



DPW

CITY OF ATLANTA • DEPARTMENT OF PUBLIC WORKS

2022 Solid Waste Sanitary Services Rate Study Draft Report



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Management Services

09220100.00 | December 15, 2021

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December 15, 2021

SCS ENGINEERS

Mr. Jon Keen
Chief Operating Officer
City of Atlanta
55 Trinity Ave., S.W.
Suite 2400
Atlanta, Georgia 30303

Subject: 2022 Solid Waste Sanitary Services Rate Study Draft Report

Dear Mr. Keen:

SCS Engineers Management Services ("SCS") is pleased to present this Draft Report for the Solid Waste Sanitary Services Rate Study conducted for the City of Atlanta. SCS was retained by the City of Atlanta ("City") to update the City's Department of Public Works Office of Solid Waste Services ("DPW SWS") solid waste assessments, rates, and charges to reflect DPW SWS's cost to serve to provide solid waste sanitary service and make a long-term financial management plan for DPW SWS's solid waste operations through FY 2032.

The Study relied on information provided by City finance staff and DPW SWS staff and consultants including, but not limited to, customer and service type information, historical billed amounts, budgeted and historical financial operating revenues and costs, capital plans, long-term liabilities, and other financial and internal policy information.

The report following this letter details the assumptions, findings, and recommendations of this analysis, and includes an executive summary that summarizes the key results and findings for each component of the rate study.

We appreciate this opportunity to be of service to the City, and the kind and diligent assistance provided by you and your staff. We look forward to working with you again in the future. If you have any questions or would like to discuss this further, please call me anytime at (386) 546-7719.

Regards,



Vita Quinn, MBA
Director of Management Services
SCS Engineers



Kellyn J. Modlin, MBA
Management Analyst
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EXECUTIVE SUMMARY

This Executive Summary represents a summary of the results of the 2022 Solid Waste Rate (Study) that was conducted for the City and the DPW SWS by SCS.

BACKGROUND

The City, with a population of approximately 500,000, provides solid waste sanitary service to its residents and businesses. The DPW SCS, which operates as an enterprise fund of the City, currently services approximately 97,400 residential solid waste and recycling accounts and 350 multifamily and City accounts. Additionally, the City performs many additional functions for the benefit of its residents and businesses, such as street sweeping, yard waste collection, and bulk rubbish collection. The revenue for the City comes from solid waste fees charged on the property tax bills.

The City last updated its solid waste sanitary service rates in 2019. However, as operational impacts from the COVID-19 pandemic and need for additional revenues have affected the financial health of the DPW SWS operations, the City recognized the need to review its long-term financial sustainability and assessment/rate structure. As a result, SCS was hired by the City to complete a comprehensive Solid Waste Sanitary Services Rate Study (“Study”) to analyze the financial stability of its solid waste sanitary services operations over a multi-year projection period and to analyze its assessments and rates structure and costs to provide sanitary services to its residents and businesses.

OBJECTIVES

The objectives of this Study were as follows:

1. **Revenue Sufficiency Analysis** – Project the sufficiency of DPW SWS sanitary assessments and rate revenues to fund DPW SWS operating expenses, capital program, and debt service while maintaining adequate debt service coverage and working capital reserve requirements over a long-term projection period.
2. **Cost of Service Analysis** – Apportion solid waste costs among service types to determine the reasonable allocation of cost of solid waste sanitary services provided by the City.
3. **Rate Structure Analysis** – Examine the City’s current solid waste sanitary service assessment and rate structure and test modifications based off of the results from the cost of service analysis and revenue sufficiency analysis.

REVENUE SUFFICIENCY ANALYSIS (RSA)

This analysis evaluated the sufficiency of the DPW SWS’s solid waste sanitary services assessments and rate revenues to meet all of its current and projected financial requirements over a ten-year projection period, and determined the level of any assessments and rate revenue adjustments necessary in each year of the projection period to provide sufficient revenues to fund the DPW SWS’s

cost requirements. With City staff, we thoroughly discussed the base data and assumptions of the analysis, and reviewed several alternative scenarios for the City. Through this process, we identified our recommended financial management plan and associated plan of solid waste sanitary assessments and rate revenue increases presented herein to address the current and projected cost requirements of the DPW SWS's solid waste operations. The Appendix includes detailed schedules presenting all components of the ten-year financial management plan developed for the City.

The analysis determined that DPW SWS's current assessments and rate revenues are no longer sufficient to meet the current projected financial needs of DPW SWS to fund its ongoing operations, capital program, debt service and coverage requirements, and working capital reserves. Therefore, a long-term financial management plan was developed for DPW SWS. The five-year plan of recommended revenue adjustments is shown in the table below.

5-Year Revenue Plan

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenue Adjustment %	2.50%	2.50%	2.50%	2.50%	2.50%

COST OF SERVICE ANALYSIS (COSA)

In order to calculate the cost to provide solid waste sanitary services for DPW SWS's, the DPW SWS's operating and capital budgets must be allocated accordingly. DPW SWS's costs were allocated to 23 cost center pools;

- Garbage Collection
- Multi-Family / Dumpster Collection
- Backyard Collection Solid Waste
- Yard Trimming Collection
- Bulk Rubbish Collection
- Bin Delivery Solid Waste
- Yard Trimming Processing
- Post-Closure Care
- Recycling
- Backyard Collection Recycling
- Bin Delivery Recycling
- Street Sweeping
- Trash Receptacle Collection
- Illegal Sign Removal
- Dead Animal Collection
- Right of Way Grass Mowing
- Lot Clearing
- Illegal Dumping
- Solid Waste Education & Enforcement Team (SWEET)
- Keep Atlanta Beautiful
- Community Cleanup
- Fortification
- Special Event Cleanup

The results of the COSA reflect how much it costs DPW SWS to provide each of these services and fund capital and debt service requirements. The results from this analysis are used in the Rate Structure Analysis as the revenue requirement for calculating updated assessments and rates.

The charts below show the relative expenses incurred in providing each service.

