,983
1902	324	16	1902	109	CIP	46,589	13,977
1904	2,834	20	1904	107	CIP	541,949	162,585
1912	2,402	24	1912	99	CIP	530,767	159,230
1914	6,376	24	1914	97	CIP	1,408,897	422,669
1914	17,688	30	1914	97	CON	4,980,720	1,494,216
1920	14,186	30	1920	91	CIP	3,994,600	1,198,380
1920	254	42	1920	91	CIP	95,198	28,559
1922	7,041	24	1922	89	CIP	1,555,841	466,752
1922	2,075	30	1922	89	CIP	584,294	175,288
1923	14	16	1923	88		2,013	604
1923	11,537	24	1923	88	CIP	2,549,316	764,795
1924	17,375	16	1924	87	CIP	2,498,416	749,525
1924	450	24	1924	87	CIP	99,436	29,831
1925	1,306	16	1925	86	CIP	187,795	56,338
1925	4,833	24	1925	86	CIP	1,067,942	320,383
1926	12	16	1926	85	CIP	1,726	863
1926	8	18	1926	85	CIP	1,150	575
1926	16	20	1926	85	CIP	3,060	1,530
1926	1,383	24	1926	85		305,600	152,800
1927	14,889	24	1927	84	CIP	3,290,004	1,645,002
1929	15,623	30	1929	82	CIP	4,399,242	2,199,621
1930	615	24	1930	81	CON	135,896	67,948
1930	5	30	1930	81	CIP	1,408	704
1932	9,521	16	1932	79	CIP	1,369,060	684,530
1932	4,871	20	1932	79	CIP	931,487	465,744
1932	506	24	1932	79	CIP	111,810	55,905
1933	200	20	1933	78		38,246	19,123
1933	712	24	1933	78	CIP	157,330	78,665

Regional Water Study Toledo	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
1935	137	16	1935	76		19,700	9,850
1935	180	20	1935	76		34,422	17,211
1935	825	24	1935	76	CIP	182,299	91,150
1935	1,241	30	1935	76	STL	349,450	174,725
1936	2,925	48	1936	75	STL	1,308,298	654,149
1937	197	16	1937	74		28,327	14,164
1937	1,230	24	1937	74	CIP	271,792	135,896
1937	10,652	48	1937	74	STL	4,764,440	2,382,220
1938	12	16	1938	73	CIP	1,726	863
1938	4	18	1938	73		575	288
1938	9	20	1938	73		1,721	861
1938	89	24	1938	73		19,666	9,833
1940	29	36	1940	71	STL	9,107	4,554
1940	13	42	1940	71	STL	4,872	2,436
1941	52	24	1941	70	STL	11,490	5,745
1941	76	30	1941	70	STL	21,401	10,700
1941	21	36	1941	70	STL	6,595	3,297
1941	6,898	42	1941	70	STL	2,585,327	1,292,664
1941	10,898	60	1941	70	STL	6,919,889	3,459,945
1941	7,418	72	1941	70	STL	6,687,466	3,343,733
1942	60	16	1942	69	STL	8,628	4,314
1942	10,850	20	1942	69	STL	2,074,859	1,037,430
1942	1,483	24	1942	69	STL	327,697	163,848
1942	83	36	1942	69	STL	26,066	13,033
1942	1,696	48	1942	69	STL	758,589	379,295
1942	18	60	1942	69	STL	11,429	5,715
1943	62	16	1943	68		8,915	4,458
1944	10	16	1944	67	CIP	1,438	719
1944	4,075	24	1944	67	CIP	900,448	450,224
1944	629	42	1944	67	CIP	235,745	117,873
1945	4	16	1945	66	CIP	575	288
1945	5,981	24	1945	66	CIP	1,321,614	660,807
1946	6	16	1946	65	STL	863	431
1946	16	20	1946	65	STL	3,060	1,530
1946	5,411	24	1946	65	STL	1,195,662	597,831
1948	5	16	1948	63	CON	719	359

Regional Water Study Toledo	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
1948	94	30	1948	63	CIP	26,469	13,235
1948	8,596	36	1948	63	CON	2,699,520	1,349,760
1950	2,644	16	1950	61	STL	380,191	190,095
1950	7,326	24	1950	61	STL	1,618,817	809,409
1950	12,872	36	1950	61	CON	4,042,371	2,021,186
1951	107	16	1951	60		15,386	7,693
1951	7,941	24	1951	60	CON	1,754,713	877,356
1952	189	16	1952	59	CIP	27,177	13,589
1952	1,041	24	1952	59	CON	230,028	115,014
1952	6,071	30	1952	59	CON	1,709,518	854,759
1952	8	48	1952	59		3,578	1,789
1953	4,376	16	1953	58	CIP	629,241	314,621
1953	4	24	1953	58		884	442
1954	21,098	16	1954	57	CON	3,033,761	1,516,880
1954	14,514	24	1954	57	CON	3,207,140	1,603,570
1954	74	30	1954	57	CIP	20,837	10,419
1954	6,627	48	1954	57	CON	2,964,133	1,482,066
1954	5,274	72	1954	57	CON	4,754,610	2,377,305
1955	2,962	16	1955	56		425,917	212,959
1955	178	24	1955	56		39,332	19,666
1955	34	30	1955	56	CIP	9,574	4,787
1955	168	42	1955	56		62,965	31,483
1955	4,077	72	1955	56	STL	3,675,492	1,837,746
1956	63	16	1956	55		9,059	6,341
1956	3,660	16	1956	55	CON	526,285	368,400
1956	3,125	24	1956	55	CON	690,527	483,369
1956	54	30	1956	55	CON	15,206	10,644
1956	15	36	1956	55	CON	4,711	3,297
1956	5,896	48	1956	55	CON	2,637,170	1,846,019
1956	1,866	54	1956	55	CON	995,114	696,580
1956	2,891	60	1956	55	CON	1,835,695	1,284,986
1956	645	72	1956	55	CON	581,480	407,036
1957	6	16	1957	54		863	604
1957	1,977	24	1957	54	CON	436,855	305,799
1957	10,992	48	1957	54	CON	4,916,516	3,441,561
1958	8,138	24	1958	53	CON	1,798,244	1,258,771
1958	3,504	48	1958	53	PCCP	1,567,274	1,097,091

Regional Water Study Toledo	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
1960	4,626	16	1960	51	CON	665,190	465,633
1960	1	20	1960	51		191	134
1960	2,599	24	1960	51	CON	574,298	402,008
1960	5,892	30	1960	51	CON	1,659,114	1,161,379
1961	815	20	1961	50	CON	155,853	109,097
1961	6,279	24	1961	50	CON	1,387,463	971,224
1961	7,167	30	1961	50	CON	2,018,138	1,412,696
1961	1,577	36	1961	50	CON	495,247	346,673
1962	16,436	16	1962	49	PCCP	2,363,394	1,654,376
1962	3,968	24	1962	49	PCCP	876,804	613,763
1962	11,308	30	1962	49	PCCP	3,184,191	2,228,934
1962	9,788	42	1962	49	PCCP	3,668,481	2,567,937
1963	5,001	16	1963	48	CIP	719,113	503,379
1963	32	20	1963	48	PCCP	6,119	4,284
1963	17,718	24	1963	48	PCCP	3,915,124	2,740,587
1963	62	30	1963	48	PCCP	17,458	12,221
1963	8,783	36	1963	48	PCCP	2,758,246	1,930,772
1963	14,585	42	1963	48	PCCP	5,466,367	3,826,457
1964	4,474	16	1964	47	CIP	643,333	450,333
1966	850	24	1966	45	CON	187,823	131,476
1967	5,162	16	1967	44	PCCP	742,263	519,584
1967	7,331	20	1967	44	PCCP	1,401,916	981,341
1967	592	30	1967	44	CON	166,700	116,690
1967	9	36	1967	44		2,826	1,978
1967	435	60	1967	44	CON	276,211	193,348
1968	6,801	16	1968	43	PCCP	977,941	684,559
1968	6	24	1968	43	CON	1,326	928
1968	1,608	30	1968	43	CON	452,793	316,955
1969	5,646	16	1969	42	PCCP	811,860	568,302
1969	118	24	1969	42	CIP	26,074	18,252
1969	1,614	30	1969	42	PCCP	454,482	318,138

Regional Water Study Toledo		INVENTORY & ASSETS						
		Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
1969		6	36	1969	42	PCCP	1,884	1,319
1970		892	24	1970	41	PCCP	197,104	137,973
1971		27	16	1971	40	PCCP	3,882	2,718
1971		13,933	24	1971	40	PCCP	3,078,758	2,155,130
1971		1,195	30	1971	40	PCCP	336,497	235,548
1971		11,934	36	1971	40	PCCP	3,747,798	2,623,459
1972		17	16	1972	39	CIP	2,444	1,711
1972		8,105	30	1972	39	CON	2,282,267	1,597,587
1973		7,521	16	1973	38	PCCP	1,081,473	757,031
1982		23	24	1982	29	DIP	5,082	3,558
1996		6	16	1996	15	DIP	863	863
1996		3,628	24	1996	15	DIP	801,675	801,675
1996		15,016	42	1996	15	PCCP	5,627,903	5,627,903
1997		32	16	1997	14	DIP	4,601	4,601
1997		138	20	1997	14	PCCP	26,390	26,390
1998		4	16	1998	13		575	575
1998		1,054	24	1998	13	PCCP	232,901	232,901
1998		4,776	30	1998	13	PCCP	1,344,862	1,344,862
1999		7,912	16	1999	12	DIP	1,137,696	1,137,696
1999		171	24	1999	12	DIP	37,786	37,786
2000		261	42	2000	11	PCCP	97,821	97,821
2000		610	48	2000	11	PCCP	272,842	272,842
2000		25	60	2000	11	PCCP	15,874	15,874
2000		3,016	72	2000	11	PCCP	2,718,981	2,718,981
2000		8,736	96	2000	11	PCCP	15,870,746	15,870,746
2002		4,038	16	2002	9	DIP	580,639	580,639
2002		2,849	24	2002	9	DIP	629,540	629,540
2004		58	16	2004	7	DIP	8,340	8,340
2005	ESWM Phase II	111	42	2005	6	PCCP	41,602	41,602
2005	ESWM Phase II	6,546	48	2005	6	PCCP	2,927,903	2,927,903
2005	ESWM Phase II	57	66	2005	6	PCCP	43,192	43,192
2006	ESWM Phase II	54	16	2006	5	DIP	7,765	7,765
2006	ESWM Phase II	23	24	2006	5	DIP	5,082	5,082
2006	ESWM Phase II	8	36	2006	5		2,512	2,512
2006	ESWM Phase II	14,641	66	2006	5	PCCP	11,094,401	11,094,401

