

CITY OF ANN ARBOR STORMWATER RATE STUDY

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Water Quality Manager

April 2017



Agenda

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- Brief Stormwater System Background
- 2017 Rate Study Overview/ Public Engagement
- Identified Capital Needs
- Identified Programmatic Needs
- Revenue Requirements
- Cost Allocation & Fee Design
- Credit & Incentives
- Question & Discussion

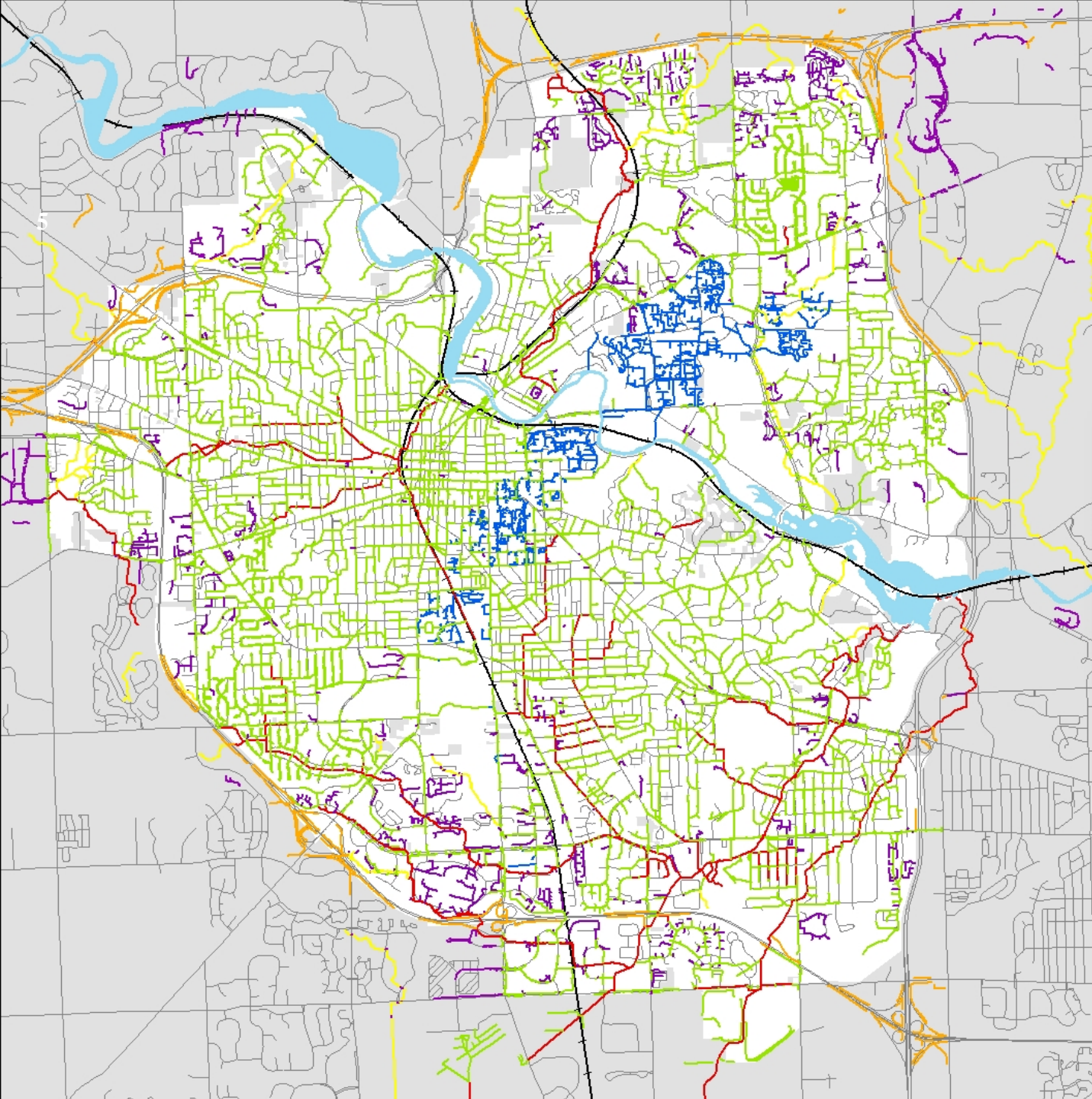
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Stormwater System Overview

City's Stormwater System

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- The City manages an extensive system consisting of:
 - ▣ 231 miles of stormwater mains
 - ▣ 11,000 catch basins / inlets
 - ▣ 7,053 manholes
 - ▣ 212 outfalls
 - ▣ 783 miles of roadway curb and gutters
 - ▣ 2 surface detention basins
- Stormwater ultimately goes to Huron River
 - ▣ None receives advanced treatment
 - ▣ Sanitary goes directly to Wastewater Treatment Plant



Storm Network

Ownership

- City
- U of M
- County Drains
- State/Interstate Highways
- Water of the State
- Private

Age of the Stormwater System

Decade Constructed	Feet of Main	Miles of Main	Percent of Total
1900s	410	0.08	0.03%
1910s	21.8%	52,545	4.29%
1920s		135,768	11.09%
1930s		40,451	3.30%
1940s	37,775	7.15	3.09%
1950s	53.2%	197,359	16.12%
1960s		303,638	24.80%
1970s		149,789	12.24%
1980s	69,027	13.07	5.64%
1990s	25%	114,035	9.32%
2000s		60,835	4.97%
2010s		6,689	0.55%
unknown	55,837	10.58	4.56%
TOTAL	1,224,158	231.85	

What is Stormwater Management?

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- Asset Management
 - Operations
 - Maintenance Scheduling/ Work Orders
 - Asset Inventory
- Capital Improvements
- Regulatory Programming & Enforcement
 - State/ Federal Water Quality Regulations
 - Floodplain Programming and Implementation
- Forestry (Street Trees)
- Green Streets Policy
 - Capital investment of public stormwater system
 - Green infrastructure
- Public Education & Outreach

What is a Stormwater Utility?