Cost to Provide Services

Service	Expenses	%
Garbage Collection	20,954,318	26.3%
Multi-Family / Dumpster Collection	3,128,831	3.9%
Backyard Collection Solid Waste	1,822,738	2.3%
Yard Trimming Collection	7,083,763	8.9%
Bulk Rubbish Collection	4,052,029	5.1%
Bin Delivery Solid Waste	183,525	0.2%
Yard Trimming Processing	4,265,479	5.3%
Post-Closure Care	6,271,067	7.9%
Recycling	10,795,881	13.5%
Backyard Collection Recycling	261,704	0.3%
Bin Delivery Recycling	201,283	0.3%
Street Sweeping	4,180,571	5.2%
Trash Receptacle Collection	2,780,806	3.5%
Illegal Sign Removal	1,712,468	2.1%
Dead Animal Collection	1,386,256	1.7%
ROW Grass Mowing	3,863,035	4.8%
Lot Clearing	777,161	1.0%
Illegal Dumping	1,032,853	1.3%
SWEET	3,915,523	4.9%
Keep Atlanta Beautiful	602,172	0.8%
Community Cleanup	74,231	0.1%
Fortification	103,168	0.1%
Special Event Cleanup	359,944	0.5%
Total Cost of Services	\$ 79,808,804	100.0%

ASSESSMENT AND RATE STRUCTURE ANALYSIS

SCS examined the City's current solid waste assessments and rates and tested assessment/rate structure modifications that would fairly and equitably recover the DPW SWS's current cost of service and revenue requirements from each customer class and service, while providing an assessment and rate structure that conforms to best practices for ratemaking and relevant laws governing utility assessments and rates. The final assessment and rate structures should also provide for the financial stability of the DPW SWS while minimizing administrative burden and enhancing the ability for the assessments and rates to be easily understood.

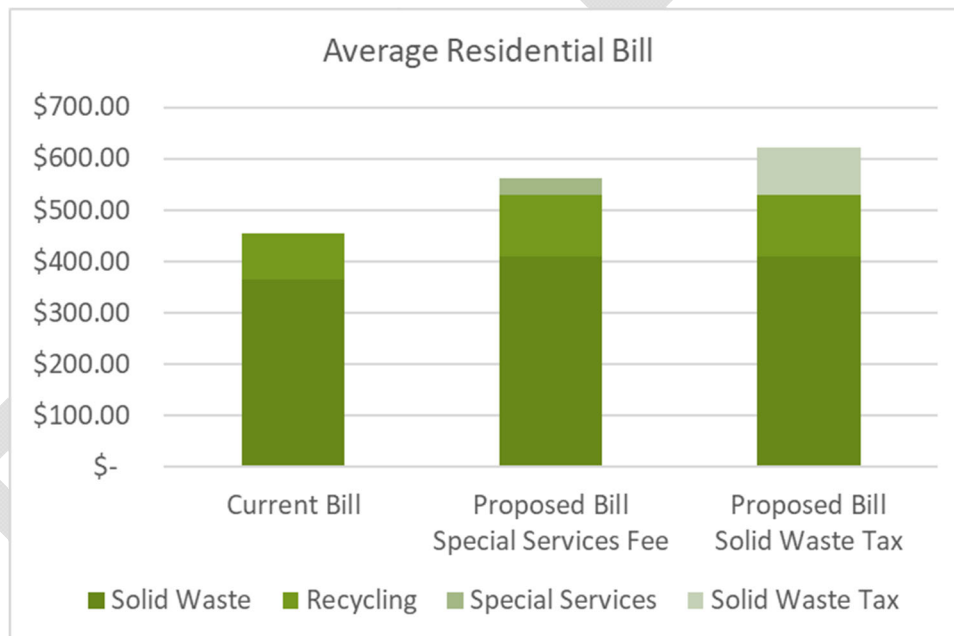
Special Services

The City provides certain solid waste sanitary services such as street sweeping and lot clearing that benefit all residents and businesses in the City, regardless of whether they receive solid waste sanitary trash collection performed by DPW SWS. SCS was requested to consider recouping these special services costs through either Special Services, or through a Solid Waste Tax to recover these costs.

The results of the assessment and rate structure analysis and comparison of current and proposed assessments and rates for both scenarios are shown in the tables below for the average residential customer.

Average Residential Bill ¹

Service	Proposed Bill			Proposed Bill	
	Current Bill	Special	% Change	Solid Waste	% Change
Solid Waste	\$ 365.81	\$ 409.45		\$ 409.45	
Recycling	\$ 88.00	\$ 120.18		\$ 120.18	
Special Services	\$ -	\$ 32.21		\$ -	
Solid Waste Tax	\$ -	\$ -		\$ 91.10	
Total Bill	\$ 453.81	\$ 561.84	24%	\$ 620.73	37%



Note that these projections assume that the City will use general fund revenues for DPW SWS expenses to service City and government-owned parcels that have dumpster service and to provide Special Services to City and government-owned parcels, as well as reimburse for other costs that are not included in the proposed assessments and rates. The other items include costs of Fortification and Special Event Cleanup, and any exemptions or discounts dictated by City policy, such as discounts for senior citizens.

1.0 INTRODUCTION

The background, scope, and objectives of the Study are described below.

1.1 BACKGROUND

The City, with a population of approximately 500,000, provides solid waste sanitary service to its residents and businesses through DPW SWS). DPW SCS, which operates as an enterprise fund, currently provided solid waste trash collection and recycling services to approximately 97,400 residential accounts and solid waste collection services to approximately 350 multifamily and City accounts. Additionally, the City performs many additional solid waste sanitary functions for the benefit of its residents and businesses, such as street sweeping, yard waste collection, and bulk rubbish collection.

