



# Executive Summary

*Projected FY 2022  
Sewer Units of Service  
November 19, 2020*



**TFG**  
THE FOSTER GROUP

# Charge Season Schedule

- This is the second formal “charge rollout” meeting for the FY 2022 Budget and Charges
  - ✓ **11/10/2019** - *Capital Improvement Programs*
  - ➔ ✓ **11/19/2020** - *Preliminary Units of Service*
  - ✓ **1/7/2021** – *Preliminary Proposed FY 2022 Budget and Financial Plan and Preliminary Charges*
  - ✓ **1/21/2021** – *Comprehensive Follow Up Review Session*
  - ✓ **2/24/2021 (tentative)** – *GLWA Public Hearing*
  - ✓ **7/1/2021** – *Effective Date for Charges*
- Parallel meetings of Outreach Work Groups

# Key Takeaways

- GLWA has worked collaboratively with Member Partners to propose a new SHAREs methodology to become effective with the FY 2022 Wholesale Sewer Charges
- The new methodology embraces fundamental principles of stability and simplicity while not losing sight of cost causation
- Impacts of proposed FY 2022 SHAREs on Member Partners are materially narrow
  - ✓ *Impacts largely related to changes in flow contributions from various Member Partners*

# SHARE Development Process

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November 19, 2020



# Process Towards Success

- June 2018: Symposium on Wastewater Charges
  - ✓ *GLWA Sewer Charge Methodology more complex than peers*
- Summer / Fall 2019: Independent Charges Consultant (Raftelis) meets with Member Partners
  - ✓ *Report concludes core objective: “Minimizing impacts on each Member Partner Community while simplifying the charge methodology was the most important consideration of any proposed change.”*
- Fall 2019: Think Tank begins deliberations
  - ✓ *Think Tank Members self-selected into the group and included representatives of Wayne, Oakland, and Macomb Counties as well as the City of Detroit.*

# Process Towards Success

- Fall 2020: Think Tank Achieves Goal
  - ✓ *Proposed modified Core Charge Methodology for consideration*
- Today: Formal Rollout
  - ✓ *Results in Sewer “Units of Service” proposed to be utilized for FY 2022 Charges*
- January 2021: Proposed FY 2022 Sewer Charges
  - ✓ *Rollout Meetings 3 and 4*
- July 2021: Effective Date of FY 2022 Sewer Charges

# Proposed Core Methodology

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# Proposed Methodology

## *The Simple Explanation*

- Costs incurred to treat wastewater at the WRRF are allocated based:
  - ✓ *50% on average wastewater contribution, which reflects higher use during wet weather and also ties to the cost causation of moving flow through the WRRF, irrespective of the type of flow, and*
  - ✓ *50% on sanitary flow contribution, which reflects strength of the wastewater and ties to the cost causation of treatment processes.*
- Costs incurred to transport wastewater through the regional conveyance and collection system are proportioned by member partners' contributed average annual flows. Contributed volume ties to cost causation and long-term averages create charge stability.
- Costs incurred for regional wet weather facilities are proportioned 83% to Detroit and 17% to other member partners as previously negotiated and memorialized in legal documents.



# Existing Core Methodology for SHARES

- The existing SHARES methodology relies on a multitude of different “units of service” allocators due to the strength of flow concept

		Allocators			
		Avg Vol	Strength of Flow (a)	CSO	Suburb Only
Cost Pools	WRRF Cost Pool	35.8%	64.2%		
	Conveyance Cost Pool	100.0%			
	CSO Cost Pool			100.0%	
	Suburban Only Cost Pool				100.0%

(a) Results in at least 12 separate allocators, as distinct strength of flow assumptions for 4 separate pollutants are applied to 3 different types of flow.