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- A dedicated funding source to support an administrative organization that plans, designs, constructs and maintains a stormwater management system, sediment and flood control programs and projects, and provides education.
 - Functions like the City's water and wastewater utilities
- Customers' fees are based on Impervious Area
 - Not used for first-time service (i.e., Special Assessment District)



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Glendaloch Cir

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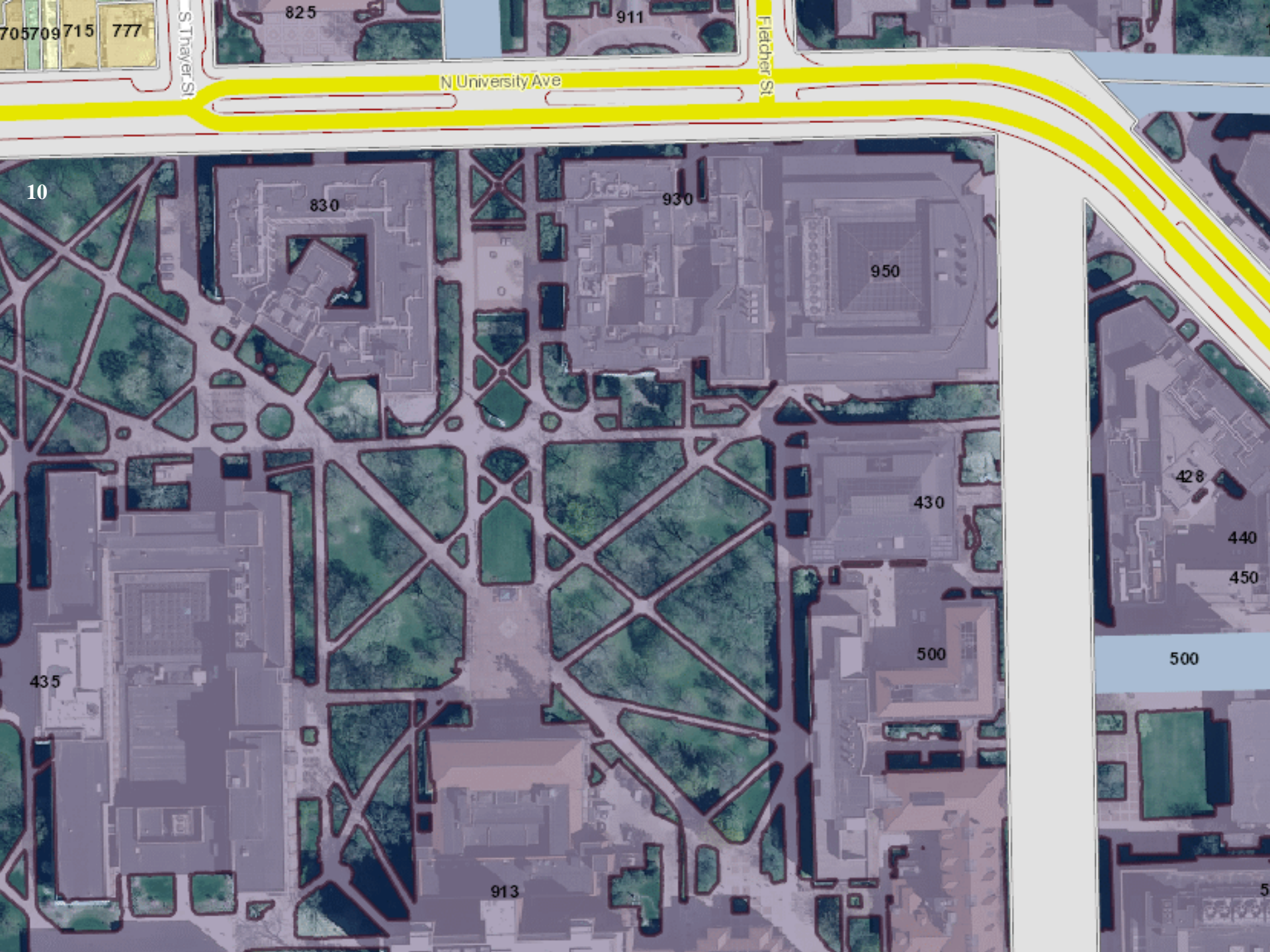
Londonderry Rd

Hawthorn Rd

Shannondale Rd

2405

2514



705709715 777

S T Hayer St

825

911

Fletcher St

N University Ave

10

830

930

950

435

430

500

913

428

440

450

500

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Ann Arbor Stormwater Utility Revenue

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- 2007 = \$4,042,000
- 2008 = \$4,778,000
- 2009 = \$5,190,000
- 2010 = \$5,299,000
- 2011 = \$5,396,000
- 2012 = \$6,062,000
- 2013 = \$6,059,000
- 2014 = \$6,155,000
- 2015 = \$6,228,000
- 2016 = \$6,672,000

Funding Challenges

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- While revenues have increased, the stormwater system faces significant funding challenges
- Current revenues are insufficient to address:
 - Capital funding needs
 - Aging infrastructure
 - System improvements
 - Addition of Funding of Green Streets Policy & Street Trees
 - Increasing regulatory requirements
 - Community level of service expectations

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2017 Rate Study Overview

Study Objectives

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- Projection of full cost of service
 - Develop multi-year financial management plan
 - Integrate desired level of service (LOS) and system needs
- Evaluate stormwater cost allocation and fee structure
- Engage community stakeholders
 - Solicit input and comments regarding community expectations related to stormwater service
- Develop dynamic model for future use
 - Long-term sustainability & ongoing financial management

Our Approach to the Rate Study

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Revenue Requirements

- Operating Costs
- Activity options
- Capital Costs
- Financial Policies
- Reserves & Debt Ratios
- Communicate Financial Plan & Process

Cost Allocation & Fee Design

- Review customer classes
 - Fair/Equitable
- Compare Allocation of Required Revenues to Current Revenue Recovery
- Evaluate Objectives
- Identify Options That Recover Req. Revenue

Credits & Incentives

- Evaluate and update current Stormwater credits
- Evaluate potential new credits/incentives