Regional Water Study Toledo		INVENTORY & ASSETS						
		Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
2006	ESWM Phase II	9,690	72	2006	5	PCCP	8,735,717	8,735,717
2007	ESWM Phase II	133	16	2007	4	DIP	19,125	19,125
2007	ESWM Phase II	58	24	2007	4	DIP	12,816	12,816
2007	ESWM Phase II	15,572	72	2007	4	PCCP	14,038,450	14,038,450
Local Water Mains		<u>5,488,328</u>	<16				<u>493,949,520</u>	<u>332,543,768</u>
Subtotal		6,174,657					724,381,010	487,678,155
Raw Water Mains								
1941		47,200	78	1941	70	Steel	32,492,102	16,246,051
1967		<u>47,200</u>	60	1967	44	Concrete	<u>19,181,136</u>	<u>13,426,795</u>
Subtotal		94,400					\$51,673,238	\$29,672,846
Intake Conduit								
1941		<u>15,500</u>	108	1941	70	Concrete	<u>72,656,250</u>	<u>61,757,813</u>
Subtotal		15,500					\$72,656,250	\$61,757,813
Pumping Stations								
Flanders Area		MGD	1.1	1987	24	Concrete	763,125	648,656
Low Service		MGD	200.0	1941	70	Concrete	52,125,000	36,487,500
High Service		MGD	180.0	1941	70	Concrete	46,912,500	32,838,750
Heatherdowns		MGD	<u>27.0</u>	1972	39	Concrete	<u>7,036,875</u>	<u>4,925,813</u>
Subtotal			408.1				\$106,837,500	\$74,900,719
Elevated & Ground Storage Tanks								
Collins Park Reservoir		MG	35.0	1941	70	Concrete	19,687,500	13,781,250
Heatherdowns Reservoir		MG	8.0	1972	39	Concrete	7,200,000	6,120,000
Collins Park Reservoir		MG	<u>35.0</u>	1978	33	Concrete	<u>19,687,500</u>	<u>16,734,375</u>
Subtotal			78.00				\$46,575,000	\$36,635,625
Water Treatment Plant								
Collins Park		MGD	100.0	1941	70	Concrete	240,000,000	168,000,000
Collins Park		MGD	<u>50.0</u>	1956	55	Concrete	<u>120,000,000</u>	<u>84,000,000</u>
Subtotal			150.0				\$360,000,000	\$252,000,000
TOTAL							<u>\$1,362,122,999</u>	<u>\$942,645,157</u>
MAJOR ASSETS VALUE (Intake, WTP Facilities, Pumping Stations & 16" Mains and Larger)								<u>\$609,452,733</u>

Regional Water Study Waterville	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
Local Water Mains	<u>166,200</u>	<16				<u>14,958,000</u>	<u>11,218,500</u>
Subtotal	166,200					14,958,000	11,218,500
Pumping Stations							
Chlorination Station	MGD	<u>0.0</u>				<u>30,000</u>	<u>30,000</u>
Subtotal		0.0				\$30,000	\$30,000
Elevated & Ground Storage Tanks							
100,000 Gallon Elevated Tank	MG	0.10	1965	46	Steel	267,750	80,325
400,000 Gallon Elevated Tank	MG	0.40	1977	34	Steel	1,071,000	1,071,000
250,000 Gallon Elevated Tank	MG	<u>0.25</u>	1988	23	Steel	<u>669,375</u>	<u>334,688</u>
Subtotal		0.75				\$2,008,125	\$1,486,013
TOTAL						<u>\$16,996,125</u>	<u>\$12,734,513</u>

Regional Water Study Whitehouse	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
Water Mains							
1973	200	16	1973	26	A/C	28,759	20,131
1989	2,400	16	1989	10	PVC	345,105	345,105
Local Water Mains	<u>150,400</u>	<16				<u>13,536,000</u>	<u>10,016,640</u>
Subtotal	153,000					\$13,909,864	\$10,381,876
Pumping Stations/Well Pumps/Chlorination Facilities							
WTP Wells & Chlorination Facil	MGD	<u>1.1</u>	1960			<u>763,125</u>	<u>534,188</u>
Subtotal		1.1	Average Age			\$763,125	\$534,188
Elevated & Ground Storage Tanks							
Water Tower 1 - 6763 Gilead	MG	0.25	1970	29	Steel	669,375	468,563
Water Tower 2 - 6317 Finzel	MG	<u>0.25</u>	1993	6	Steel	<u>669,375</u>	<u>669,375</u>
Subtotal		0.50				\$1,338,750	\$1,137,938
TOTAL						<u>\$16,011,739</u>	<u>\$12,054,001</u>

Regional Water Study Wood County	INVENTORY & ASSETS						
	Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value

Water Mains

1966	1,976	16	1966	45	AC	284,136	198,896
1966	10,653	16	1966	45	CIP	1,531,835	1,072,284
1966	19,605	20	1966	45	CCP	3,749,089	2,624,362
1966	1,158	24	1966	45	CIP	255,882	179,117
1966	7,791	24	1966	45	RCPP	1,721,568	1,205,097
1967	329	18	1967	44	CCP	47,308	33,116
1968	61	16	1968	43	CIP	8,771	6,140
1968	8,046	24	1968	43	RCPP	1,777,915	1,244,540
1968	20,261	30	1968	43	RCPP	5,705,244	3,993,671
1972	3,539	16	1972	39	CIP	508,886	356,220
1973	26	16	1973	38	CIP	3,739	2,617
1974	906	16	1974	37	AC	130,277	91,194
1975	5,727	16	1975	36	AC	823,507	576,455
1976	199	16	1976	35	CIP	28,615	20,030
1976	15	24	1976	35	RCPP	3,315	2,320
1977	399	16	1977	34	DIP	57,374	40,162
1978	26	16	1978	33	CIP	3,739	2,617
1979	1,855	16	1979	32	PSCP	266,737	186,716
1981	1,180	16	1981	30	DIP	169,677	118,774
1983	8,175	16	1983	28	DIP	1,175,514	822,860
1983	9	20	1983	28	CCP	1,721	1,205
1983	171	24	1983	28	RCPP	37,786	26,450
1985	9,837	16	1985	26	DIP	1,414,499	990,149
1988	21,547	16	1988	23	DIP	3,098,324	3,098,324
1989	1,675	16	1989	22	DIP	240,855	240,855
1991	219	16	1991	20	DIP	31,491	31,491
1994	34,732	16	1994	17	C900	4,994,245	4,994,245
1994	9,644	16	1994	17	DIP	1,386,747	1,386,747
1994	9,524	24	1994	17	PVC	2,104,506	2,104,506
1994	65	30	1994	17	RCPP	18,303	18,303
1994	22	36	1994	17	DIP	6,909	6,909
1995	3	16	1995	16	DIP	431	431
1997	8	16	1997	14	C900	1,150	1,150
1997	4,273	16	1997	14	DIP	614,431	614,431
1997	5,998	20	1997	14	CIP	1,147,005	1,147,005
1997	981	20	1997	14	DR14	187,598	187,598
1998	21,814	16	1998	13	DIP	3,136,717	3,136,717
1998	601	16	1998	13	PVC	86,420	86,420

Regional Water Study Wood County		INVENTORY & ASSETS						
		Length	Diameter"/ Capacity	Year Built	Age	Material	Replacement Cost	Current Value
	1998	266	20	1998	13	CIP	50,868	50,868
	1998	91	20	1998	13	DIP	17,402	17,402
	1998	7,527	20	1998	13	PVC	1,439,398	1,439,398
	1998	905	24	1998	13	PVC	199,977	199,977
	1999	2,944	16	1999	12	CIP	423,329	423,329
	1999	226	20	1999	12	DIP	43,218	43,218
	2000	618	16	2000	11	DIP	88,865	88,865
	2001	2,840	16	2001	10	DIP	408,374	408,374
	2002	3,038	16	2002	9	DIP	436,845	436,845
	2004	11	16	2004	7	DR14	1,582	1,582
	2005	5,387	16	2005	6	DIP	774,617	774,617
	2005	1,224	16	2005	6	DR14	176,004	176,004
	2007	357	16	2007	4	C900	51,334	51,334
	2007	4,035	16	2007	4	DIP	580,208	580,208
	2007	1,041	16	2007	4	DR14	149,689	149,689
Local Water Mains		<u>1,794,833</u>	<16				<u>95,111,790</u>	<u>81,595,913</u>
	Subtotal	2,038,393					\$136,715,763	\$117,287,746
Pumping Stations								
	East Broadway	MGD	13.1	1968		Concrete	5,698,500	4,843,725
	Rossford	MGD	<u>4.0</u>	1966		Concrete	<u>2,550,000</u>	<u>1,785,000</u>
	Subtotal		17.1				\$8,248,500	\$6,628,725
Elevated & Ground Storage Tanks								
	East Broadway Clearwell	MG	1.50	2010	1	Concrete	1,729,688	1,729,688
	Oregon Rd (Chrysler)	MG	1.00	1968	31	Steel	1,906,875	1,334,813
	Portage	MG	<u>0.10</u>	1983	16	Steel	<u>267,750</u>	<u>267,750</u>
	Subtotal		2.60				\$3,904,313	\$3,332,250
TOTAL							<u>\$148,868,575</u>	<u>\$127,248,721</u>

Appendix B

Water Rate Structures

Regional Water Study	EXISTING AGREEMENTS & WATER RATES									
	WATER PROVIDED BY	MASTER/RETAIL	TYPE OF CHARGE	EXPIRATION DATE	RATE BLOCK	SURCHARGE	COST/1000 CF	VOLUME		
Bowling Green	Bowling Green	Retail	Meter Size					(INSIDE)		
			Customer Charge					\$1.30 /MONTH		
			Usage Charge						<u>\$14.08</u>	
			CIP Funds Supplied Through Income Tax						TOTAL RATE BILLED	\$15.38
Bowling Green	Bowling Green	Retail	Meter Size					(OUTSIDE)		
			Customer Charge					\$2.13 /MONTH		
			Usage Charge						<u>\$23.09</u>	
									TOTAL RATE BILLED	\$25.22
Fulton County Wholesale North Star	Lucas County via Toledo	Master Meter	Toledo 1st Block	3/14/2016	1st Block	75%	\$21.40			
			+75% Surcharge							
			+Lucas Co. Water Dist. Charge						\$2.75	
			+Fulton Co. Surcharge						<u>\$1.87</u>	
							TOTAL RATE BILLED	\$26.02		
Fulton County Northeast Water System	Lucas County via Toledo	Master Meter	Toledo 1st Block	3/14/2016	1st Block	75%	\$21.40			
			+75% Surcharge							
			+Lucas Co. Water Dist. Charge & Fulton/Lucas Co WL						\$4.64	
			+Fulton Co. O, M, R & D						<u>\$27.75</u>	
							TOTAL RATE BILLED	\$53.79		
Lucas County Northwest & Southwest	Toledo	Retail	Toledo	10/10/2024	1st Block	50%	\$18.35	<u>CF/MONTH</u>		
			Declining Block		2nd Block	50%	\$17.82	First 10,000		
			+ 50% Surcharge		3rd Block	50%	\$14.00	Next 150,000		
					4th Block	50%	\$10.22	Next 1,000,000		
								Over 1,160,000		
			+Lucas Co. Water Dist. Charge					\$5.85		
			+Lucas Co. Fixed Charge					<u>\$4.80</u>	(Ave. Monthly Charge)	
									TOTAL RATE BILLED	\$29.00
									to	\$24.68
									\$23.67	First 1,000*
						\$19.85	Next 10,000			
						\$16.07	Next 150,000			
							\$19.85	Next 1,000,000		
							\$16.07	Over 1,160,000		
*Minimum Charge 1,000 CF/Month or 2,000 CF/Quarter through 5/8" Meter										