	Pollutant Loadings - mg/l			
	BOD	TSS	PHOS	FOG
Sanitary Flow	274.5	322.9	7.62	34.8
DWII	6.6	6.8	0.30	0.0
Wet Weather Inflow	14.5	125.9	0.19	14.0

# Proposed Core Methodology for SHARES

- The proposed SHARES methodology embraces simplicity, and replaces the strength of flow notion with an appropriate weighting on sanitary volumes, resulting in 3 allocators

		Allocators		
		Avg Vol	Sanitary Vol	CSO
Cost Pools	WRRF Cost Pool	<b>50%</b>	<b>50%</b>	
	Conveyance Cost Pool	<b>100%</b>		
	CSO Cost Pool			<b>100%</b>

*Calculations Table 6*

# Core Methodology Considerations:

## *Replace “83/17” with Peak Flow*

- Explored considerations of peak flows as a replacement of “83/17” for CSO and conveyance costs, as suggested by Raftelis
  - ✓ *Determined adequate measures of peak flow not available at this time;*
  - ✓ *Acknowledged that existing 83/17 contains an element of peak flow;*
  - ✓ *Acknowledged that 83/17 is set forth in legal agreements and contracts and changing it may be logistically challenging*

# Core Methodology Considerations:

## *Master Plan CSO Projects*

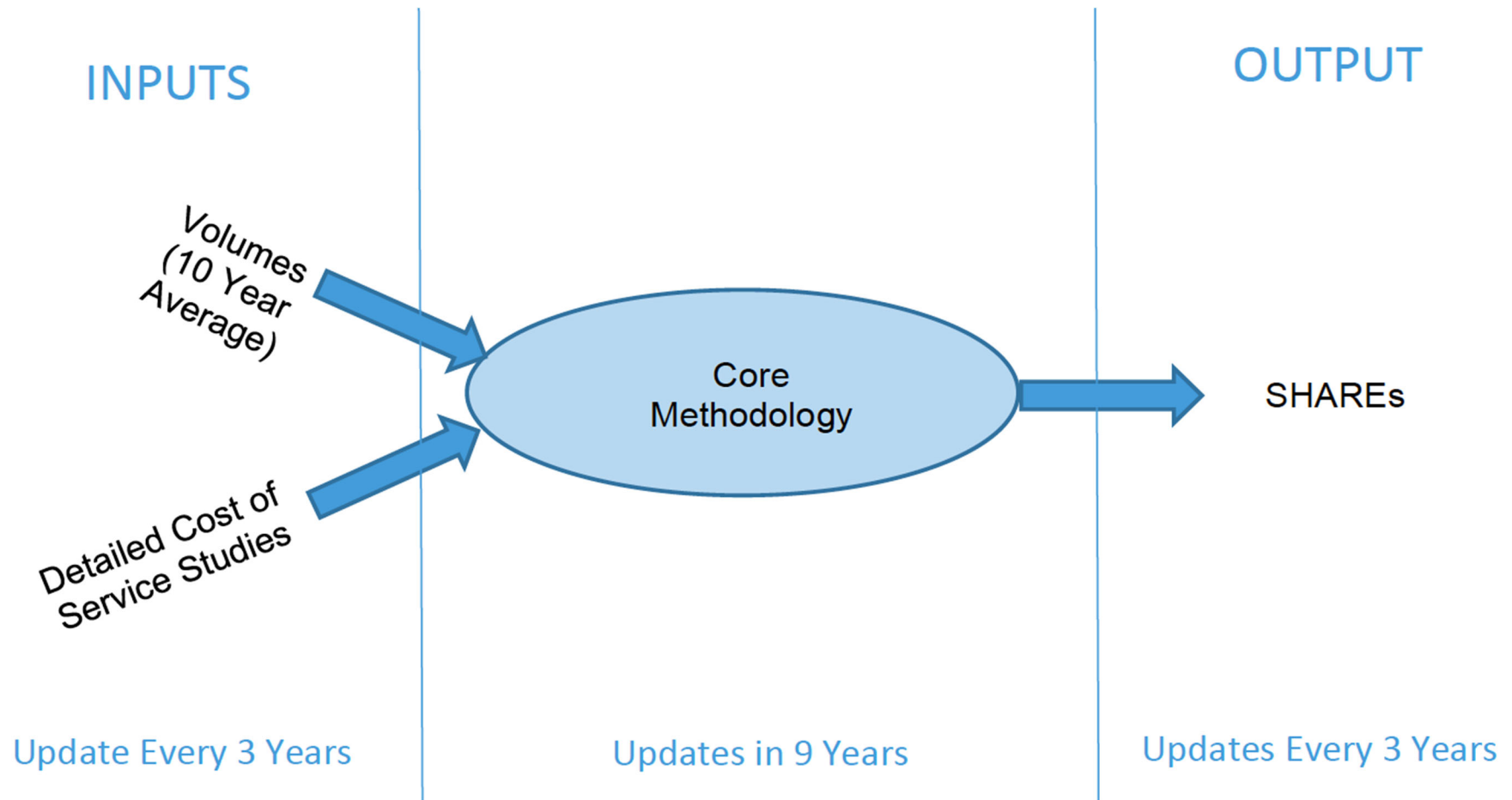
- Explored Master Plan and CIP in detail, to evaluate whether it would impact cost pool assumptions
  - ✓ *Acknowledged that existing 83/17 facilities are specifically identified in legal agreements;*
  - ✓ *Determined that most projects that could impact relative 83/17 allocations would not impact capital cost pool allocations for several years;*
  - ✓ *Suggested that this topic be taken up before the next SHARE update*