The City's current assessment and rate structure includes 3 components:

- Solid Waste Collection – The charge to collect and dispose of solid waste from cans and dumpsters in the City. The City does not provide solid waste collection service to all parcels. Collection services are offered to residential parcels and certain multifamily parcels. The City does not provide solid waste collection service to commercial parcels outside of City/government properties. This fee includes the costs of yard trimming collection and processing, bulk rubbish collection, and bin/cart delivery.
- Recycling – The charge to collect recyclables and deliver them to a facility for processing. This service is only provided to customers who have cans; it is not provided for any customers that have dumpster service, including most multifamily properties. This fee includes the costs of recycling bin/cart delivery.
- Special Services – There are certain solid waste sanitary services the City provides that are in addition to solid waste collection and disposal services. They are provided for the benefit of all the parcels in the City. These services include street sweeping, collection of waste in public trash cans on sidewalks along roadways, removal of signs placed along roadways illegally, collection of dead animals in and along roadways, mowing in public rights-of-way, clearing of parcels that are overgrown or that have had illegal dumping of trash or other items, code enforcement and education, and programs to encourage City beautification and cleanup.

Outside of these services, the DPW SWS also provides solid waste collection services when there are permitted special events, and provides fortification services at large City events using trucks as a physical crowd barrier.

The City last updated its solid waste sanitary assessments and rates in 2019. However, as operational impacts from the COVID-19 pandemic and need for additional revenues have affected the financial health of the solid waste operations, the City recognized the need to review DPW SWS's long-term financial sustainability and rate structure. As a result, SCS was hired by the City to

complete a comprehensive Solid Waste Sanitary Services Rate Study to analyze the financial stability of its solid waste operations over a multi-year projection period and to analyze its assessments and rate structure and cost to provide services to its residents and businesses.

1.2 SCOPE & OBJECTIVES

The components and objectives of this Study were as follows:

1. **Revenue Sufficiency Analysis (RSA)** – Project the sufficiency of your solid waste and sanitary assessment and rate revenues to fund your operating expenses, capital program, and debt service while maintaining adequate debt service coverage and working capital reserve requirements over a long-term projection period.
2. **Cost of Service Analysis (COSA)** – Apportion solid waste costs from the RSA among service types to determine the true cost of solid waste sanitary services provided by the City.
3. **Assessment/Rate Structure Analysis** – Examine the City’s current solid waste assessment and rate structure and test modifications based off of the results from the COSA and revenue requirement from the RSA.

The following sections describe the source data and assumptions used in the analyses, the work that was performed, and the recommended solid waste assessments and rates.

2.0 SOURCE DATA & ASSUMPTIONS

2.1 SOURCE DATA

The following presents the source data provided to SCS by DPW SWS and City staff, which was relied upon to conduct the Study:

2.1.1 BEGINNING FUND BALANCES

Unaudited trial balance schedules for the fiscal year ended 6/30/2021 provided by City staff were used to establish fund balances for the DPW SWS and its subfunds.

2.1.2 REVENUES

The revenues utilized in the RSA reflect an evaluation of multiple years of historical results and rate revenues collected, the FY 2022 Budget, and conversations with DWP SWS and City staff. Beginning in FY 2023, rate revenue is based upon the FY 2022 Budget, adjusted annually to reflect assumed revenue adjustments and change in billed parcels. Projections of all other revenues are based upon the FY 2022 Budget, excluding interest income (which was calculated annually based upon projected average fund balances and assumed interest rates) and penalties and interest (which were assumed to increase along with rate revenues).

2.1.3 OPERATING EXPENDITURES

The City's operating expenditures include all personal services, operations and maintenance expenses, transfers, debt service requirements, and minor capital outlay. The expenses reflected in the RSA reflect an evaluation of multiple years of historical results, the FY 2022 Budget, and conversations with the City. In each year thereafter, expenses were based upon the FY 2022 projection and assumed cost escalation factors that were reviewed with City staff.

2.1.4 CAPITAL SPENDING

DPW SWS and City staff provided project-level capital improvement projects and the most current vehicle and equipment replacement program budgets. The total projected spending from FY 2022 – FY 2032 is projected to be approximately \$70.7 million.

2.1.5 PROPERTY AND BILLING INFORMATION

Account and billing information for all parcels in Fulton and Dekalb Counties served by the DPW SCS from 2015 through 2019 was provided by DPW SWS staff through DPW SWS's outside billing consultant.

Current property rolls were provided by the Fulton County Property Assessor and Dekalb County Property Assessor.

2.2 ASSUMPTIONS

The following assumptions and policies were agreed upon by DPW SWS and City staff and are reflected in the RSA and included in the schedules in the Appendix:

2.2.1 REVENUE/COST ESCALATION

The escalation factors used for various types of operating assessments, revenues and expenses were based upon historical trends, our industry experience, and discussions with DWP SWS and City staff.

2.2.2 INTEREST EARNINGS ON INVESTED FUNDS

The Study assumes interest rate earnings of 0.25% in each year of the projection period, based upon DPW SWS and City staff input and recent actual earnings for the City's funds.

2.2.3 CUSTOMER & BILLED PARCEL GROWTH

Projected growth in billed parcels was based upon a review of historical billing data from FY 2015 through FY 2019 and discussions with DPW SWS and City staff. The assumed growth represents average annual growth rates during the examined period of approximately 0.40% per year.

2.2.4 MINIMUM RESERVE POLICIES

Prudent and bond required Fund reserve balances for utility systems are set aside for specific cash flow requirements, future project use, financial needs, or debt service coverage requirements. These funds are intended for known financial needs as well as to minimize risk associated with meeting the future financial obligations, capital requirements, and continued operations of the utility. Many utilities, rating agencies, and investment firms emphasize the need for adequate reserve fund balances so the utility can stay operational through unusual or adverse periods, unanticipated system failures, or natural disasters.

The financial management plan reflected herein assumes that the minimum operating fund reserve will equal 25% of annual operations and maintenance expenses for the DPW SWS. This reserve level is consistent with our industry experience and a healthy level of reserves for a municipal utility system per the evaluation criteria published by the municipal bond ratings agencies. Maintaining such level of reserves retains the City's ability to access the municipal bond market for future capital bond funding.