Regional Water Study	EXISTING AGREEMENTS & WATER RATES										
	WATER PROVIDED BY	MASTER/ RETAIL	TYPE OF CHARGE	EXPIRATION DATE	RATE BLOCK	SURCHARGE	COST/ 1000 CF	VOLUME			
Maumee	Toledo	Master Meter	Toledo Declining Block + 40% Surcharge	2/1/2026	4th Block	40%	\$9.53	<u>CF/MONTH</u>			
								Over 1,160,000			
								+Maumee Operating Expenses	\$19.49		
								to	\$8.79		
								TOTAL RATE BILLED	\$29.02	<u>GAL./QUARTER</u>	
									\$23.11	First 5,000*	
									\$22.51	Next 20,000	
									\$20.94	Next 75,000	
									\$18.33	Next 100,000	
										Next 200,000	
*Minimum Charge of 7,000 GAL/Quarter											
Monroe County, MI	Toledo	Master Meter	Toledo Declining Block + 40% Surcharge	5/26/2031	* 4th Block	40%	\$9.53	<u>CF/MONTH</u>			
								Over 1,160,000			
								+Monroe Co. Operating Expenses	\$21.47 (For 5/8" Meter)		
								TOTAL RATE BILLED	<u>Consumption Charge</u>	<u>Debt Service</u>	<u>METER SIZE</u>
								(Monthly Rate for 1,000CF)	\$3.12/1,000 GAL.	\$7.67/Month	5/8"
<p>* Note- New contract negotiated in 2011 with Toledo will be phase in over two years and equal First Block + 75% in 2013.</p> <p>Minimum Charge 3,000 GAL/Quarter through 1" Meter Minimum Charge 10,000 GAL/Quarter through 1 1/2" Meter</p>											

Regional Water Study	EXISTING AGREEMENTS & WATER RATES									
	WATER PROVIDED BY	MASTER/ RETAIL	TYPE OF CHARGE	EXPIRATION DATE	RATE BLOCK	SURCHARGE	COST/ 1000 CF	VOLUME		
Perrysburg	Toledo	Master Meter	Toledo Declining Block + 40% Surcharge	12/10/2027	4th Block	40%	\$9.53	<u>CF/MONTH</u> Over 1,160,000		
							+Perrysburg Operating Expenses	\$25.93 (Of Inside Rate)		
							TOTAL RATE BILLED (INSIDE)		\$35.46	<u>CF/MONTH</u> Flat Rate/1000 CF
							Minimum Charge 1,000 CF/Quarter			
Perrysburg (Outside City)							TOTAL RATE BILLED (OUTSIDE)	\$40.78	Flat Rate/1000 CF	
			Minimum Charge 1,000 CF/Quarter							
Sylvania	Toledo	Master Meter	Toledo 1st Block +75% Surcharge	7/23/2028	1st Block	75%	\$21.40	<u>CF/MONTH</u> Flat Rate/1000 CF		
							+Sylvania Operating Expenses	\$15.77		
							TOTAL RATE BILLED		\$37.18	<u>CF/MONTH</u> Flat Rate/1000 CF
Toledo	Toledo	Retail	Declining Block				TOTAL RATE BILLED (INSIDE)			
							1st Block	\$12.23	<u>CF/MONTH</u> First 10,000	
							2nd Block	\$11.88	Next 150,000	
							3rd Block	\$9.33	Next 1,000,000	
							4th Block	\$6.81	Over 1,160,000	
Minimum Charge 1,000 CF/Month or 2,000 CF/Quarter through 5/8" Meter										

Regional Water Study	EXISTING AGREEMENTS & WATER RATES								
	WATER PROVIDED BY	MASTER/ RETAIL	TYPE OF CHARGE	EXPIRATION DATE	RATE BLOCK	SURCHARGE	COST/ 1000 CF	VOLUME	
Waterville	Lucas County via Toledo	Master Meter	Toledo 1st Block +50% Surcharge Thru Lucas Co.	10/10/2024	1st Block	50%	\$18.35	<u>CF/MONTH</u> Over 1,160,000	
								+Lucas Co. Water Dist. Charge	\$2.94
								+Waterville Operating Expenses	<u>\$21.73</u> (Ave. Monthly Charge)
								TOTAL RATE BILLED	\$43.01
								Capital Charge \$8.00/month plus \$4.68/1000 gallons	
Whitehouse	Lucas County via Toledo	Master Meter	Toledo 1st Block +50% Surcharge Thru Lucas Co.	10/10/2024	1st Block	50%	\$18.35	<u>GAL./QUARTER</u> Over 1,160,000	
								+Lucas Co. Water Dist. Charge	\$2.94
								+Whitehouse Operating Expenses	<u>\$8.30</u> (Ave. Monthly Charge)
								TOTAL RATE BILLED	\$29.58
Wood County	Toledo	Master Meter	Toledo Declining Block + 40% Surcharge	10/1/2024	4th Block	50%	\$10.22	<u>CF/MONTH</u> Over 1,160,000	
								+Wood Co. Operating Expenses	\$13.54 (For 5/8" Meter)
								<u>Minimum Monthly Charge</u>	
								TOTAL RATE BILLED (Monthly Rate for 1,000CF)	\$13.26
									<u>METER SIZE</u> 5/8"
Note: Two other rate zones exist (Rossford & Northwood) and are charged Toledo First Block +75%.									

Appendix C

Purchase Valuation

Regional Water Study	PURCHASE OF TOLEDO WATER SYSTEM
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Current Value of Toledo System	\$942,645,157
Less ESWM Phase II	\$36,928,565
Less Local Mains	<u>\$333,192,424</u>
	\$572,524,168
55% of Toledo Water System Capacity	<u>55.0%</u>
	\$314,888,292

Total Annual Debt Service	\$21,071,359 /year
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Interest Rate	5.25 %	
Bond Term	30 years	

Existing Annual Billing Volume outside Toledo	1,305,885 1000 CF
Cost/1000 CF	\$16.14 /1000 CF
Cost/1000 CF (Bowling Green excluded)	\$18.96 /1000 CF
Difference	\$2.83 /1000 CF

Appendix D

Projected Operation & Maintenance
and Annual Debt Service

Regional Water Study	PROJECTED OPERATION AND MAINTENANCE 6119 & LOCAL TOLEDO					
	Actual 2009	Actual 2010	Projected 2011	2012	2013	2014

Treatment	\$16,115,042	\$14,900,379	\$15,507,711	\$16,128,019	\$16,773,140	\$17,444,065
Distribution	8,265,845	9,442,967	\$8,854,406	\$9,208,582	\$9,576,926	\$9,960,003
Utilities Administration	3,900,000	3,900,000	\$3,900,000	\$4,056,000	\$4,218,240	\$4,386,970
TOTAL	\$28,280,887	\$28,243,346	\$28,262,117	\$29,392,601	\$30,568,305	\$31,791,037
Existing Annual Billing Volume/1000 CF		2,715,157	2,715,157	2,715,157	2,715,157	2,715,157
Cost/1000 CF All Communities		\$10.40	\$10.41	\$10.83	\$11.26	\$11.71

PROJECTED OPERATION AND MAINTENANCE TOLEDO & SATELLITES SEPARATED
--

LOCAL TOLEDO

Treatment						
Distribution			\$5,613,693.40	\$5,838,241.14	\$6,071,770.79	\$6,314,641.62
Utilities Administration			\$1,996,800.00	\$2,076,672.00	\$2,159,738.88	\$2,246,128.44
TOTAL for Toledo			\$7,610,493	\$7,914,913	\$8,231,510	\$8,560,770
Existing Annual Billing Volume/1000 CF	1,604,003	1,604,003	1,604,003	1,604,003	1,604,003	1,604,003
Cost/1000 CF for Toledo O&M Only			\$4.74	\$4.93	\$5.13	\$5.34

6119 O&M (ALL USERS)

Treatment			\$15,507,710.50	\$16,128,018.92	\$16,773,139.68	\$17,444,065.26
Distribution			\$3,240,712.60	\$3,370,341.10	\$3,505,154.74	\$3,645,360.93
Utilities Administration			\$1,903,200.00	\$1,979,328.00	\$2,058,501.12	\$2,140,841.16
TOTAL for 6119			\$20,651,623	\$21,477,688	\$22,336,796	\$23,230,267
Existing Annual Billing Volume/1000 CF	2,715,157	2,715,157	2,715,157	2,715,157	2,715,157	2,715,157
Cost/1000 CF 6119 O&M (ALL USERS)			\$7.61	\$7.91	\$8.23	\$8.56
Inflation Rate				4.00%	4.00%	4.00%

CITY OF TOLEDO COST SHARING SUMMARY

Distribution	85.0%
Utilities Administration	80.0%

Regional Water Study	6119 CIP SUMMARY FUTURE COST				
	Total Est. Cost	2011	2012	2013	2014
REGIONAL PROJECTS (ALL USERS)	55,063,584	22,761,600	12,438,400	11,145,888	8,717,696
SATELLITE PROJECTS	24,121,280	1,000,000	11,440,000	11,681,280	
CITY OF TOLEDO LOCAL PROJECTS	14,308,261	4,050,400	3,224,000	3,569,280	3,464,581
Total	<u>\$93,493,125</u>	<u>\$27,812,000</u>	<u>\$27,102,400</u>	<u>\$26,396,448</u>	<u>\$12,182,277</u>
Inflation Rate			4.0%	4.0%	4.0%

Regional Water Study	EXISTING DEBT & CIP SUMMARY REGIONAL PROJECTS (ALL USERS) - DEBT SERVICE SCHEDULE				
	Total Est. Cost	2011	2012	2013	2014
Existing Debt		\$6,162,592	\$6,170,967	\$6,172,812	\$6,163,558
2011 Projects	\$22,761,600	1,904,675	1,904,675	1,904,675	1,904,675
2012 Projects	\$12,438,400		1,040,837	1,040,837	1,040,837
2013 Projects	\$11,145,888			932,680	932,680
2014 Projects	\$8,717,696				<u>729,491</u>
Total Annual Debt Service*		<u>\$8,067,268</u>	<u>\$9,116,480</u>	<u>\$10,051,005</u>	<u>\$10,771,242</u>
*Note- Debt Reserves not included.					
Interest Rate	5.5 %				
Bond Term	20 years				
Existing Billing Volume CF		2,715,157	2,715,157	2,715,157	2,715,157
Cost/1000 CF		\$2.97	\$3.36	\$3.70	\$3.97