# Core Methodology Considerations:

## *Affordability*

- Discussed affordability as it relates to methodology and concluded affordability:
  - ✓ *Was a key driver in the approach of the Wastewater Master Plan;*
  - ✓ *Is a topic for policy makers such as GLWA's Board of Directors;*
  - ✓ *Is addressed in the context of permit renewals where updates to GLWA's assessment of financial capability are completed*

# Recommended Core Methodology Implementation Strategies



# Recommended Core Methodology Implementation Strategies

- Maintain core methodology for at least nine years
- Utilize a 10-year rolling average of flow volume inputs from annual flow balance reports
  - ✓ *7 years of data available for initial SHARE period starting with FY 2022*
- Determine SHARES for fixed 3 Year “SHARE” Periods, and update every 3 years
  - ✓ *SHAREs are constant for 3 year periods*
  - ✓ *Replace with new flow inputs*

# Recommended Core Methodology Implementation Strategies

- Use discretely measurable volumes of both sanitary and total flow;
- Continue to utilize water sales data as a determinant of sanitary volumes for ALL Member Partners;
- Rely on metered non-sanitary flows for the System in total and the Master Metered Customers;
- Acknowledge challenges of separating “non master metered” non-sanitary flows into Local (assigned to D+) and Regional (to be shared by all) components  
✓ *On that topic . . .*

Calculations Tables 1 & 2



# Recommended Core Methodology

## Implementation Strategies: D+

- Think Tank recommends that “non master metered” non-sanitary flows be assigned:
  - ✓ *50% to Local sources (D+ responsibility), and;*
  - ✓ *50% to Regional sources (to be shared by all) components*
- From the Think Tank:
  - ✓ *“The 50/50 split of contribution from regional and local systems for DWII was informed by a body of work conducted by CDM Smith related to the flows in D+, which concluded that such factors are not able to be ascertained with a high level of precision and 50/50 was within the established error band.”*
  - ✓ *“In contrast, the 50/50 split of contribution from regional and local systems for wet weather flow was an agreed upon compromise between the Think Tank Members because no studies were available to inform the decision.”*