2.2.5 FUTURE BORROWING & VEHICLE/EQUIPMENT FUNDING

The DPW SWS cash funds most of its capital. However, part of its vehicle and equipment replacement program is financed with short-term debt. To the extent any additional short-term debt to fund the DPW SWS's vehicle and equipment replacement program would be required in any year of the projection period to fund a portion of the anticipated capital spending, the terms are based on the DPW SWS's current lease terms as follows:

Term: 6 Years
Interest Rate: 3.52%
Cost of Issuance: 2.00% of Par
Debt Service Reserve: None
Debt Service Coverage: None required

3.0 SOLID WASTE ASSESSMENT AND RATE ANALYSIS

3.1 REVENUE SUFFICIENCY ANALYSIS (RSA)

3.1.1 DESCRIPTION

In order to initialize the RSA, we obtained the DPW SWS's historical and budgeted financial information, historical billed parcel/container counts and tonnage data, multi-year capital improvement programs, and the City's current financial and debt policies. We also spoke with DPW SWS staff and City Finance staff regarding other assumptions and policies that would affect the financial performance of the City, such as deficit financing indebtedness to the General Fund, anticipated customer growth, reserve policies, capital funding sources, earnings on invested funds,

escalation rates for operating costs, impacts of potential regulatory and legislative initiatives, anticipated near-term impacts of COVID-19 on operations, etc.

SCS then input this information into our Revenue Sufficiency Model. The Revenue Sufficiency Model creates a multi-year projection of the City’s current assessment and rate revenues to determine whether the level of existing revenues can meet the projected DPW SWS financial requirements during each year of the projection period from FY 2022 – FY 2032. The model then calculates the level of revenue adjustments required for the fund to meet its revenue requirements. It replicates the cash flows of DPW SWS in each year of the projection period, based upon City policies and available fund balances. In each year, the model utilizes unrestricted fund balances, revenues, and capital funds to pay for any operating or capital expenditures in that year. To the extent necessary to fund all of the projects and vehicle/equipment replacements in the capital program, the model can identify the level of borrowing and the resulting debt service payments that would be required.

3.1.2 RESULTS

Based on the source data and input provided by DWP SWS and City staff, and the assumptions and policies described herein, DPW SWS’s current revenues are not sufficient to fund its ongoing operating, capital, debt service and coverage requirements, and working capital reserve targets in any year of the projection period. The Study concluded that an increase of 2.50% in each year beginning in FY 2023 will be sufficient for the DPW SWS to meet its financial requirements throughout the projection period. The recommended 5-year plan of revenue adjustments is shown in the table below:

5-Year Revenue Plan

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenue Adjustment %	2.50%	2.50%	2.50%	2.50%	2.50%

These revenue adjustments will be sufficient for DWP SWS to maintain adequate working capital in each year of the projection period while retaining the ability to fund planned and anticipated future capital spending with minimal borrowing.

3.2 COST OF SERVICE ANALYSIS

3.2.1 DESCRIPTION

The Cost of Service Analysis (COSA) performed for the solid waste utility uses the results of the RSA to allocate costs from DWP SWS’s projected budget to DPW SCS’s functions and various customer classes. The costs were allocated into 23 cost center pools:

- Garbage Collection
- Multi-Family / Dumpster Collection
- Backyard Collection Solid Waste
- Yard Trimming Collection

- Bulk Rubbish Collection
- Bin Delivery Solid Waste
- Yard Trimming Processing
- Post-Closure Care
- Recycling
- Backyard Collection Recycling
- Bin Delivery Recycling
- Street Sweeping
- Trash Receptacle Collection
- Illegal Sign Removal
- Dead Animal Collection
- Right of Way Grass Mowing
- Lot Clearing
- Illegal Dumping
- Solid Waste Education & Enforcement Team (SWEET)
- Keep Atlanta Beautiful
- Community Cleanup
- Fortification
- Special Event Cleanup

3.2.2 ALLOCATION OF COSTS

Described below are the methods used to allocate expenses to cost center pools.

3.2.2.1 Direct Allocation

Where possible, costs were directly assigned to these cost center pools. For example, the environmental permit regulatory required Annual Site Landfill/Gas System Evaluation and Periodic Aerial Mapping Updates project at DWP SWS's closed landfills was directly assigned 100% to the Post-Closure Care cost pool.

3.2.2.2 Indirect Allocation

In the case that items supported more than one cost pool, we attempted to identify proper allocation criteria to apportion the line item cost to each cost pool. For example, personal services costs are often allocated based upon the number of employees or based upon a workflow analysis of where each employee spends their time. It should be noted that the workflow analysis was performed prior to the effects of the COVID-19 pandemic being realized in the City's operations, so it more accurately reflects the anticipated post-COVID-19 operations for FY 2023.

3.2.2.3 Staff Estimate

If certain cost items supported more than one cost pool but a specific allocation criterion could not be identified, we discussed with DPW SWS staff the appropriate allocation percentages and used DPW SWS staff estimates or data provided by DPW SWS staff to apportion the costs.

3.2.2.4 Weighted Average

For cost items that supported more than one cost pool, a specific allocation criterion could not be identified, and staff did not have an estimate as to the allocation percentage, the weighted average of the allocation of all other costs was used to allocate those costs. This weighted allocation is primarily used for administrative and overhead costs, as it is appropriate to allocate such costs based upon the weighted average of the allocation of all other costs for which they are responsible.

The allocations to each cost center pool were then used to calculate solid waste sanitary assessments and rates for each customer class, service level, and container size.

3.2.1 COLLECTION/DISPOSAL ALLOCATION

In addition to apportioning costs to each cost center pool, certain services have a collection and disposal component to the assessment/rate calculation. Collection represents the time and expense associated with the employees and vehicles traveling their assigned routes and collecting waste/recyclables, whereas disposal represents the time and expense associated with transporting that collected solid waste to the landfill, tipping, and paying the associated disposal tipping fees. As with the cost center pool analysis described above, some costs can be directly apportioned to either collection or disposal. Other costs can be apportioned using route data. Others were apportioned on a weighted basis.