Public Engagement

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- Town Hall Meeting
 - June 14, 2016
- Online Survey
 - August 2016
 - See handout
 - 100+ responses

Advisory Group

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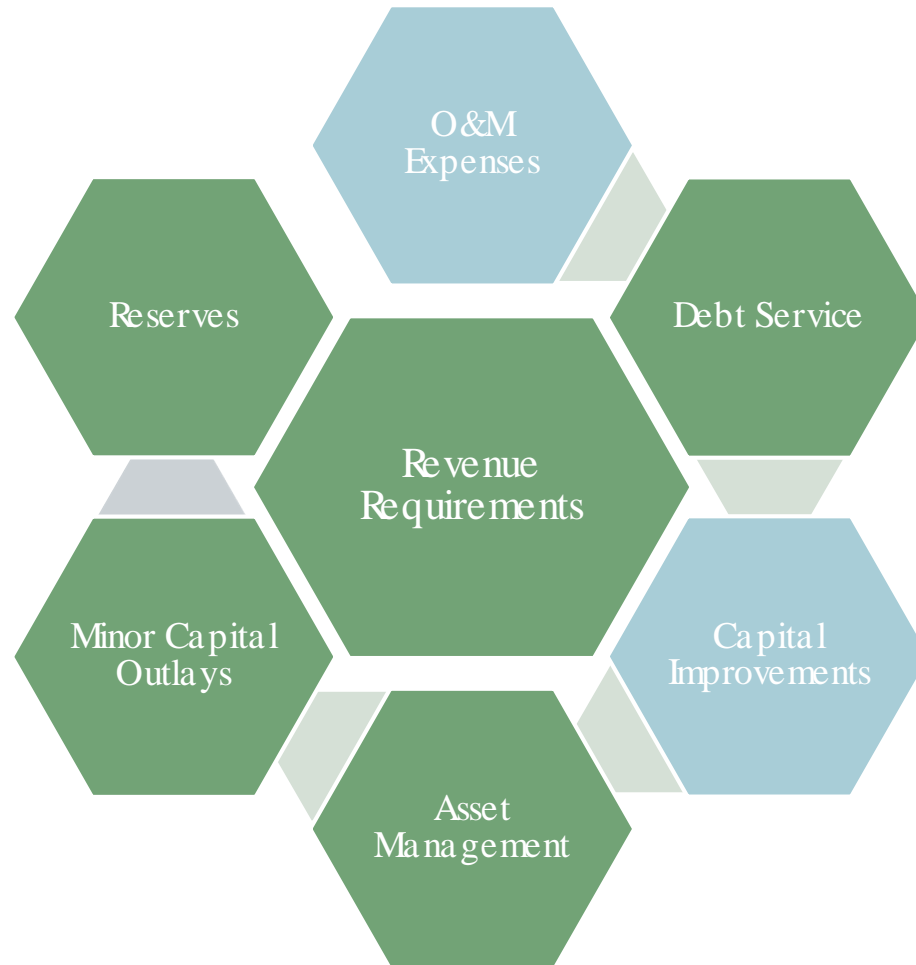
- Invited a cross-section representative from various community sectors to be a part of the Advisory Group.
 - University of Michigan
 - Residents
 - Apartment owners
 - Rental owners
 - Climate Adaptation experts
 - Public Education Experts
 - Washtenaw County Water Resources Commissioner's Office
 - Huron River Watershed Council

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Revenue Requirements

Revenue Requirement Components

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Stormwater O&M Recommendation

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- Best Management Practices (\$200k / year)
 - Increased stormwater BMP inspection and illicit discharge elimination inspections
- Tree Pruning (\$700k / year)
 - Increased pruning & maintenance of the 43,000 right of way trees
- CCTV Frequency (\$700k / year)
 - Increased frequency - 20% of the system every 5 years, the rest 20 year cycle
- Field Operations (\$150k / year)
 - additional stormwater work associated with that street resurfacing
- Green Infrastructure (\$200k / year)
 - Provide funding for the maintenance requirements of existing and new green infrastructure
- Public Engagement (\$150k / year)
 - List of initiatives and plan - TBD
- Asset Management (\$870k / year)
 - Provides increased funding for City & WCWRC rehabilitation and emergency repairs
- Total O&M Recommendations = \$2.37M
- FY2017 O&M Budget = \$5.22M

Stormwater O&M Phase-in Plan

	FY 2018	FY 2019	FY 2020	FY 2021
Tree Pruning	\$700,000			
Public engagement	\$150,000			
Best Management Practices		\$200,000		
Field Ops		\$150,000		
Green Inf. Mant.		\$200,000		
System Repair and R&R			\$920,000	
Sewer Inspection & Cleaning				\$650,000
Yearly Total	\$ 850,000	\$ 550,000	\$ 920,000	\$ 650,000
Cumulative Total	\$ 850,000	\$ 1,400,000	\$ 2,320,000	\$ 2,970,000

- ▶ Total O&M Enhancements = \$2.97M; FY 2017 O&M Budget = \$5.22M
- ▶ Phasing plan was created in order to recognize funding limitations, practical limitations and the prioritization of and coordination with other key initiatives