Regional Water Study	EXISTING DEBT & CIP SUMMARY				
	SATELLITE PROJECTS - DEBT SERVICE SCHEDULE				
	Total Est. Cost	2011	2012	2013	2014
ESWM Phase II	\$36,928,565	\$3,090,158	\$3,090,158	\$3,090,158	\$3,090,158
2011 Projects	\$1,000,000	83,679	83,679	83,679	83,679
2012 Projects	\$11,440,000		957,292	957,292	957,292
2013 Projects	\$11,681,280			977,482	977,482
2014 Projects					
Total Annual Debt Service*		<u>\$3,173,837</u>	<u>\$4,131,128</u>	<u>\$5,108,610</u>	<u>\$5,108,610</u>
*Note- Debt Reserves not included.					
Interest Rate	5.5 %				
Bond Term	20 years				
Existing Billing Volume CF		1,111,154	1,111,154	1,111,154	1,111,154
Cost/1000 CF		\$2.86	\$3.72	\$4.60	\$4.60

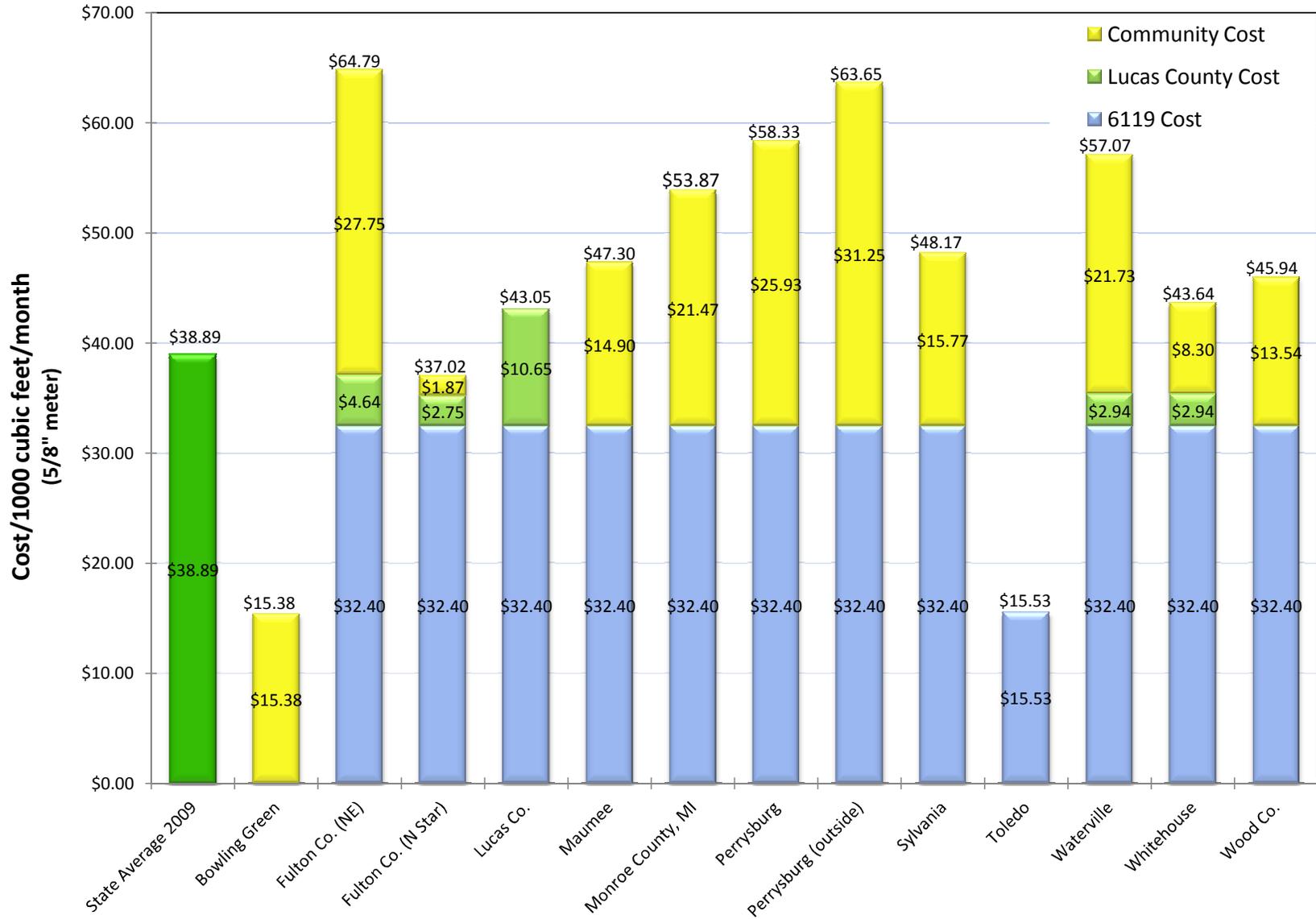
Regional Water Study	EXISTING DEBT & CIP SUMMARY				
	TOLEDO LOCAL PROJECTS - DEBT SERVICE SCHEDULE				
	Total Est. Cost	2011	2012	2013	2014
2011 Projects	\$4,050,400	338,935	338,935	338,935	338,935
2012 Projects	\$3,224,000		269,782	269,782	269,782
2013 Projects	\$3,569,280			298,675	298,675
2014 Projects	\$3,464,581				<u>289,914</u>
Total Annual Debt Service*		<u>\$338,935</u>	<u>\$608,717</u>	<u>\$907,392</u>	<u>\$1,197,306</u>
*Note- Debt Reserves not included.					
Interest Rate	5.5 %				
Bond Term	20 years				
Existing Billing Volume CF		1,604,003	1,604,003	1,604,003	1,604,003
Cost/1000 CF		\$0.21	\$0.38	\$0.57	\$0.75