The allocations to each collection and disposal were then used in the assessment/rate calculations for the appropriate customer classes, service levels, and container sizes.

3.2.2 SOURCE DATA

The following presents the key source financial data relied upon in conducting the COSA:

3.2.2.1 FY 2023 Projected Operating Expenses

The COSA uses the FY 2023 projected expenses from the RSA as the basis for the costs to be apportioned between the cost center pools. The operating expenditures include all operations & maintenance (O&M) expenses (including personal services, fixed and variable operations and maintenance costs, transfers, and minor capital outlay), and debt service requirements related to the provision of solid waste service to DPW SWS's served residents and businesses.

3.2.2.2 Capital Improvement Program

The COSA includes DPW SWS's 5-year average cash funded capital costs from its capital improvement program (CIP) for FY 2023 – FY 2027 as provided by City staff and used in the RSA. The CIP, averaging about \$5.0 million per year during this period, consists of vehicle replacements, landfill closure activity, and facility repairs and upgrades.

3.2.2.3 Offsetting Revenues

DPW SWS has minimal other revenue sources that offset the revenue requirements from the solid waste rates. Based on discussions with DPW SWS and City staff and an historical analysis of actual revenues received, reliability of penalties/fines, etc and the uncertainty of the recycling markets, it was decided to exclude these from the analysis as an offset to the total revenue requirement that needs to be recovered from rates.

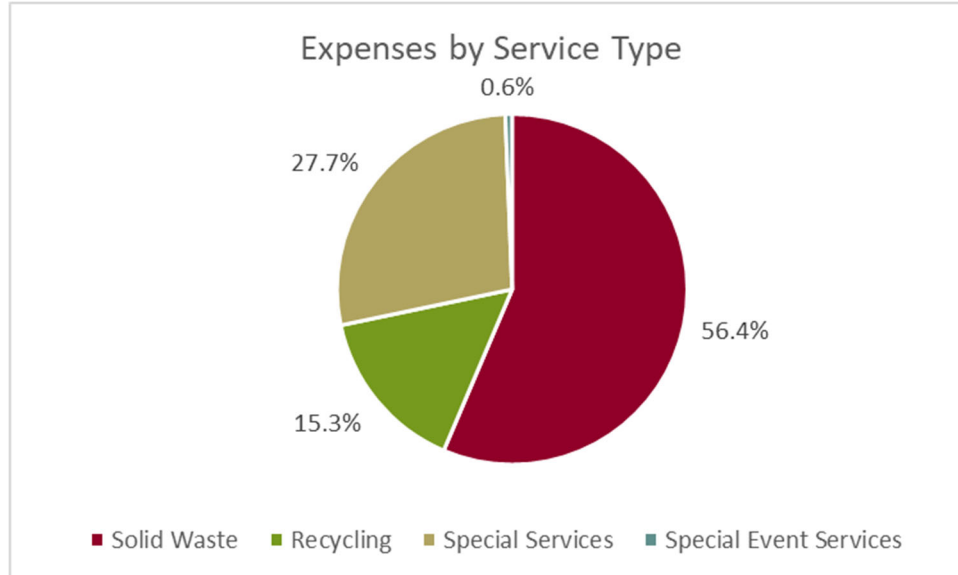
3.2.3 COSA RESULTS

In total, DPW SWS's FY 2023 projected revenue requirement totaled approximately \$70.8 million. The apportionment of expenses incurred by DPW SWS to each cost center pool are shown in the charts below:

Cost to Provide Services

Service	Expenses	%
Garbage Collection	20,954,318	26.3%
Multi-Family / Dumpster Collection	3,128,831	3.9%
Backyard Collection Solid Waste	1,822,738	2.3%
Yard Trimming Collection	7,083,763	8.9%
Bulk Rubbish Collection	4,052,029	5.1%
Bin Delivery Solid Waste	183,525	0.2%
Yard Trimming Processing	4,265,479	5.3%
Post-Closure Care	6,271,067	7.9%
Recycling	10,795,881	13.5%
Backyard Collection Recycling	261,704	0.3%
Bin Delivery Recycling	201,283	0.3%
Street Sweeping	4,180,571	5.2%
Trash Receptacle Collection	2,780,806	3.5%
Illegal Sign Removal	1,712,468	2.1%
Dead Animal Collection	1,386,256	1.7%
ROW Grass Mowing	3,863,035	4.8%
Lot Clearing	777,161	1.0%
Illegal Dumping	1,032,853	1.3%
SWEET	3,915,523	4.9%
Keep Atlanta Beautiful	602,172	0.8%
Community Cleanup	74,231	0.1%
Fortification	103,168	0.1%
Special Event Cleanup	359,944	0.5%
Total Cost of Services	\$ 79,808,804	100.0%

As discussed in Section 1.1, these costs are recovered in various components of the solid waste sanitary assessments and rates and through City General Fund payments to DWP SWS. The amounts allocated to each of the revenue streams are shown in the table below.



The revenue requirement for the Solid Waste collection and disposal assessments/rates was approximately \$45.0 million. The revenue requirement for the Recycling assessments/rates was approximately \$12.2 million. The revenue requirement for the Special Services assessments was approximately \$22.1 million. The revenue requirement for the Special Event Services to be reimbursed to DPW SWS by the City’s General Fund was approximately \$500,000. It should be noted that each of the cost center pools includes an apportioned amount of the Post-Closure Care costs related to allocated disposal volumes.

These apportioned costs were used to calculate the updated assessment/rates described herein and presented in the next subsection.

3.3 RATE STRUCTURE ANALYSIS

The results of the COSA were then used to develop an updated assessment/rate structure using the revenue requirement for each service type and service level. The assessment/rate structure analysis concentrates on developing a methodology to fairly and equitably apportion costs according to the level of services provided, while retaining the ability to recover the annual costs of the City. The ideal assessment/rate structure will also generate assessments/rates that are easier to understand and easier to administer.