Capital Improvement Plan Summary

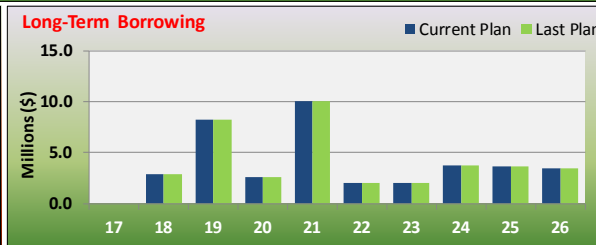
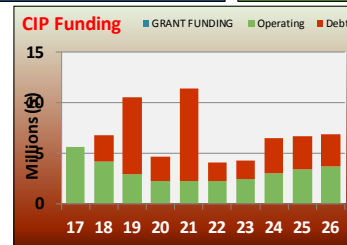
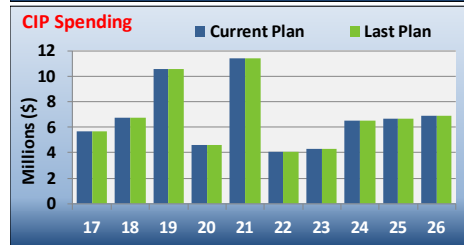
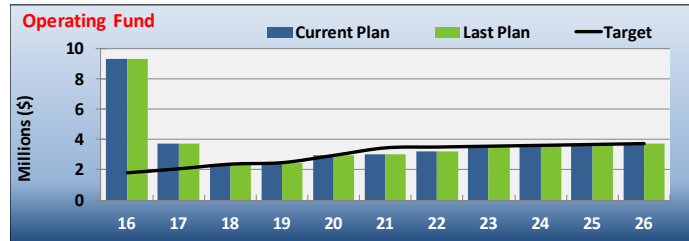
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- ▶ Study reflects “Desired” 10-year plan; Total of \$61M, consisting of 55 projects including:
 - ▶ Lower Allen Creek = \$10.8M (\$1.2M per year)
 - ▶ Street Tree Planting = \$4.1M (\$0.4M per year)
 - ▶ Lawton Park Stormwater Basin = \$5.1M
 - ▶ Malletts Creek Streambank Stabilization = \$2.7M
 - ▶ Churchill Park / Eisenhower ROW Basin = \$2.1M
 - ▶ Miller Creek Channel Modification = \$1.5M
 - ▶ Detroit Street Brick Paver Reconstruction = \$1.3M
 - ▶ Briarwood Mall Pond = \$1.2M

- ▶ CIP funding is the driver for approximately 85% of future rate adjustments needs

Stormwater Financial Plan - Example

FINANCIAL ANALYSIS AND MANAGEMENT SYSTEM (FAMS) SUMMARY												RESET	
The City of Ann Arbor												Zoom	
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Cumulative Change		10/20
Override ▶		35.00%	10.00%	10.00%	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%	FY 2022	FY 2026	
Impervious Area Charges	0.00%	35.00%	10.00%	10.00%	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%	59.38%	92.18%	
Last Plan	0.00%	35.00%	10.00%	10.00%	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%	59.38%	92.18%	Option
Rate Covenant	19.60	17.59	8.20	5.47	3.67	3.25	3.29	3.23	3.13	3.08			Start Year
Last Plan	19.60	17.59	8.20	5.47	3.67	3.25	3.29	3.23	3.13	3.08			
Administrative Charges	0.00%	-42.19%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	Non-LOS Options		
Last Plan	0.00%	-42.19%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	BMP maint/ins	\$ 200,000	FY 2021
											Tree Pruning	\$ 100,000	FY 2019
											CCTV Freq.	\$ 700,000	FY 2021
											Field Ops. CS	\$ 150,000	FY 2019
											Green Inf. Mant.	\$ 200,000	FY 2018
											LOS Options		
											Admin		
											Public Eng. OHM	\$ 150,000	FY 2018
											Operations	3	FY 2020
											Debt Service Res.	\$1,500,000	
											Check	-	
Operating Reserve Mo ▶	6	6	6	6	6	6	6	6	6	6			
Base Rate	\$6.77	\$6.77	\$3.91	\$3.99	\$4.07	\$4.15	\$4.24	\$4.32	\$4.41	\$4.50	\$4.59		
2,187 - 4,175 ft ²	\$29.75	\$29.75	\$38.62	\$42.48	\$46.73	\$51.40	\$53.97	\$56.67	\$59.50	\$62.47	\$65.60		
Quarterly Bill	\$36.52	\$42.53	\$46.47	\$50.80	\$55.55	\$58.20	\$60.99	\$63.91	\$66.97	\$70.18			
Change \$		\$6.01	\$3.94	\$4.33	\$4.75	\$2.65	\$2.78	\$2.92	\$3.06	\$3.21			
Change %		16.46%	9.26%	9.31%	9.36%	4.78%	4.78%	4.79%	4.79%	4.80%			
Last Plan	\$36.52	\$42.53	\$46.47	\$50.80	\$55.55	\$58.20	\$60.99	\$63.91	\$66.97	\$70.18			