Appendix E

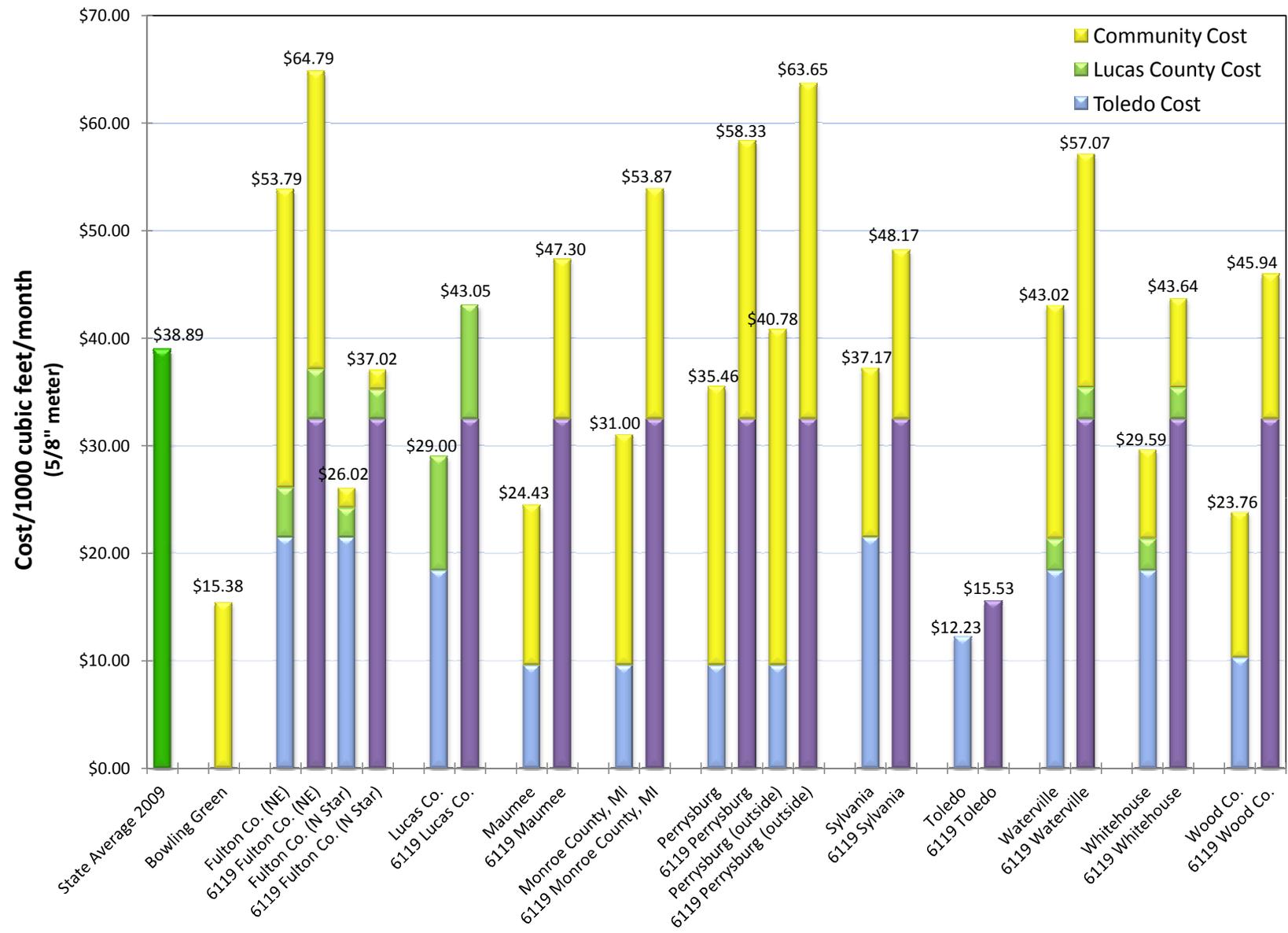
Projected Water Rate Worksheets

Options 1, A1, A1 (with Equal Rate) &
A2

6119 Regional Water System Consumer Water Cost Summary



6119 Regional Water System Consumer Water Cost Summary Comparison



Regional Water Study	PROJECTED COST OF WATER 2011															
	PURCHASE TOLEDO WATER SYSTEM (OPTION 1) (Without Bowling Green)															
	LOCAL COSTS		6119 O & M		ALL USERS DEBT & CIP		SATELLITE DEBT & CIP		TOL LOCAL DEBT/CIP		6119 PURCHASE		6119 TOTAL	*TOTAL	TOTAL	
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	COST	COST	\$/1000 CF
Bowling Green																
Fulton County (NE)	2,329,456	\$32.39	547,020	\$7.61	213,686	\$2.97	205,425	\$2.86			1,363,836	\$18.96	2,329,966	4,659,423	\$64.79	
Lucas County	4,153,833	\$10.65	2,965,670	\$7.61	1,158,497	\$2.97	1,113,715	\$2.86			7,394,042	\$18.96	12,631,924	16,785,756	\$43.05	
Maumee	1,482,720	\$14.90	757,099	\$7.61	295,750	\$2.97	284,318	\$2.86			1,887,608	\$18.96	3,224,774	4,707,494	\$47.29	
Monroe County, MI	3,059,781	\$21.47	1,083,789	\$7.61	423,367	\$2.97	407,001	\$2.86			2,702,115	\$18.96	4,616,273	7,676,053	\$53.87	
Perrysburg	3,428,703	\$25.93	1,005,897	\$7.61	392,940	\$2.97	377,750	\$2.86			2,507,915	\$18.96	4,284,502	7,713,205	\$58.32	
Sylvania	1,537,882	\$15.77	741,592	\$7.61	289,693	\$2.97	278,494	\$2.86			1,848,947	\$18.96	3,158,726	4,696,608	\$48.17	
Toledo	7,610,493	\$4.74	12,200,131	\$7.61	4,765,811	\$2.97	0	\$0.00	338,935	\$0.21	0	\$0.00	16,965,942	24,915,370	\$15.53	
Waterville	543,711	\$24.66	167,687	\$7.61	65,505	\$2.97	62,972	\$2.86			418,079	\$18.96	714,242	1,257,953	\$57.06	
Whitehouse	291,605	\$11.23	197,458	\$7.61	77,134	\$2.97	74,152	\$2.86			492,304	\$18.96	841,048	1,132,653	\$43.63	
Wood County	1,753,312	\$13.54	985,281	\$7.61	384,886	\$2.97	370,008	\$2.86			2,456,514	\$18.96	4,196,690	5,950,002	\$45.93	
TOTAL	\$26,191,495		\$20,651,623		\$8,067,268		\$3,173,837		\$338,935		\$21,071,359		\$52,964,087	\$79,494,517		

*Total Cost includes 6119 Cost and Local Cost.

Regional Water Study	PROJECTED COST OF WATER 2012															
	PURCHASE TOLEDO WATER SYSTEM (OPTION 1) (Without Bowling Green)															
	LOCAL COSTS		6119 O & M		ALL USERS DEBT & CIP		SATELLITE DEBT & CIP		TOL LOCAL DEBT/CIP		6119 PURCHASE		6119 TOTAL	*TOTAL	TOTAL	
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	COST	COST	\$/1000 CF
Bowling Green																
Fulton County (NE)	2,329,456	\$32.39	568,900	\$7.91	241,477	\$3.36	267,386	\$3.72			1,363,836	\$18.96	2,441,599	4,771,055	\$66.34	
Lucas County	4,153,833	\$10.65	3,084,296	\$7.91	1,309,169	\$3.36	1,449,633	\$3.72			7,394,042	\$18.96	13,237,140	17,390,973	\$44.60	
Maumee	1,482,720	\$14.90	787,383	\$7.91	334,215	\$3.36	370,073	\$3.72			1,887,608	\$18.96	3,379,278	4,861,998	\$48.85	
Monroe County, MI	3,059,781	\$21.47	1,127,140	\$7.91	478,429	\$3.36	529,761	\$3.72			2,702,115	\$18.96	4,837,446	7,897,227	\$55.42	
Perrysburg	3,428,703	\$25.93	1,046,133	\$7.91	444,045	\$3.36	491,687	\$3.72			2,507,915	\$18.96	4,489,780	7,918,483	\$59.88	
Sylvania	1,537,882	\$15.77	771,256	\$7.91	327,369	\$3.36	362,494	\$3.72			1,848,947	\$18.96	3,310,066	4,847,948	\$49.72	
Toledo	7,610,493	\$4.93	12,688,136	\$7.91	5,385,642	\$3.36	0	\$0.00	608,717	\$0.38	0	\$0.00	18,073,778	26,292,989	\$16.58	
Waterville	543,711	\$24.66	174,394	\$7.91	74,024	\$3.36	81,966	\$3.72			418,079	\$18.96	748,463	1,292,174	\$58.61	
Whitehouse	291,605	\$11.23	205,356	\$7.91	87,166	\$3.36	96,518	\$3.72			492,304	\$18.96	881,344	1,172,949	\$45.18	
Wood County	1,753,312	\$13.54	1,024,692	\$7.91	434,944	\$3.36	481,610	\$3.72			2,456,514	\$18.96	4,397,760	6,151,072	\$47.48	
TOTAL	\$26,191,495		\$21,477,688		\$9,116,480		\$4,131,128		\$608,717		\$21,071,359		\$55,796,655	\$82,596,868		

*Total Cost includes 6119 Cost and Local Cost.

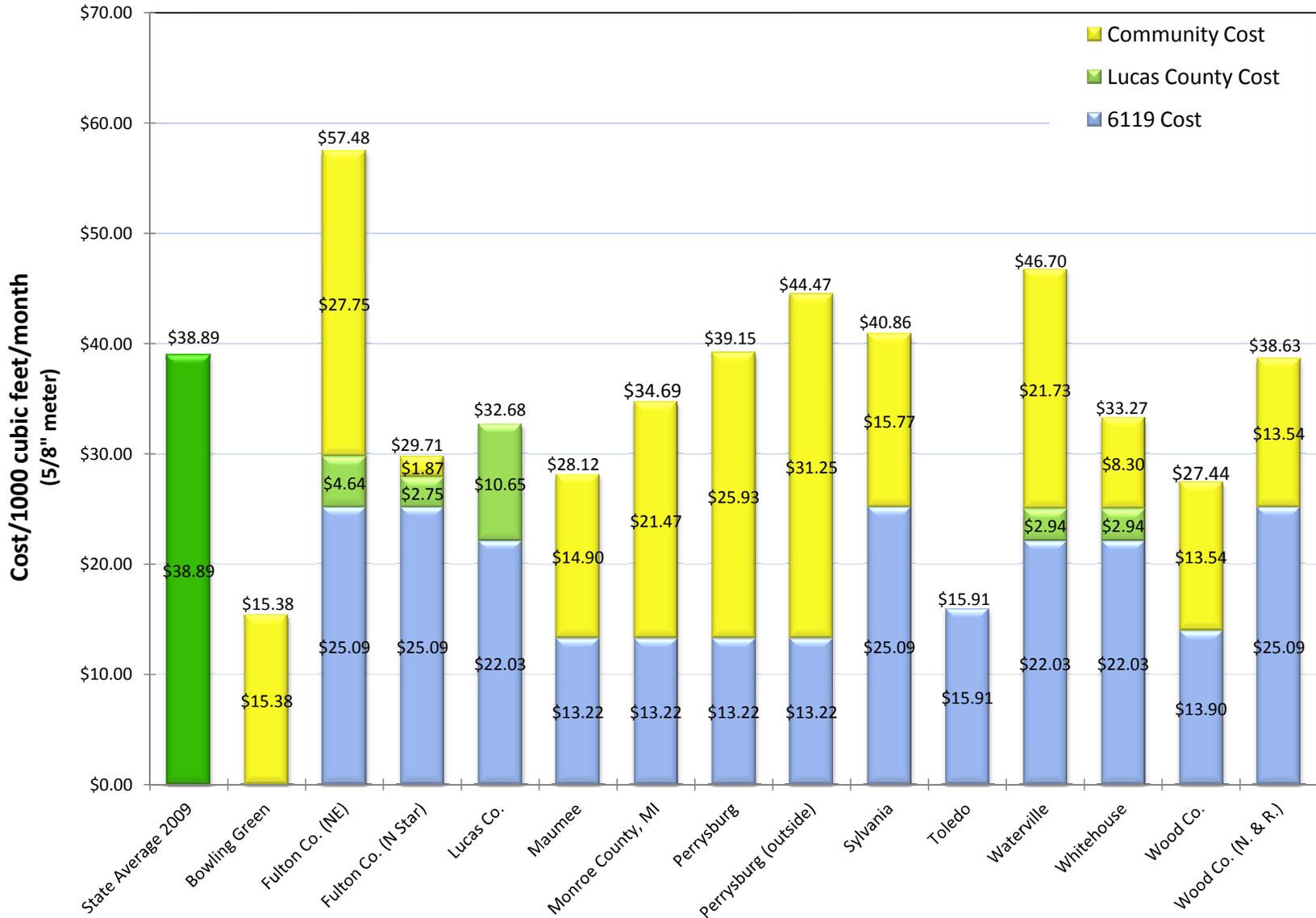
Regional Water Study	PROJECTED COST OF WATER 2013															
	PURCHASE TOLEDO WATER SYSTEM (OPTION 1) (Without Bowling Green)															
	LOCAL COSTS		6119 O & M		ALL USERS DEBT & CIP		SATELLITE DEBT & CIP		TOL LOCAL DEBT/CIP		6119 PURCHASE		6119 TOTAL	*TOTAL	TOTAL	
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	COST	COST	\$/1000 CF	
Bowling Green																
Fulton County (NE)	2,329,456	\$32.39	591,656	\$8.23	266,231	\$3.70	330,653	\$4.60				1,363,836	\$18.96	2,552,376	4,881,832	\$67.88
Lucas County	4,153,833	\$10.65	3,207,668	\$8.23	1,443,371	\$3.70	1,792,636	\$4.60				7,394,042	\$18.96	13,837,717	17,991,550	\$46.14
Maumee	1,482,720	\$14.90	818,878	\$8.23	368,475	\$3.70	457,638	\$4.60				1,887,608	\$18.96	3,532,598	5,015,318	\$50.39
Monroe County, MI	3,059,781	\$21.47	1,172,226	\$8.23	527,473	\$3.70	655,110	\$4.60				2,702,115	\$18.96	5,056,924	8,116,704	\$56.96
Perrysburg	3,428,703	\$25.93	1,087,979	\$8.23	489,563	\$3.70	608,027	\$4.60				2,507,915	\$18.96	4,693,484	8,122,187	\$61.42
Sylvania	1,537,882	\$15.77	802,106	\$8.23	360,928	\$3.70	448,265	\$4.60				1,848,947	\$18.96	3,460,246	4,998,128	\$51.26
Toledo	7,610,493	\$5.13	13,195,662	\$8.23	5,937,721	\$3.70	0	\$0.00	907,392	\$0.57	0	\$0.00	\$0.00	19,133,383	27,651,268	\$17.63
Waterville	543,711	\$24.66	181,370	\$8.23	81,612	\$3.70	101,360	\$4.60				418,079	\$18.96	782,421	1,326,132	\$60.15
Whitehouse	291,605	\$11.23	213,570	\$8.23	96,101	\$3.70	119,356	\$4.60				492,304	\$18.96	921,331	1,212,936	\$46.72
Wood County	1,753,312	\$13.54	1,065,680	\$8.23	479,530	\$3.70	595,565	\$4.60				2,456,514	\$18.96	4,597,289	6,350,601	\$49.02
TOTAL	\$26,191,495		\$22,336,796		\$10,051,005		\$5,108,610		\$907,392		\$21,071,359		\$58,567,770	\$85,666,657		

*Total Cost includes 6119 Cost and Local Cost.