Calculations Tables 3 & 4

# Proposed SHAREs: Impact Analysis

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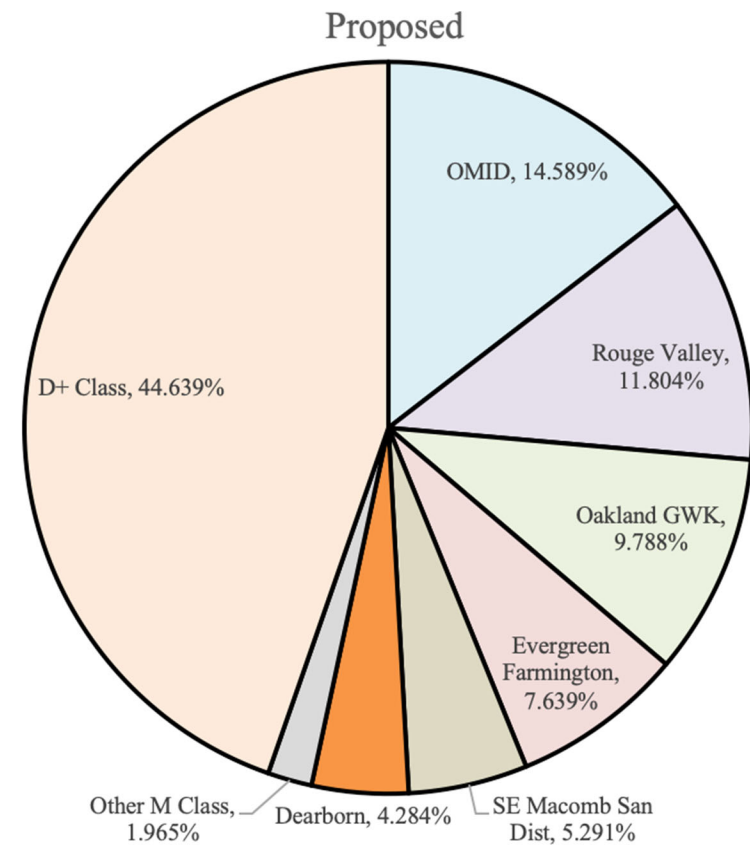
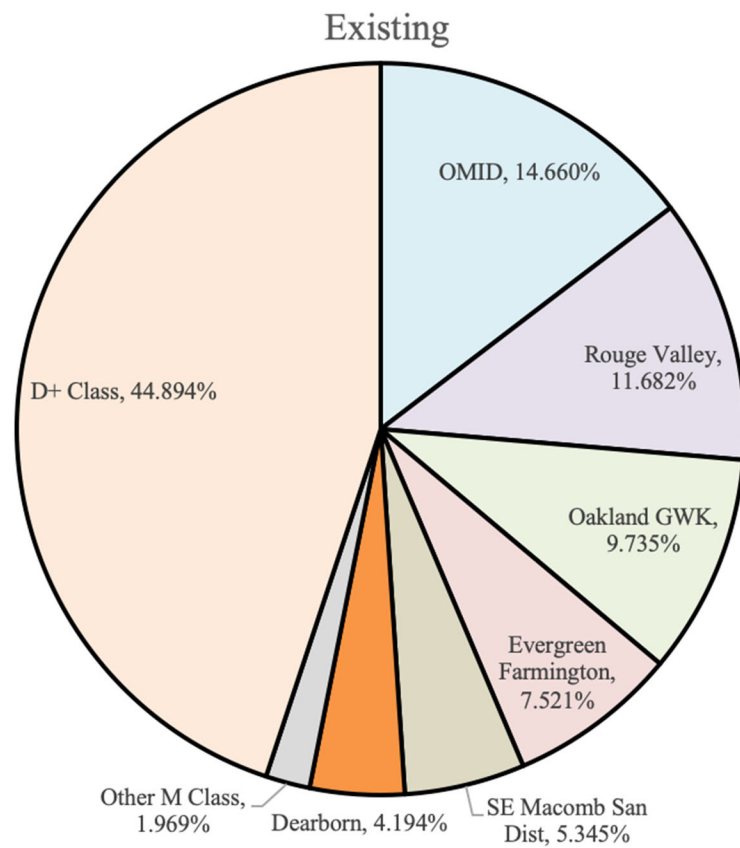
# Proposed SHARES Impact Analysis