Summary

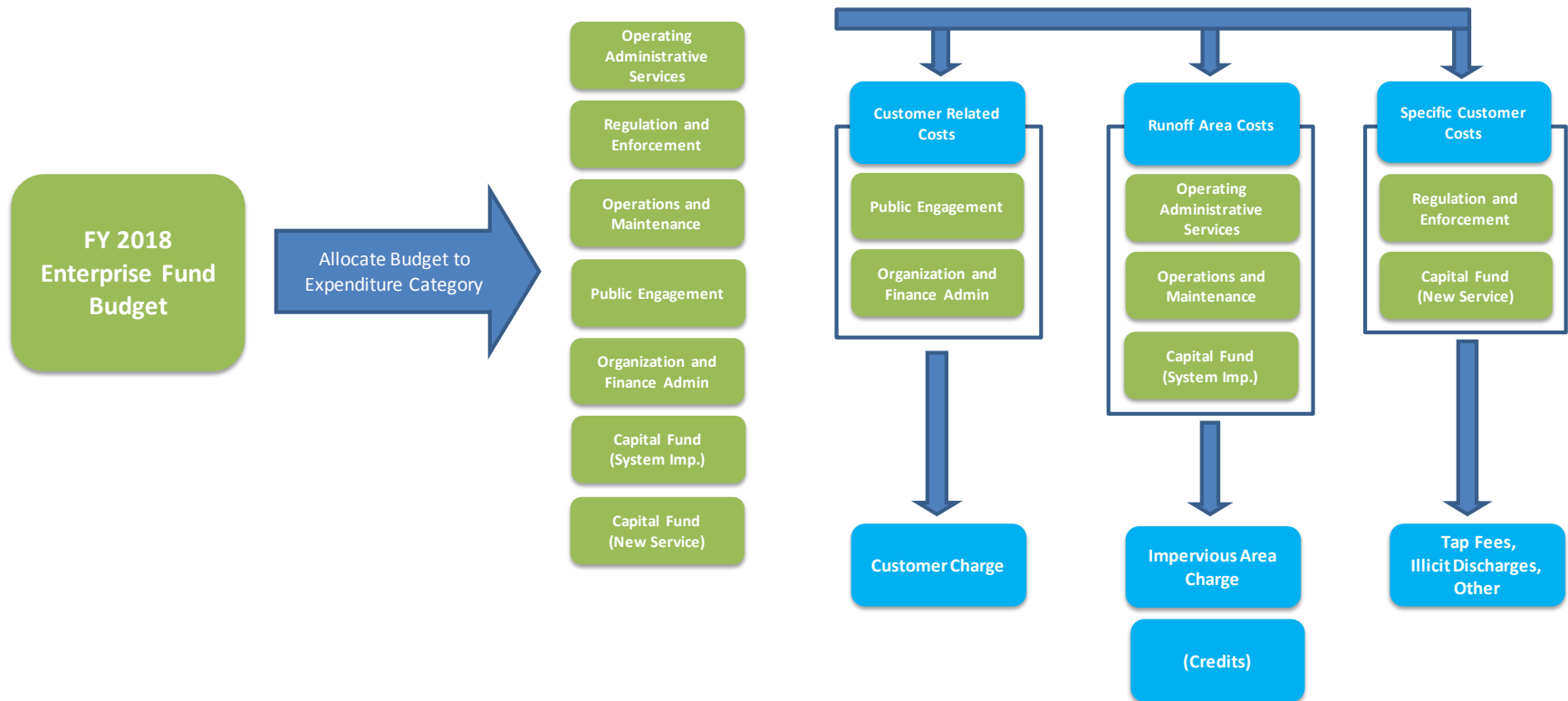
	Option 1 (Full CIP)
CIP Funded (Future \$)	\$67.5 M
FY 2017 Average Quarterly Residential SW Bill	\$33.24
FY 2018 Revenue Adjustment	28%
FY 2018 Average Quarterly Residential SW Bill	\$42.53
10 Year Cumulative Adjustment	92%
FY 2026 Average Quarterly Residential SW Bill	\$70.18

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Cost Allocation & Fee Design

Cost Allocation Framework

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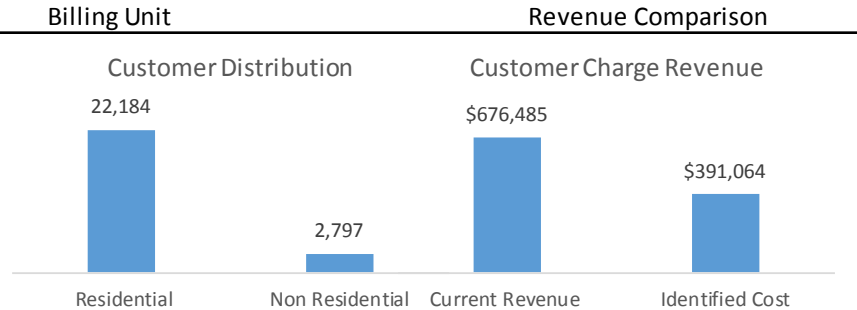


Cost Allocation Summary

Cost Allocation Findings:

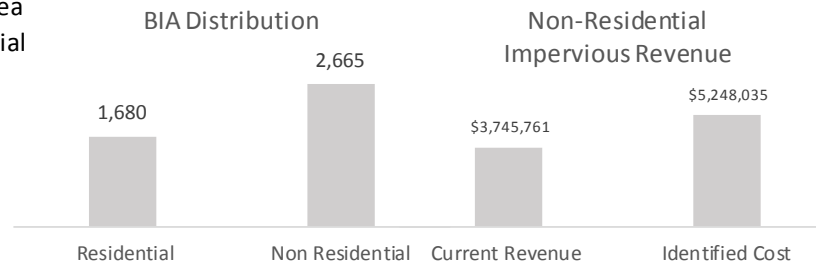
Customer Charge

Identified customer charge expenses are lower than the current revenue collection.



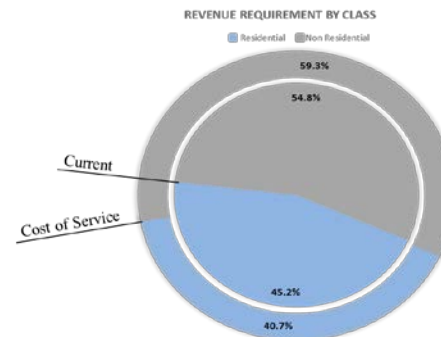
Impervious Area Charges

Updated billable impervious area analysis results in non-residential customers receiving a proportionately larger share of the billable impervious area



Result

The cumulative result of these two findings necessitate the need to recover more of the revenue requirement from Non-Residential customers