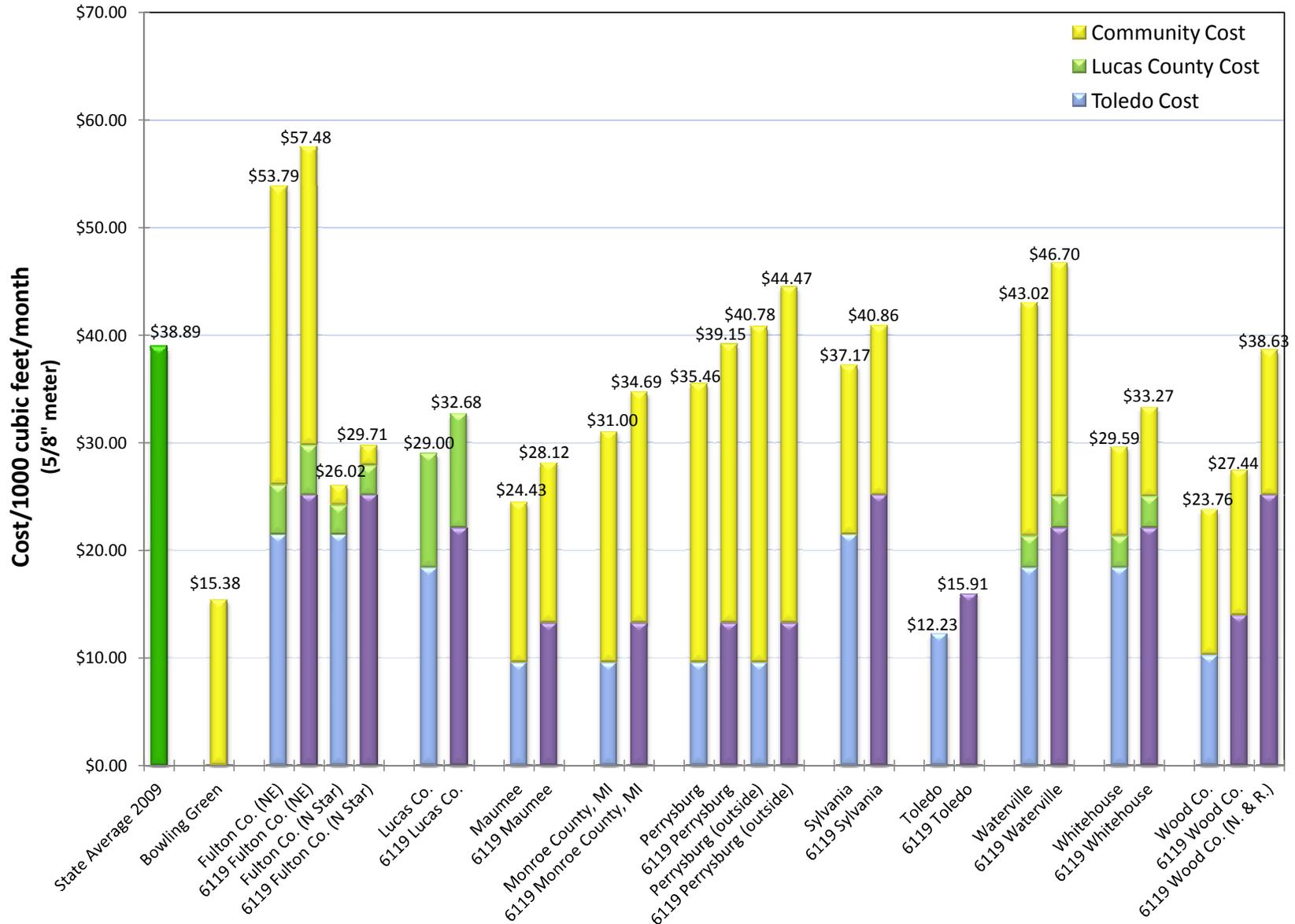
Regional Water Study	PROJECTED COST OF WATER 2014															
	PURCHASE TOLEDO WATER SYSTEM (OPTION 1) (Without Bowling Green)															
	LOCAL COSTS		6119 O & M		ALL USERS DEBT & CIP		SATELLITE DEBT & CIP		TOL LOCAL DEBT/CIP		6119 PURCHASE		6119 TOTAL	*TOTAL	TOTAL	
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	TOTAL	COST	COST	\$/1000 CF	
Bowling Green																
Fulton County (NE)	2,329,456	\$32.39	615,323	\$8.56	285,308	\$3.97	330,653	\$4.60				1,363,836	\$18.96	2,595,120	4,924,576	\$68.47
Lucas County	4,153,833	\$10.65	3,335,975	\$8.56	1,546,801	\$3.97	1,792,636	\$4.60				7,394,042	\$18.96	14,069,454	18,223,286	\$46.74
Maumee	1,482,720	\$14.90	851,633	\$8.56	394,879	\$3.97	457,638	\$4.60				1,887,608	\$18.96	3,591,758	5,074,477	\$50.98
Monroe County, MI	3,059,781	\$21.47	1,219,115	\$8.56	565,270	\$3.97	655,110	\$4.60				2,702,115	\$18.96	5,141,611	8,201,391	\$57.56
Perrysburg	3,428,703	\$25.93	1,131,498	\$8.56	524,645	\$3.97	608,027	\$4.60				2,507,915	\$18.96	4,772,084	8,200,788	\$62.01
Sylvania	1,537,882	\$15.77	834,190	\$8.56	386,791	\$3.97	448,265	\$4.60				1,848,947	\$18.96	3,518,193	5,056,075	\$51.86
Toledo	7,610,493	\$5.34	13,723,488	\$8.56	6,363,208	\$3.97	0	\$0.00	1,197,306	\$0.75	0	\$0.00	\$0.00	20,086,696	28,894,495	\$18.61
Waterville	543,711	\$24.66	188,625	\$8.56	87,460	\$3.97	101,360	\$4.60				418,079	\$18.96	795,524	1,339,235	\$60.75
Whitehouse	291,605	\$11.23	222,113	\$8.56	102,988	\$3.97	119,356	\$4.60				492,304	\$18.96	936,760	1,228,365	\$47.32
Wood County	1,753,312	\$13.54	1,108,307	\$8.56	513,892	\$3.97	595,565	\$4.60				2,456,514	\$18.96	4,674,279	6,427,591	\$49.62
TOTAL	\$26,191,495		\$23,230,267		\$10,771,242		\$5,108,610		\$1,197,306		\$21,071,359		\$60,181,479	\$87,570,280		

*Total Cost includes 6119 Cost and Local Cost.

6119 Regional Water System - \$10M Revenue Stream (Option A1) Consumer Water Cost Summary



6119 Regional Water System - \$10M Revenue Stream (Option A1) Consumer Water Cost Summary Comparison



Regional Water Study	PROJECTED COST OF WATER 2011								
	PURCHASE TOLEDO WATER SYSTEM (OPTION A1) (Without Bowling Green)								
	LOCAL COSTS		Existing Toledo Rate		LOCAL & Toledo	6119 REVENUE STREAM		6119 TOTAL	TOTAL
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	SUB TOTAL	TOTAL	\$/1000 CF	COST	\$/1000 CF	
Bowling Green									
Fulton County (NE)	2,329,456	\$32.39	1,539,246	\$21.40	3,868,703	264,880	\$3.68	4,133,583	\$57.48
Lucas County	4,153,833	\$10.65	7,152,884	\$18.35	11,306,717	1,436,047	\$3.68	12,742,764	\$32.68
Maumee	1,482,720	\$14.90	949,005	\$9.53	2,431,724	366,605	\$3.68	2,798,329	\$28.11
Monroe County, MI	3,059,781	\$21.47	1,358,503	\$9.53	4,418,284	524,796	\$3.68	4,943,080	\$34.69
Perrysburg	3,428,703	\$25.93	1,260,868	\$9.53	4,689,571	487,079	\$3.68	5,176,650	\$39.14
Sylvania	1,537,882	\$15.77	2,086,750	\$21.40	3,624,632	359,096	\$3.68	3,983,729	\$40.86
Toledo			19,616,959	\$12.23	19,616,959	5,907,589	\$3.68	25,524,549	\$15.91
Waterville	543,711	\$24.66	404,443	\$18.35	948,154	81,198	\$3.68	1,029,352	\$46.69
Whitehouse	291,605	\$11.23	476,247	\$18.35	767,852	95,614	\$3.68	863,466	\$33.26
Wood County	1,267,599	\$13.54	956,669	\$10.22	2,224,268	344,928	\$3.68	2,569,196	\$27.43
Wood Co. (N. & R.)	485,713	\$13.54	768,044	\$21.40	1,253,757	132,168	\$3.68	1,385,925	\$38.62
TOTAL	<u>\$18,581,002</u>		<u>\$36,569,619</u>		<u>\$55,150,621</u>	<u>\$10,000,000</u>		<u>\$65,150,621</u>	

Regional Water Study	OPTION A1 - GUARANTEED REVENUE STREAM TOLEDO WATER SYSTEM
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Guaranteed Revenue Stream	\$10,000,000 /year
Existing Annual Billing Volume (Bowling Green excluded)	2,715,157 1000 CF
Cost/1000 CF (Bowling Green excluded)	\$3.68 /1000 CF