- Proposed SHARES achieve **Stability**, with a very narrow impact band

Calculations Table 8

	Existing CTA <u>SHARE</u>	Proposed <u>SHARE</u>	<u>Variance</u>	<u>% Variance</u>
<b><u>Member Partner Shares</u></b>				
1 OMID	14.660%	14.589%	-0.071%	-0.5%
2 Rouge Valley	11.682%	11.804%	0.122%	1.0%
3 Oakland GWK	9.735%	9.788%	0.053%	0.5%
4 Evergreen Farmington	7.521%	7.639%	0.118%	1.6%
5 SE Macomb San Dist	5.345%	5.291%	-0.054%	-1.0%
6 Dearborn * (w/ D+ allo)	4.194%	4.284%	0.090%	2.1%
7 Grosse Pointe Farms	0.593%	0.580%	-0.012%	-2.1%
8 Grosse Pointe Park	0.390%	0.402%	0.012%	3.2%
9 Melvindale	0.331%	0.332%	0.001%	0.4%
10 Farmington	0.248%	0.253%	0.005%	1.9%
11 Center Line	0.223%	0.220%	-0.003%	-1.6%
12 Allen Park	0.184%	0.179%	-0.006%	-3.1%
13 M Customer Subtotal	55.106%	55.361%	0.255%	0.5%
14 D+ Customers * (w/o Dbn allo)	44.894%	44.639%	-0.255%	-0.6%
15 Total	100.000%	100.000%	0.000%	0.0%

# Proposed SHAREs Impact Analysis



# Proposed SHARES Impact Analysis

- Most important metric impacting the shifts in proposed SHARES are relative changes in flow volumes for individual Member Partners