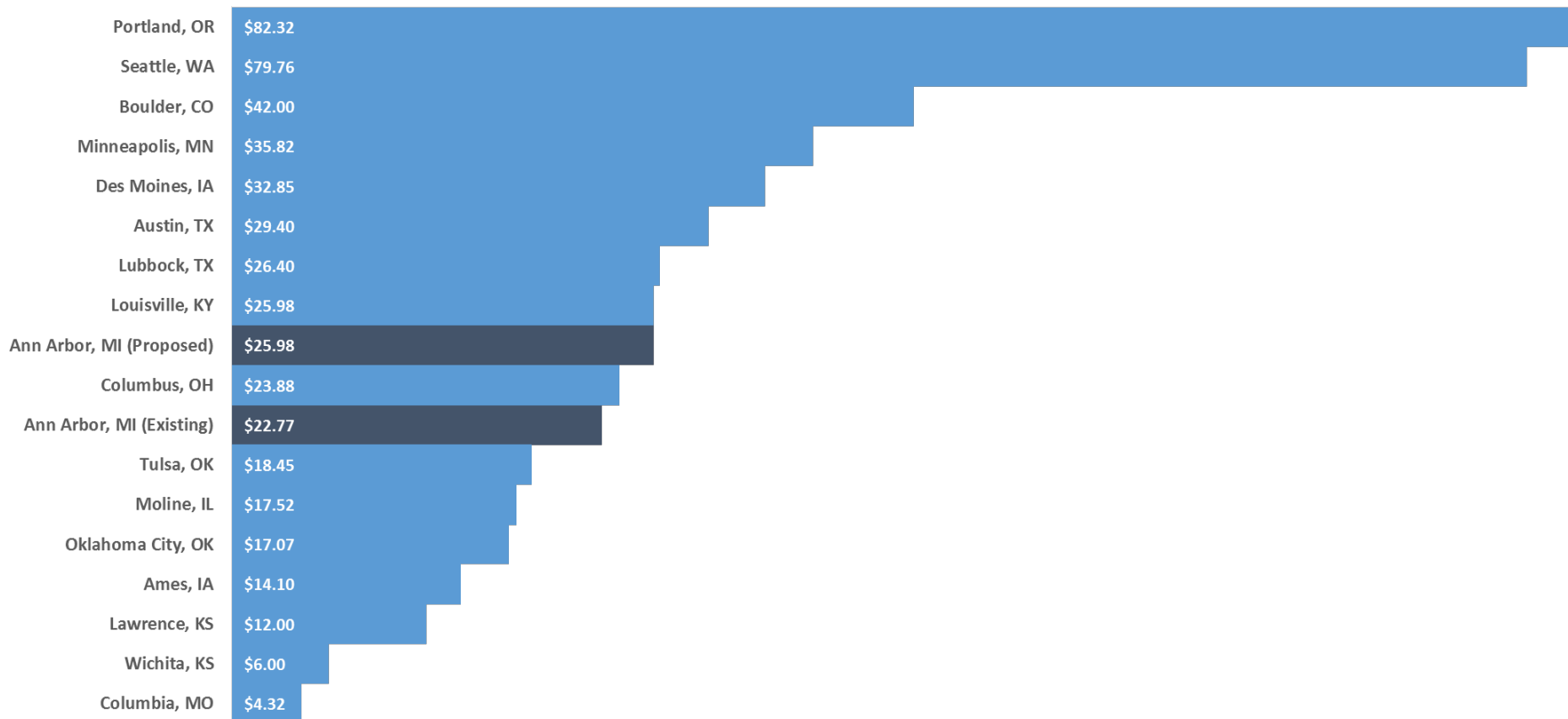
Top Ten Customer Impacts (Qtr.)

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09-32-115-001	1319 S MAIN ST	506075	U/ M WOLVERINE TOWERS	
09-32-300-001	601 W STADIUM BLVD	506794	AAPS/ PIONEER 1	
09-22-100-005	2800 PLYMOUTH RD	528533	U OF M N. CAMPUS RESEARCH COMPLEX	
09-22-400-021	1104 MCINTYRE DR	530825	U/ M NORTHWOOD IV APTS # 601	
09-26-204-900	3000 LAKEHAVEN DR	518346	GEDDES LAKE CONDOMINIUMS	
09-32-115-003	330 E HOOVER AVE	518283	UNIV OF MICH	
08-25-102-900	299 N MAPLE RD	503977	NEW PLAN RLY TR	
09-27-100-003	2727 FULLER RD	517861	AAPS/ HURON 1	
12-02-105-010	3613 WASHIENAW AVE	526981	AMCAP INC ARBORLAND, LLC	
09-21-403-039	1230 HUBBARD RD	518284	U/ M VERA BAITS I	

How does this compare to other communities a cross the country?

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**does not account for Level of Service comparison, assumes 3,000 sqft of Impervious

** (Based on publicly available data as of December 2016)

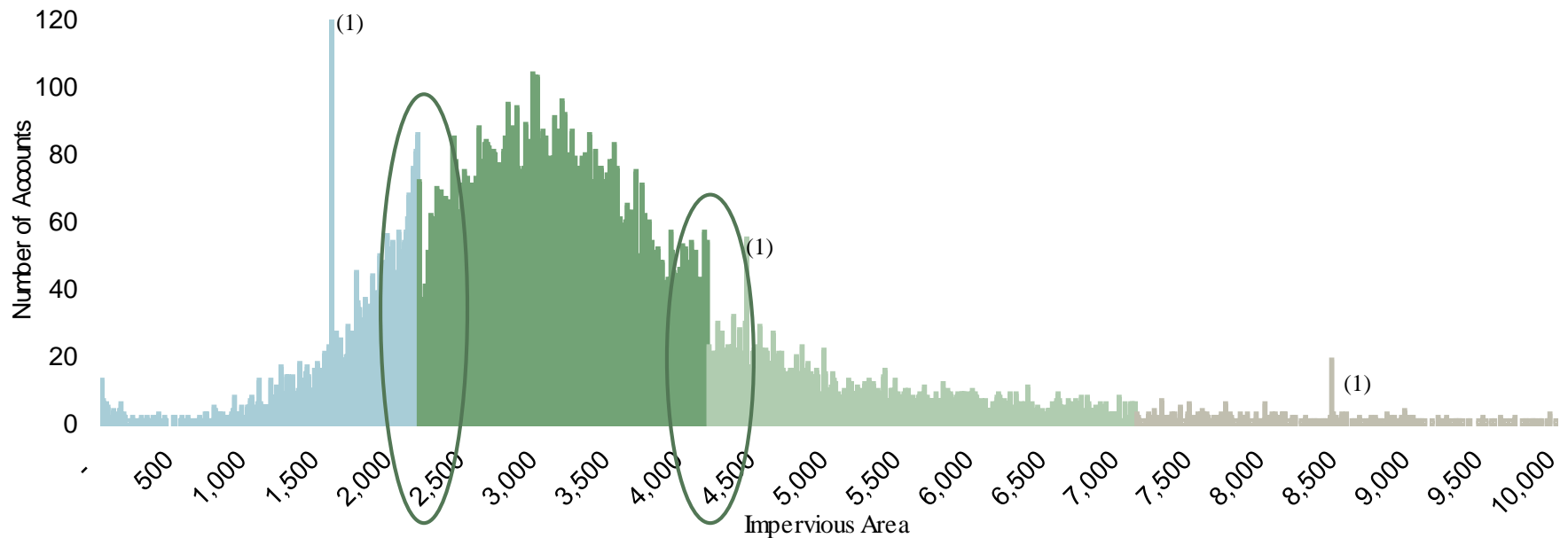
Fee Structure Evaluation

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- As part of the 2007 stormwater rate study the City adopted a tiered structure for residential properties
 - Tiers were developed based on the statistical distribution of impervious area within the residential customer class
- Reviewed the impacts and appropriateness of the current residential fee structure
 - Current statistical distribution of residential impervious area
 - Evaluated changes in impervious area per parcel since the 2007 study and resulting impacts of the fee structure