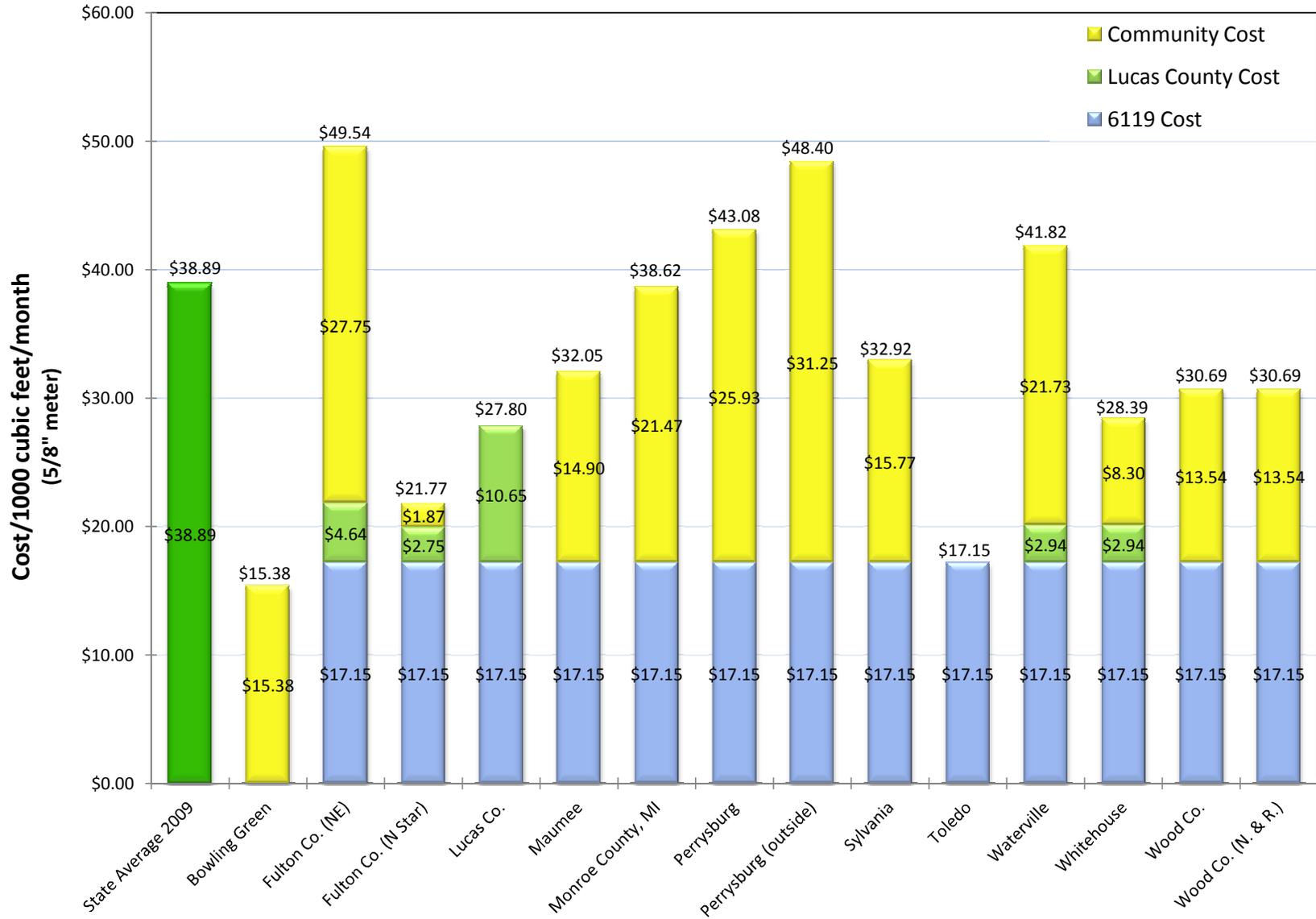
APPROACH:

- 1) An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
- 2) Both jurisdictions convey water system assets to district at no cost.
- 3) City of Toledo provided guaranteed revenue stream of \$10 million per year.
 - a) Term of revenue stream to be negotiated.
 - b) Water rates in all communities including City of Toledo would fund the revenue stream.
- 4) Satellite communities will retain their water system and existing local costs and rates.
- 5) Existing rate structures are retained (including water surcharge provisions).
- 6) Existing JEDD/JEDZ agreements would be terminated for district member jurisdictions.
- 7) Bowling Green not included in water district.

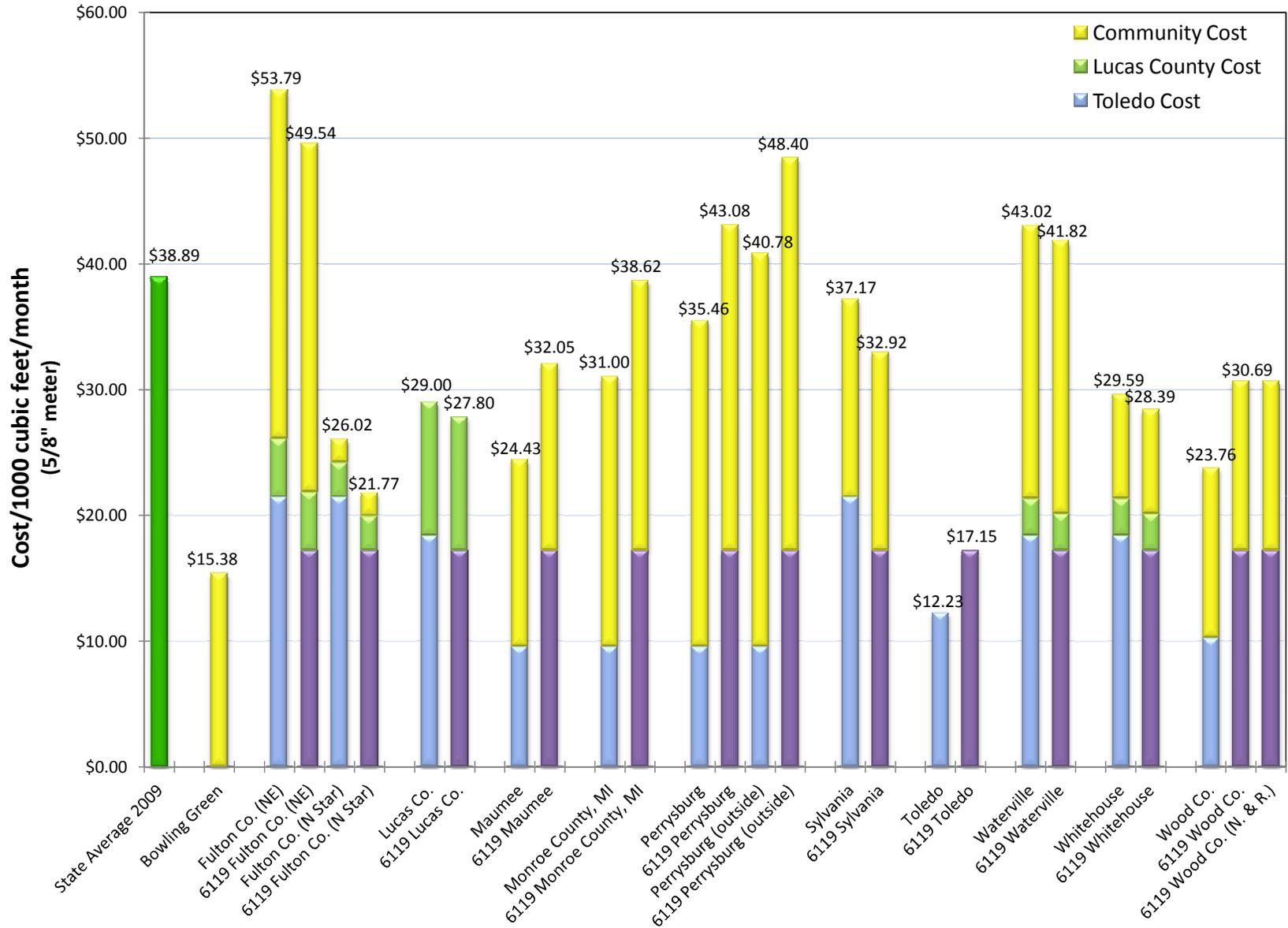
Regional Water Study	EXISTING REVENUE SUMMARY TOLEDO WATER SYSTEM
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	2010 Base Rev (\$)	2010 Surcharge (\$)	2010 Total Revenue (\$)
Fulton County	804,470	603,352	1,407,822
Lucas County	5,659,225	2,829,612	8,488,837
Maumee	659,537	263,815	923,351
Monroe County, MI	925,040	370,016	1,295,056
Perrysburg	899,634	359,854	1,259,488
Sylvania	1,092,889	819,667	1,912,556
Toledo	19,370,280	0	19,370,280
Waterville		With Lucas Co.	
Whitehouse		With Lucas Co.	
Wood County (Toledo)	1,261,183	630,592	1,891,775
Wood County (N. & R.)	<u>565,116</u>	<u>282,558</u>	<u>847,674</u>
	\$31,237,373	\$6,159,465	\$37,396,838

6119 Regional Water System - \$10M Revenue Stream (Option A1 - Equal Rate) Consumer Water Cost Summary



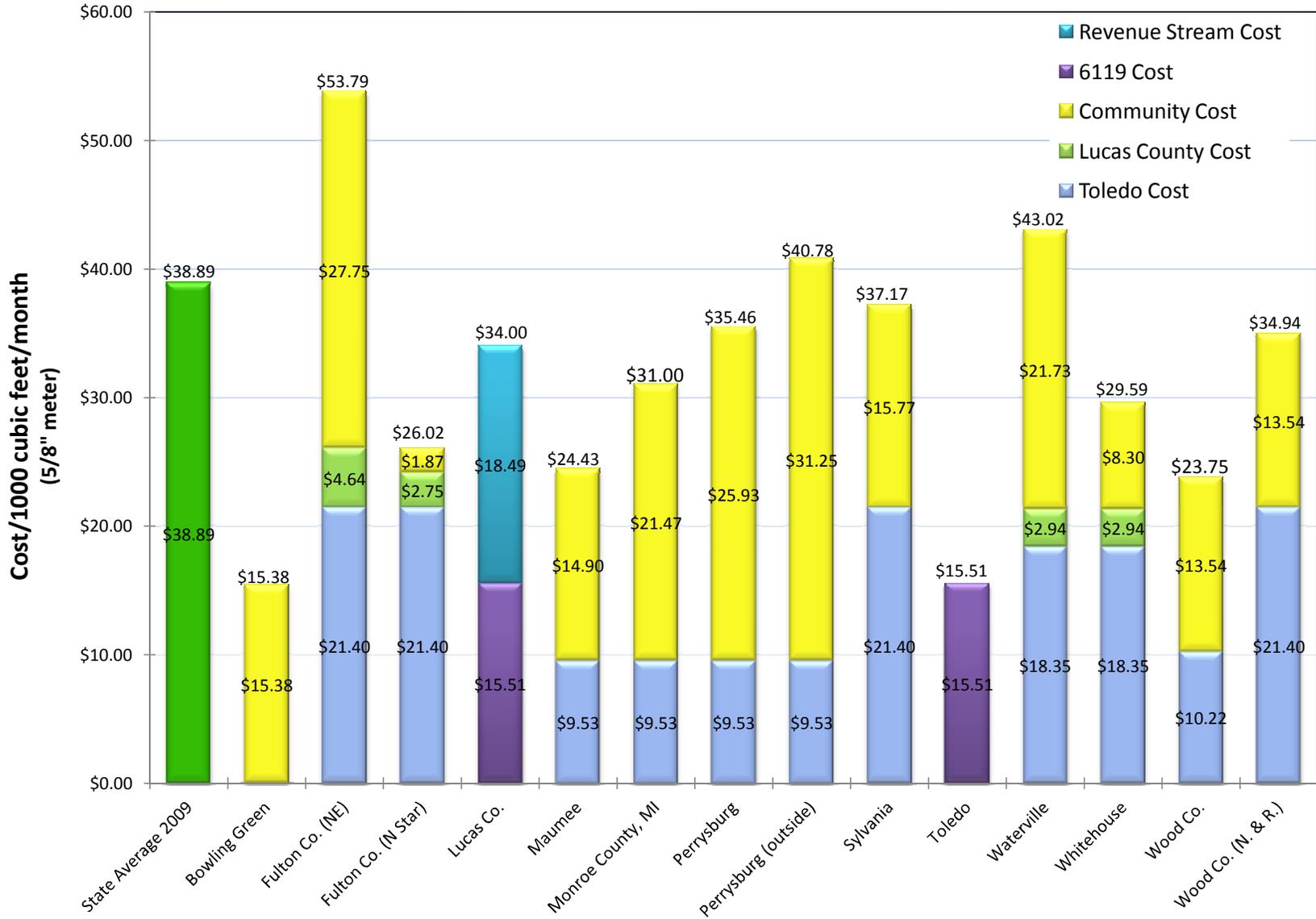
6119 Regional Water System - \$10M Revenue Stream (Option A1 - Equal Rate) Consumer Water Cost Summary Comparison