3.3.1 PARCEL & BILLING DATA RECONCILIATION

In order to develop the new assessments/rates, it is necessary to conduct a detailed billing analysis to determine the number of bills and types of charges billed in the most recent fiscal year/s, ensuring that each parcel serviced is billed appropriately (e.g., that the container/dumpster charges are correct for the actual level of service being provided).

DPW SWS does not have an internal billing system that calculates the bills for each parcel in DPW SWS service area (the DPW service area encompasses portions of both Fulton County and Dekalb County). The billing is performed by DPW SWS's outside vendor and total assessment/rate calculations are calculated through a proprietary algorithm in the vendor's billing software. Consequently, billing amounts and calculations per parcel were not available in detail for Solid Waste, Recycling, and Special Services.

Instead, to perform the data analysis, SCS we created a database of all parcels in the DPW SWS service area, indexed by Parcel ID, from the parcel data provided to us by Fulton and Dekalb Counties and the total billing amount provided by DPW SWS's vendor. The account information included the customer Parcel ID, land use code and other relevant parcel data, dwelling units, a Parcel Type and Service Type for the assessment/rate currently charged, and a billed amount. Next, we used the City's current assessments/rates for solid waste and recycling service to extrapolate the current monthly charge for each type of account. With these assessments/rates, we could begin to analyze the billing data and identify questions about billing anomalies.

After we understood the way each account was currently being billed, we worked closely with DPW SWS and City staff to adjust any account billed differently than the assigned rate due to legacy practices, billing inconsistencies, or other billing system errors. The updated billing data could now be used in assessment/rate development for each service class.

3.3.2 RATE DEVELOPMENT

The results of the billing data analysis and the apportioned costs from the COSA represent the Net Revenue Requirement (NRR) for the updated assessments/rates. The COSA allocated the NRR into cost center pools, e.g., Collection and Disposal cost pools for solid waste cans and dumpsters, and recycling cans. The NRR amounts, container sizes, and service levels are then used to calculate the City's collection and disposal assessments/rates for each service class.

3.3.2.1 Solid Waste & Recycling

Collection Rate Calculation

The solid waste collection charge for each container type and service level was based upon the total collection NRR for each service type (solid waste cans, recycling cans, dumpsters), the number of containers and pickups billed, and the estimated time to collect each container.

Using route data and staff estimates, it was determined that the time to collect a curbside solid waste or recycling can at each location is about 26 seconds, whereas it is about 90 seconds for each solid waste or recycling can that receives backyard service, and about 180 seconds for each dumpster. Backyard service is provided to certain elderly or disabled customers that cannot bring their can to the curb for collection. One of the drivers must exit the vehicle, go into the customer's yard, retrieve the container, dump the waste into the truck, then return the container to its original location.

As discussed, the City provides limited dumpster service within the City, primarily to certain high-rise multifamily properties and City/government properties. Most dumpsters are 8 cubic yard containers and are collected two times per week, but several City/government properties are collected five times per week.

Based on the relative time to collect, we created Equivalent Container Units (ECUs). The curbside container represents 1.00 ECU, and the ECUs for other containers are calculated as shown below:

ECU Calculation				
Container	Pickups/ Wk	Seconds/ Pickup	Seconds/ Week	ECU
Solid Waste - Cans	1	26	26.00	1.00
Recycling - Cans	1	26	26.00	1.00
Solid Waste Backyard - Cans	1	90	90.00	3.46
Recycling Backyard - Cans	1	90	90.00	3.46
Dumpster	2	180	360.00	13.85
Dumpster	5	180	900.00	34.62

Using the billing data provided by DPW SWS staff, we totaled the number of containers for each service type and used this to calculate the total annual ECUs. Next we divided the NRR for each service type by the number of ECUs to determine the collection cost per ECU:

Solid Waste Can		Recycling Can	
Collection Rate Calculation		Collection Rate Calculation	
Collection Revenue Requirement	\$ 27,265,787	Collection Revenue Requirement	\$ 7,996,877
ECUs	104,141	ECUs	104,141
\$/ECU	\$ 261.82	\$/ECU	\$ 76.79
Dumpster			
Collection Rate Calculation			
Collection Revenue Requirement	\$ 2,197,743		
ECUs	5,178		
\$/ECU	\$ 424.40		

Disposal Rate Calculation

The disposal charge for each container type and service level was based upon the total disposal NRR for each container type (solid waste cans, recycling cans, dumpsters), the number and size of containers billed, the disposal costs for different waste types, and the number of weekly pickups for each container.

Discussions with DPW SWS staff revealed that the tipping fee for disposal of solid waste is \$39.00 and it is \$75.00 for recycling processing with a 20% contamination rate.

Disposal Costs per Ton

Solid Waste Tipping Fee	\$39.00
Recycling Processing	\$75.00
Recycling Contamination	20%

Using this information, we calculated a disposal cost multiplier:

Disposal Cost Multiplier

	% Solid Waste	% Recycling	Cost per Ton	Cost Multiplier
Solid Waste	100%	0%	\$39.00	1.00
Recycling	20%	80%	\$67.80	1.74

As discussed, most dumpsters in the City are 8 cubic yard containers collected two times per week, but several City/government properties are collected five times per week. Using the container size, frequency of collection, and the disposal cost multiplier, we created Equivalent Disposal Units (EDUs). A residential 96-gallon solid waste container collected one time per week represents 1.00 EDU, and the EDUs for other containers are calculated as shown below:

EDU Calculation

Container	Cubic Yards	Pickups/ Wk	Yards/ Week	Cost Multiplier	EDU
Solid Waste - Cans	0.48	1	0.48	1.00	1.00
Recycling - Cans	0.48	1	0.48	1.74	1.74
Solid Waste Backyard - Cans	0.48	1	0.48	1.00	1.00
Recycling Backyard - Cans	0.48	1	0.48	1.74	1.74
Dumpster	8.00	2	16.00	1.00	33.66
Dumpster	8.00	5	40.00	1.00	84.16