- New SHARES add flow volume data for three years (FYs 2017 through 2019) to the units of service.

# Proposed SHAREs Impact Analysis

- Member Partners that experienced relatively higher flow contributions in those years (compared to the average of all Member Partners) would naturally experience a SHARE increase under ANY methodology that relies on flow volume

# Proposed SHAREs Impact Analysis

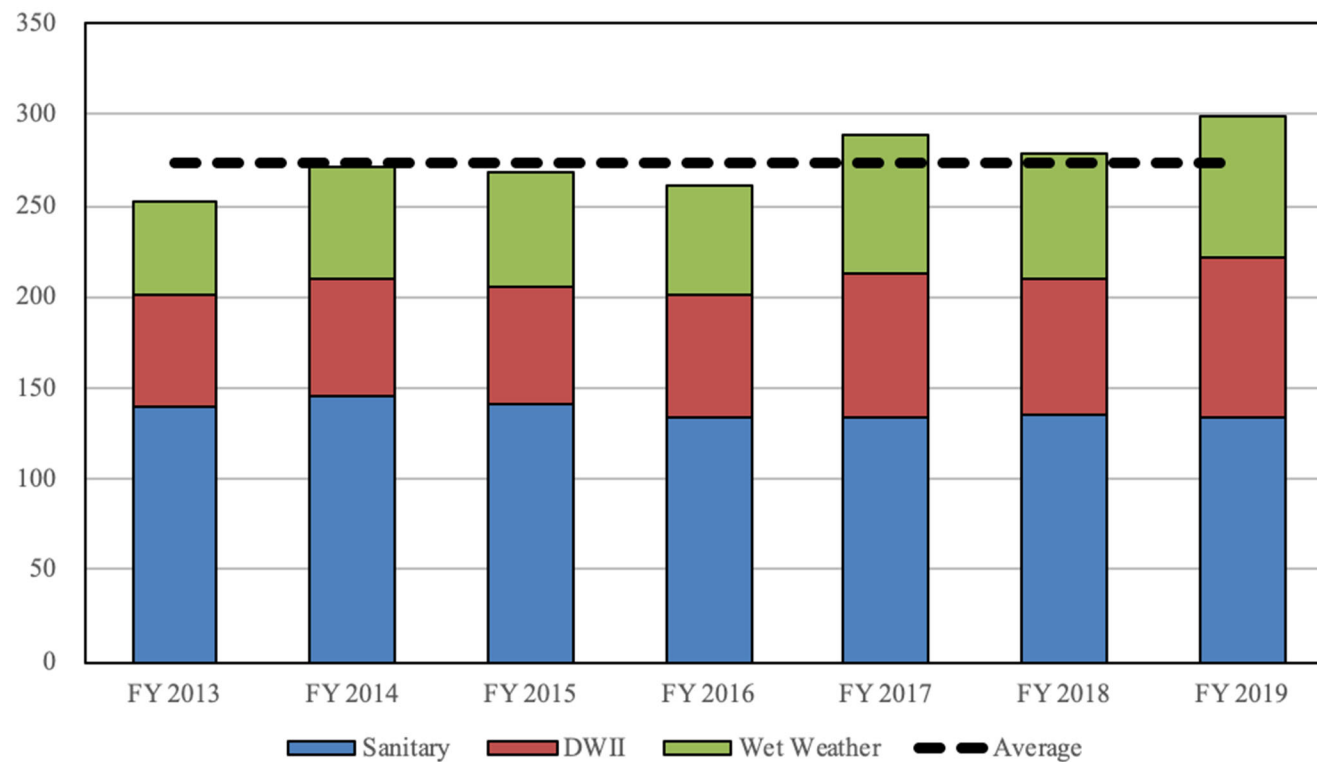
	Change in		
	<u>Total Volume</u>	<u>Sanitary Volume</u>	<u>SHARE</u>
1 OMID	5.0%	-4.4%	<b>-0.5%</b>
2 Rouge Valley	8.1%	-3.7%	<b>1.0%</b>
3 Oakland GWK	12.8%	-2.0%	<b>0.5%</b>
4 Evergreen Farmington	8.3%	-1.8%	<b>1.6%</b>
5 SE Macomb San Dist	10.5%	-7.2%	<b>-1.0%</b>
6 Dearborn	19.3%	-4.8%	<b>2.1%</b>
7 Grosse Pointe Farms	12.5%	-22.9%	<b>-2.1%</b>
8 Grosse Pointe Park	26.3%	-6.8%	<b>3.2%</b>
9 Melvindale	10.1%	-4.2%	<b>0.4%</b>
10 Farmington	16.1%	-5.9%	<b>1.9%</b>
11 Center Line	9.0%	-6.2%	<b>-1.6%</b>
12 Allen Park	6.2%	-14.4%	<b>-3.1%</b>
13 Subtotal Master Metered	9.7%	-4.0%	<b>0.5%</b>
14 D+ Communities	-1.7%	-1.0%	<b>-0.6%</b>
15 Total Allocation Volume	4.1%	-3.1%	<b>0.0%</b>