Regional Water Study	PROJECTED COST OF WATER 2011								
	PURCHASE TOLEDO WATER SYSTEM (OPTION A1) (Without Bowling Green)								
	LOCAL COSTS		Existing Toledo Rate		LOCAL & Toledo	6119 REVENUE STREAM		TOTAL	TOTAL
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	SUB TOTAL	TOTAL	\$/1000 CF	COST	\$/1000 CF	
Bowling Green									
Fulton County (NE)	2,329,456	\$32.39	968,655	\$13.47	3,298,111	264,880	\$3.68	3,562,991	\$49.54
Lucas County	4,153,833	\$10.65	5,251,568	\$13.47	9,405,401	1,436,047	\$3.68	10,841,447	\$27.81
Maumee	1,482,720	\$14.90	1,340,660	\$13.47	2,823,380	366,605	\$3.68	3,189,985	\$32.05
Monroe County, MI	3,059,781	\$21.47	1,919,159	\$13.47	4,978,940	524,796	\$3.68	5,503,736	\$38.63
Perrysburg	3,428,703	\$25.93	1,781,230	\$13.47	5,209,933	487,079	\$3.68	5,697,012	\$43.08
Sylvania	1,537,882	\$15.77	1,313,202	\$13.47	2,851,084	359,096	\$3.68	3,210,180	\$32.92
Toledo			21,603,830	\$13.47	21,603,830	5,907,589	\$3.68	27,511,419	\$17.15
Waterville	543,711	\$24.66	296,938	\$13.47	840,648	81,198	\$3.68	921,846	\$41.81
Whitehouse	291,605	\$11.23	349,655	\$13.47	641,260	95,614	\$3.68	736,874	\$28.38
Wood County	1,267,599	\$13.54	1,261,389	\$13.47	2,528,988	344,928	\$3.68	2,873,916	\$30.69
Wood Co. (N. & R.)	485,713	\$13.54	483,334	\$13.47	969,046	132,168	\$3.68	1,101,215	\$30.69
TOTAL	<u>\$18,581,002</u>		<u>\$36,569,619</u>		<u>\$55,150,621</u>	<u>\$10,000,000</u>		<u>\$65,150,621</u>	

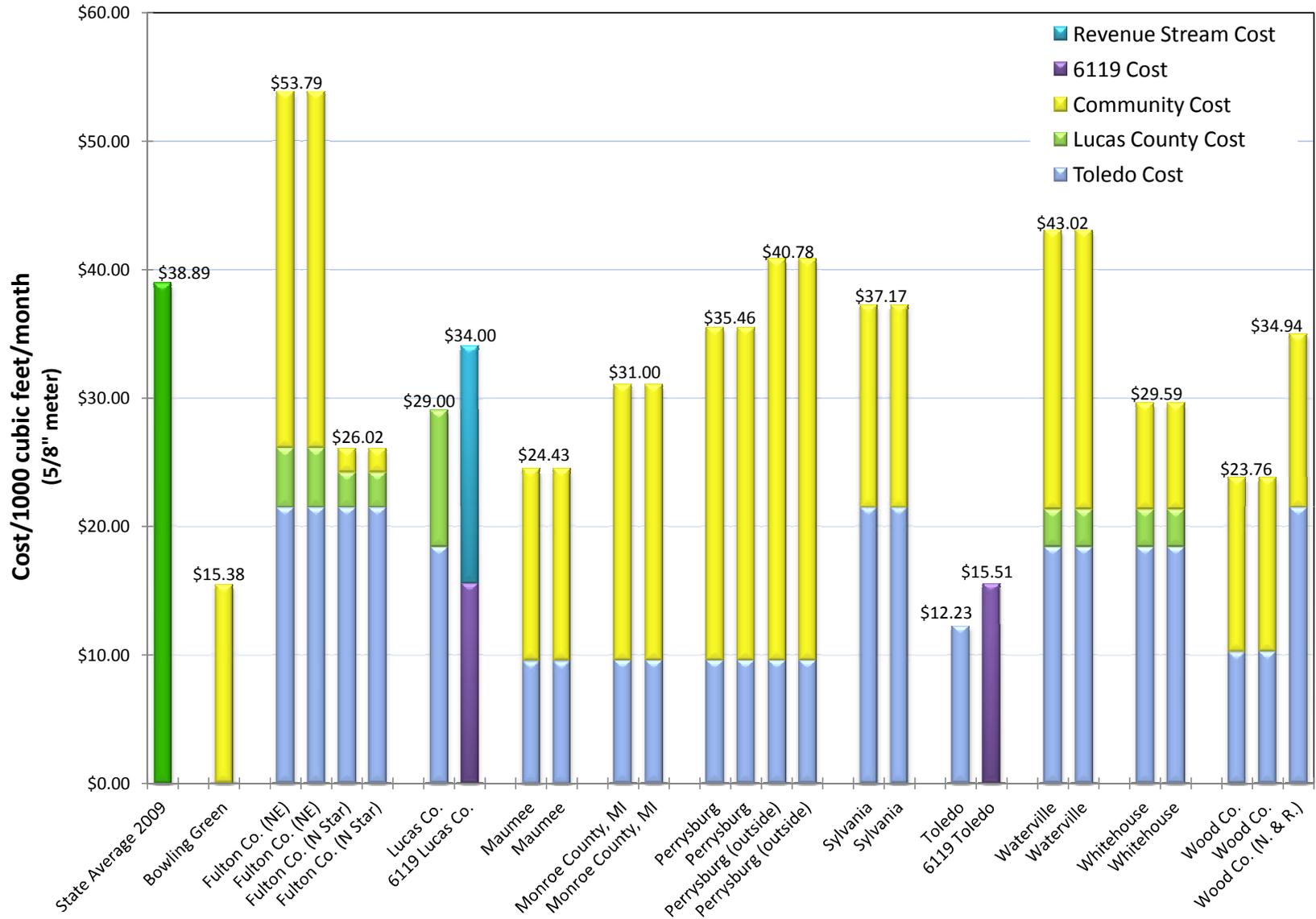
6119 Regional Water System - \$7.2M Revenue Stream (Option A2)

Consumer Water Cost Summary



6119 Regional Water System - \$7.2M Revenue Stream (Option A2)

Consumer Water Cost Summary Comparison



Regional Water Study	PROJECTED COST OF WATER 2011										
	PURCHASE TOLEDO WATER SYSTEM (OPTION A2) (Without Bowling Green)										
	LOCAL COSTS		Existing Toledo Rate		LOCAL & Toledo	6119 RATE		6119 REVENUE STREAM		TOTAL	TOTAL
TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	SUB TOTAL	TOTAL	\$/1000 CF	TOTAL	\$/1000 CF	COST	\$/1000 CF	
Bowling Green											
Fulton County (NE)	2,329,456	\$32.39	1,539,246	\$21.40	3,868,703					3,868,703	\$53.79
Lucas County	4,153,833	\$10.65	7,152,884	\$18.35	11,306,717	6,047,119	\$15.51	7,210,000	\$18.49	13,257,119	\$34.00
Maumee	1,482,720	\$14.90	949,005	\$9.53	2,431,724					2,431,724	\$24.43
Monroe County, MI	3,059,781	\$21.47	1,358,503	\$9.53	4,418,284					4,418,284	\$31.01
Perrysburg	3,428,703	\$25.93	1,260,868	\$9.53	4,689,571					4,689,571	\$35.46
Sylvania	1,537,882	\$15.77	2,086,750	\$21.40	3,624,632					3,624,632	\$37.18
Toledo			19,616,959	\$12.23	19,616,959	24,876,557	\$15.51			24,876,557	\$15.51
Waterville	543,711	\$24.66	404,443	\$18.35	948,154					948,154	\$43.01
Whitehouse	291,605	\$11.23	476,247	\$18.35	767,852					767,852	\$29.58
Wood County	1,267,599	\$13.54	956,669	\$10.22	2,224,268					2,224,268	\$23.75
Wood Co. (N. & R.)	485,713	\$13.54	768,044	\$21.40	1,253,757					1,253,757	\$34.94
TOTAL	<u>\$18,581,002</u>		<u>\$36,569,619</u>		<u>\$55,150,621</u>	<u>\$30,923,676</u>		<u>\$7,210,000</u>		<u>\$62,360,621</u>	

Regional Water Study	OPTION A2 - GUARANTEED REVENUE STREAM TOLEDO WATER SYSTEM
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Guaranteed Revenue Stream	\$7,210,000 /year
Existing Annual Billing Volume (Lucas County Only)	389,909 1000 CF
Cost/1000 CF (Lucas County Only)	\$18.49 /1000 CF

APPROACH:

- 1) An ORC 6119 Regional Water District is formed with City of Toledo and Lucas County.
- 2) Both jurisdictions convey water system assets to district at no cost.
- 3) City of Toledo provided guaranteed revenue stream of \$7.2 million from (Lucas County only).
 - a) Term of revenue stream to be negotiated.
 - b) Only water rates in Lucas County and City of Toledo would fund the revenue stream.
- 4) Satellite communities will retain their water system and existing local costs and rates.
- 5) Existing rate structures are retained.
- 6) Existing terms and conditions of water contracts with satellite communities would remain in place including surcharges and JEDD/JDZ agreements.
- 7) Bowling Green not included in water district.

Regional Water Study	EXISTING REVENUE SUMMARY TOLEDO WATER SYSTEM
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	2010 Base Rev (\$)	2010 Surcharge (\$)	2010 Total Revenue (\$)
Fulton County	804,470	603,352	1,407,822
Lucas County	5,659,225	2,829,612	8,488,837
Maumee	659,537	263,815	923,351
Monroe County, MI	925,040	370,016	1,295,056
Perrysburg	899,634	359,854	1,259,488
Sylvania	1,092,889	819,667	1,912,556
Toledo	19,370,280	0	19,370,280
Waterville		With Lucas Co.	
Whitehouse		With Lucas Co.	
Wood County (Toledo)	1,261,183	630,592	1,891,775
Wood County (N. & R.)	<u>565,116</u>	<u>282,558</u>	<u>847,674</u>
	\$31,237,373	\$6,159,465	\$37,396,838