Using the billing data provided by staff, we totaled the number of containers, sizes, and frequency of pickup for each customer and used this to calculate the total annual EDUs. Next, we divided the NRR for each service type by the number of EDUs to determine the collection cost per EDU:

Solid Waste Can

Disposal Rate Calculation

Disposal Revenue Requirement	\$ 14,352,202
EDUs	97,214
\$/EDU	\$ 147.64

Recycling Can

Disposal Rate Calculation

Disposal Revenue Requirement	\$ 4,218,354
EDUs	169,003
\$/EDU	\$ 24.96

Dumpster

Disposal Rate Calculation

Disposal Revenue Requirement	\$ 1,200,123
EDUs	12,590
\$/EDU	\$ 95.33

Annual Rate Calculation

Using the collection and disposal costs for containers as described above, we calculated the monthly assessments/rates for each type of service, number of cans and number of pickups. A sample of the charges for each is shown in the tables below.

Annual Assessment Rate Calculation

Container	ECUs	\$/ECU	EDUs	\$/EDU	Annual Total
Solid Waste - Cans	1.00	\$261.82	1.00	\$147.64	\$409.45
Recycling - Cans	1.00	\$76.79	1.74	\$24.96	\$120.18
Solid Waste Backyard - Cans	3.46	\$261.82	1.00	\$147.64	\$1,053.92
Recycling Backyard - Cans	3.46	\$76.79	1.74	\$24.96	\$309.20
Dumpster - 8CY 2 PU	13.85	\$424.40	33.66	\$95.33	\$9,085.20
Dumpster - 8CY 5 PU	34.62	\$424.40	84.16	\$95.33	\$22,713.01

3.3.2.2 Special Services

The City provides certain solid waste sanitary services such as street sweeping and lot clearing that benefit all residents and businesses in the City, regardless of whether they receive solid waste sanitary trash collection performed by DPW SWS. SCS was requested to consider recouping these special services costs through either a Special Services rate assessment, or through a Solid Waste Tax to recover these costs.

Street Based Services

Street Based Services include services performed on or along roadways and include Street Sweeping, Trash Receptacle Collection, Illegal Sign Removal, Dead Animal Collection, and Right of Way Grass Mowing. These services benefit developed parcels and individual benefits may vary based on how frequently the roadways are traveled going to and from a given parcel.

To determine the number of trips generated by a given parcel, we used the City’s Land Use Codes (LUCs) in combination with the trip generation rates from the Institute for Transportation Engineers’ Trip Generation Manual, 10th Edition. For similar trip generation rates, we averaged the relevant trip generation rates, and for similar LUCs, we applied a consistent trip generation rate. A full list of assumed trip generation for each LUC is in the Appendix.

A residential single-family detached home generates approximately 9.44 trips per weekday. Based on the relative time to collect, we created Equivalent Trip Generation Units (ETGUs). A residential single-family home with LUC 101 represents 1.00 ETGU. Using LUC information in the billing data provided by staff, we totaled the number of trips generated by each parcel and used this to calculate the total ETGUs.

Next, we divided the NRR for Street Based Services by the number of ETGUs to determine the cost per ETGU:

Street Based Services

Revenue Requirement	\$ 15,121,009
ETGUs	812,137
\$/ETGU	\$ 18.62

Parcel Based Services

Parcel Based Services include services performed for the cleanup and beautification of parcels in the City and include Lot Clearing, Illegal Dumping, SWEET, Keep Atlanta Beautiful, and Community Cleanup. While these services benefit all parcels, both developed and undeveloped, individual benefits may vary based on how many dwelling units or how much developed square footage is on a parcel.

To determine the number of billable units on a given parcel, we used the dwelling units for all residential properties, including condominiums and townhomes. Using the square footage information in the City’s billing data, we calculated an average developed square footage for all residential dwelling units in the City. Based on the relative developed square footage on each parcel, we created Equivalent Residential Square Footage Units (ERUs). The residential average of 1,594 sq ft was assumed to be 1.00 ERU. We then calculated ERUs for all non-residential properties in the City based on their developed square footage from the billing data, with a minimum of 1.00 ERU per parcel.

Next, we divided the NRR for Parcel Based Services by the number of ERUs to determine the cost per ERU again with a minimum of 1.0 ERU per parcel:

Parcel Based Services

Revenue Requirement	\$ 6,953,806
ERUs	511,862
\$/ERU	\$ 13.59

Annual Rate Calculation Alternatives

SCS was requested to consider recouping special services costs through either a Special Services fee, or through a Solid Waste Tax to recover these costs. This section presents the comparison for an average residential customer.

SPECIAL SERVICES FEE ALTERNATIVE

For a residential single-family detached home, the Special Services fee for both Street Based and Parcel Based Services is shown below.

Residential Single-Family

	ERU	Cost
Street Based Services	1.00	\$18.62
Parcel Based Services	1.00	\$13.59
Total Special Services		\$32.21

SPECIAL SERVICES TAX ALTERNATIVE

The total cost to provide Special Services in the City is approximately \$22.1 million, including the apportioned costs of post-closure care assigned to each cost center pool. City finance estimates that it will require 0.686 mills, or 0.686 dollars per \$1,000 of assessed value for each parcel in the City to generate \$22.1 million. Assessed value is calculated as 40% of the market value for each parcel.

Based on discussions with City staff, the value of the average residential property in Atlanta is approximately \$332,000. This results in an estimated Solid Waste Tax of \$91.10 for the average residential property in the City.