# Proposed SHAREs Impact Analysis

Flow Volume Data: FY 2013 - FY 2019 (mgd)

*Subtotal Master Metered*

		Contributed Volume - <i>mgd</i>							
		<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Average</u>
1	Sanitary	139.273	145.753	140.912	133.488	133.132	135.992	133.784	137.476
2	DWII	62.098	64.363	64.516	67.596	79.329	73.408	87.910	71.317
3	Wet Weather	50.393	60.897	62.751	59.548	75.940	69.076	76.904	65.073
4	Total	251.764	271.013	268.179	260.631	288.402	278.477	298.598	273.866



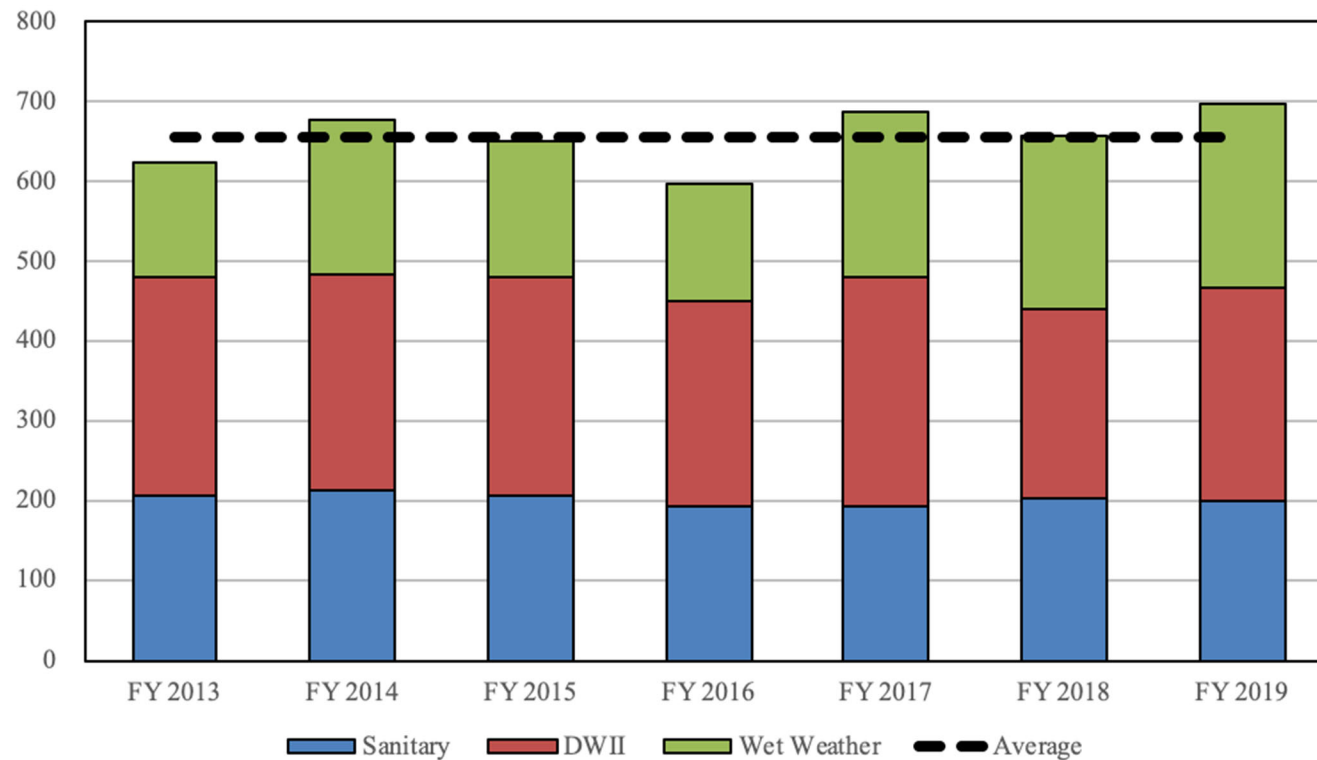


# Proposed SHAREs Impact Analysis

Flow Volume Data: FY 2013 - FY 2019 (mgd)

Total Influent to System

		Contributed Volume - <i>mgd</i>							
		<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Average</u>
1	Sanitary	206.364	212.699	204.449	193.535	191.897	202.564	200.007	201.645
2	DWII	271.644	269.271	274.181	254.891	286.441	235.423	266.274	265.447
3	Wet Weather	146.494	193.656	170.734	149.561	207.373	218.626	230.373	188.117
4	Total	624.502	675.626	649.364	597.988	685.711	656.612	696.654	655.208



# Proposed SHAREs Impact Analysis

## D+ Customer Class

*D+ SHARE Calculations Memo*

- Simplified application of methodology to assign SHAREs to D+ Member Partners

	<u>Existing CTA SHARE (a)</u>	<u>Proposed SHARE</u>	<u>Variance</u>	<u>% Variance</u>	
1 Highland Park	1.222%	1.144%	-0.078%	-6.4%	Recognizes Highland Park's Sanitary flow reduction
2 Hamtramck	0.857%	0.853%	-0.004%	-0.5%	
3 Grosse Pointe	0.191%	0.190%	-0.001%	-0.5%	Fairly uniform for others; Differences reflect specific CSO "83/17" Shares for each D+ Member Partner
4 Harper Woods	0.047%	0.046%	-0.001%	-2.1%	
5 Redford Township	0.057%	0.057%	0.000%	0.0%	
6 Wayne County #3	0.011%	0.011%	0.000%	0.0%	
7 Detroit	42.508%	42.338%	-0.170%	-0.4%	
8 Total D+	44.893%	44.639%	-0.254%	-0.6%	

(a) Based on review of FY 2021 Charges, which were based on FY 2020 Cost of Service Study.  
Existing SHAREs reflect "All in" SHAREs after recognizing CSO & Suburban only Cost Pools.

# Proposed SHAREs Impact Analysis

- Will changes in SHAREs exactly model changes in FY 2022 Charges?
  - ✓ *Not precisely – other contributing factors include:*
    - Overall System Budget / Charge adjustment;
    - Allocation of FY 2022 Revenue Requirements to Industrial Specific (IWC, Surcharge) categories;
    - Specific Contractual requirements for Detroit and OMID
  - ✓ *Differences between SHARE adjustment and Charge adjustment will not be material in a “revenue neutral” environment*



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