Single & Two-Family Impervious Area Distribution

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(1) Arbor Hills Northbury and Forest Creek have equal split impervious area units

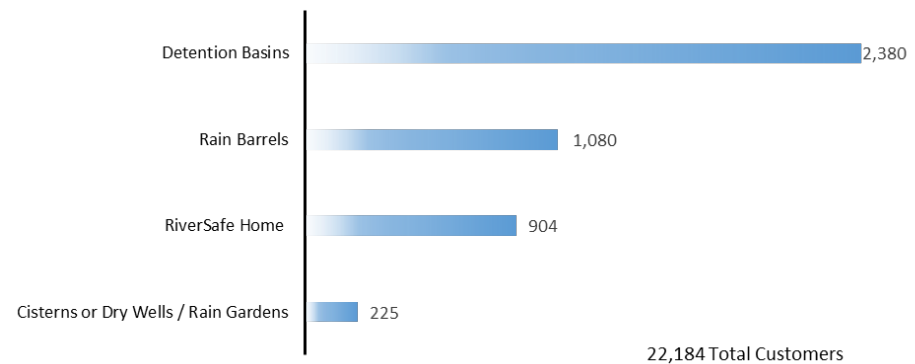
- Fee structure has resulted in reductions/ a wareness of impervious area
- Statistical analysis revealed that current tiers are still appropriate

Stormwater Credit Background

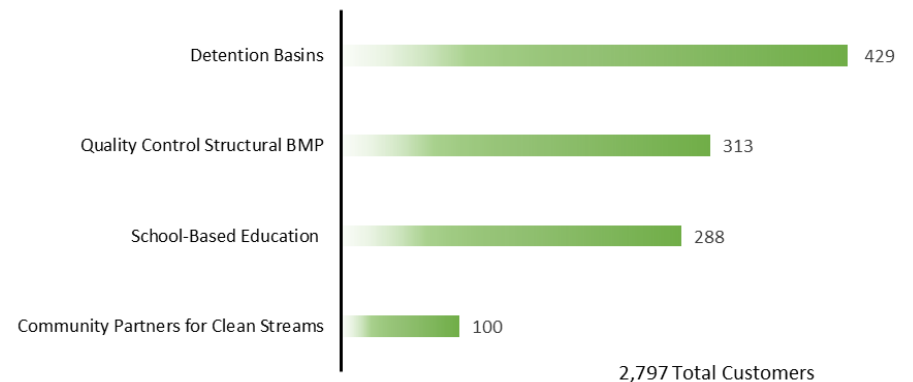
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- ▶ Intended to reflect reductions of stormwater through detention or retention stemming from parcel-specific investments
- ▶ Key element of a stormwater user fee structure, as it allows consumers to control their “use of the system” (Bolt vs. Lansing)
- ▶ Credits last evaluated in 2007
 - ▶ Adjusted annually consistent with rates

RESIDENTIAL CREDIT PARTICIPATION



NON-RESIDENTIAL CREDIT PARTICIPATION



Potential Additional Credits/ Incentives

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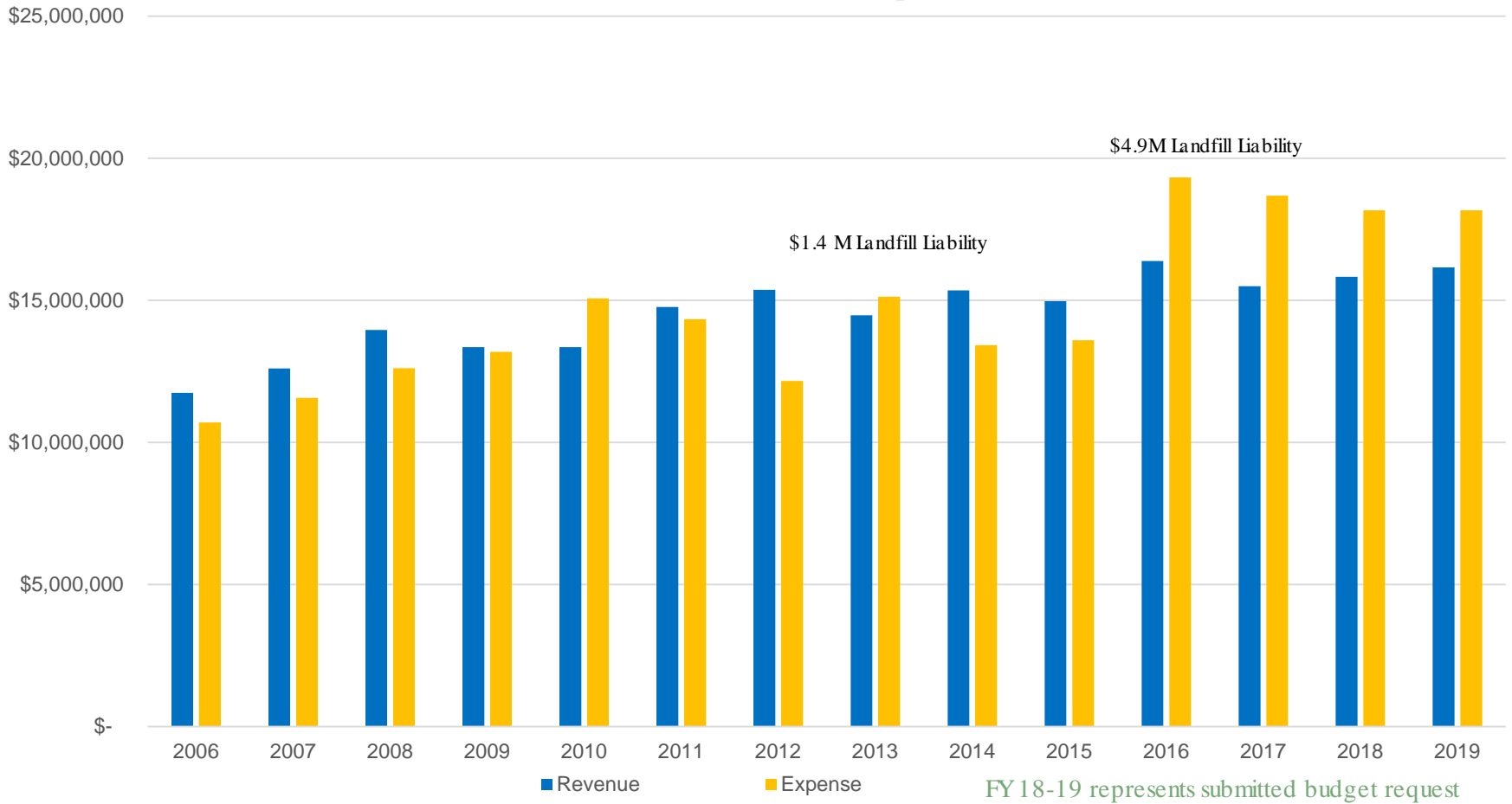
- Two additional credit opportunities were identified
 - Green roofs - offered as a reduction in impervious area based upon the area of the roof
 - Tree canopy credits - offered as a reduction in impervious area based on specific tree canopy (typically non-residential)
 - Specific details/ program parameters would need to be established
- Communities have offered rebates for tree planting in addition to or in place of tree canopy credits
 - Typically just residential customers