The comparison of the total average residential bill using a Special Services fee versus a Solid Waste Tax are compared in the table below:

Average Residential Bill ¹

Service	Current Bill	Proposed Bill		Proposed Bill	
		Special	% Change	Solid Waste	% Change
Solid Waste	\$ 365.81	\$ 409.45		\$ 409.45	
Recycling	\$ 88.00	\$ 120.18		\$ 120.18	
Special Services	\$ -	\$ 32.21		\$ -	
Solid Waste Tax	\$ -	\$ -		\$ 91.10	
Total Bill	\$ 453.81	\$ 561.84	24%	\$ 620.73	37%

The comparison of the select commercial properties using a Special Services fee versus a Solid Waste Tax are compared in the tables below:

Shopping Mall

Assessed Value	Current			Proposed Solid Waste Tax		Proposed Special Services Fee			
	Tax	Special Services	Total	Tax	% Change	Tax	Special Services	Total	% Change
\$ 128,400,480	\$1,249,337	\$ 12,298	\$1,261,634	\$1,337,419	6.0%	\$1,249,337	\$ 322,117	\$1,571,454	24.6%

Luxury Hotel

Market Value	Current			Proposed Solid Waste Tax		Proposed Special Services Fee			
	Tax	Special Services	Total	Tax	% Change	Tax	Special Services	Total	% Change
\$ 122,998,000	\$ 478,708	\$ 1,853	\$ 480,562	\$ 512,459	6.6%	\$ 478,708	\$ 18,899	\$ 497,607	3.5%

Restaurant

Assessed Value	Current			Proposed Solid Waste Tax		Proposed Special Services Fee			
	Tax	Special Services	Total	Tax	% Change	Tax	Special Services	Total	% Change
\$ 1,237,580	\$ 12,042	\$ 8,363	\$ 20,404	\$ 12,891	-36.8%	\$ 12,042	\$ 22,144	\$ 34,186	67.5%

4.0 RECOMMENDATIONS & NEXT STEPS

4.1 RECOMMENDATIONS

Based upon the results of the study described herein, we recommend the following:

- The City’s current rates are not sufficient to fund all of its ongoing operations, capital, and reserve requirements. Therefore, a long-term financial management plan was developed for the City. The five-year plan of recommended revenue adjustments is shown in the table below.

5-Year Revenue Plan

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenue Adjustment %	2.50%	2.50%	2.50%	2.50%	2.50%

- We recommend that the City align rates with the costs to provide service to each customer class and service level, as shown in the table below.

Rate/Assessment Schedule

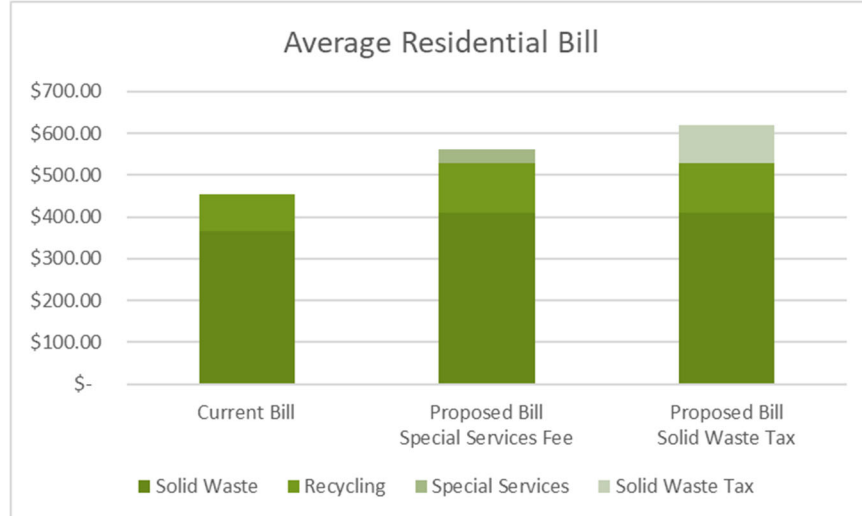
Fee Type	Annual Fee	Unit
Solid Waste Cans	\$ 409.45	per Can
Recycling	\$ 120.18	per Can
Solid Waste Dumpsters (8CY 2PU)	\$ 9,085.20	per Dumpster
Solid Waste Dumpsters (8CY 5PU)	\$ 22,713.01	per Dumpster
Street Based Services	\$ 18.62	per Equivalent Residential Unit
Parcel Based Services	\$ 13.59	per Equivalent Residential Unit

- The City should update the revenue sufficiency analysis portion of this Study every 1-2 years to be sure that the recommended rate plan continues to be sufficient to fund the DPW SWS’ operations while meeting all of its financial policies and goals.
- We recommend that the City update the structure of its solid waste sanitary service rates every 3-5 years, or as services or functions provided change over time, expenses increase/decrease significantly, and/or customer demographics change.

4.2 NEXT STEPS

The City will need to take action in order to implement the recommended rate structure changes:

- The City will need to decide whether it will charge for special services as a Special Services fee or a Solid Waste Tax. The proposed rates for standard curbside solid waste collection residential customers are compared in the table below:



- As the Solid Waste, Recycling, and Special Services rates/assessments are billed on the tax bill, the City will need to prepare a property roll with the updated rates/assessments for the Fulton and DeKalb County Property Assessors. The City will need to determine when the property roll and updated rates/assessments will need to be delivered to Fulton and DeKalb Counties.
- For parcels that are part of an HOA or Co-op, the City should consider billing the individual parcels on the tax bill just as it bills all of the other parcels in the City. The current method of combining the bills and sending them to the HOA or Co-op to pay is both prone to error and creates undue administrative burden.
- Historically, the annual property rolls with the rates/assessments to be billed on the tax bill have been created by the City's vendor. However, the billing system relies on a coded billing algorithm and cannot easily accommodate the rate structure changes. The City will need to decide on a billing system that can bill according to its rate structure and proposed future updates.

The billing system should also be able to:

- Display current and historical detailed billing outputs on a real-time accessibility bases for use by DPW SWS customer service,
 - Rely on fields from the Property Assessor property data for bill calculation rather than a manually created Parcel Type that is used in the current vendor's system, and
 - Produce detailed current and historical billing information for all parcels in the City in a format such as Excel that can be examined for quality control and billing audit purposes.
- Regardless of the billing system chosen, if the system cannot be updated in time for submittal to the Property Assessors, the roll will need to be manually created this year.