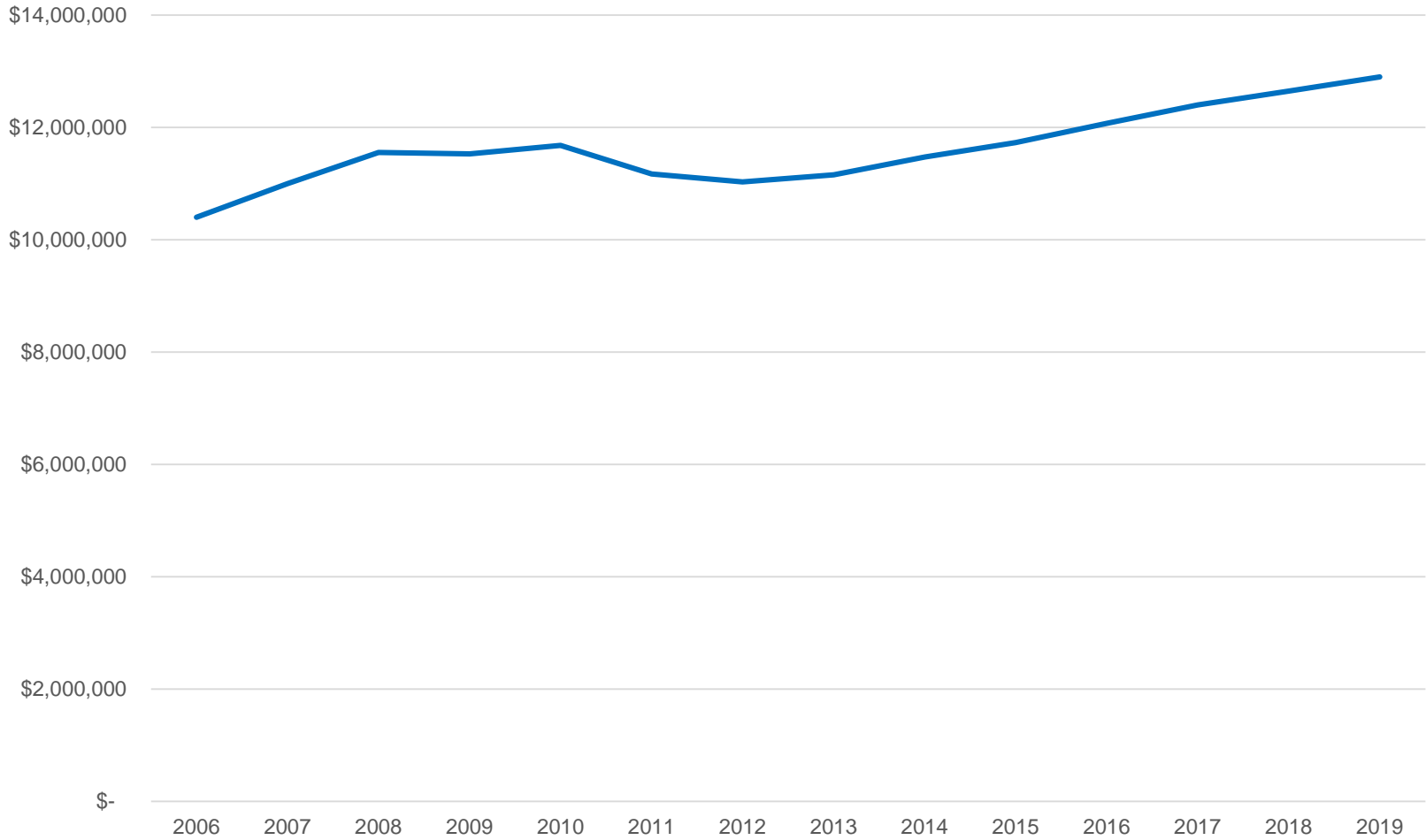
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Question & Discussion

Solid Waste Fund Revenue vs. Expenditures



Solid Waste Millage Revenue



Solid Waste Fund Balance

