

View of Costa Mesa Sanitary District
via Google Earth



COSTA MESA SANITARY DISTRICT

FINAL REPORT

Solid Waste Rate Study

February 2019



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SECTION 1. EXECUTIVE SUMMARY

A. BACKGROUND AND PURPOSE

Background – Costa Mesa Sanitary District (“District”) currently contracts with CR&R Environmental Services to provide the District’s solid waste collection, recycling and disposal for approximately 23,000 residential customers. Customers are charged a flat rate fee for a standard service that includes up to two mixed waste carts and up to two organic waste carts upon request; there is also an additional charge for any third cart of any kind added. These charges are collected on their annual property tax bill. This standard service includes either a 90-, 60-, or 35-gallon cart.

Purpose of the Study – The overall purpose of this study is to provide a thorough evaluation of the District’s current solid waste rates, which currently are the same annual flat rate regardless of cart size. The District also requested that the consultant evaluate changing the fee to variable charges based on cart sizes and compare those charges to the current flat-rate. Projected annual revenues and expenses were also evaluated as the basis for proposed future rates, and several options for the rate increases over the next five years were developed.

Preparing recommended future rates requires conducting a cost of service analysis and a feasibility study of potential options. The challenge of meeting the legal requirements of State law (known as Proposition 218, or Prop 218) means that these rates are subject to a protest ballot procedure by the property owners served by the District and may also be subject to scrutiny in court. Therefore, this study carefully evaluated the cost basis for each rate alternative, resulting in charges that are equitable, defensible and justified.

In developing proposed utility rates, NBS worked cooperatively with District staff to develop and evaluate rate alternatives and study results. After reviewing initial results, NBS and District staff are making recommendations to the District Board, who will ultimately need to approve rates.

B. KEY FINDINGS

Revenue Requirements and Projected Rates – The District’s most immediate goal is eliminating the current operating deficit within five years, and this will require rate increases, or more specifically – increases in the total revenue collected from rates. NBS developed several options based on input from District staff; the two most viable alternatives are shown below. After extensive staff review and input from the Citizen’s Advisory Committee and the public, the District Board selected Option 2:

- **Option 1** – One-Time Rate Increase in 2019: One rate increase in July 2019 of 13.9%¹ to the District’s net revenue requirement. This option would give staff time to evaluate the feasibility of collecting sufficient data and making changes to the District’s billing software to enable the implementation of rates based on cart-size.
- **Option 2 (Selected)** – Eliminate the Deficit in Five Years: Seven-percent (7%) annual rate increases for the next three fiscal years followed by six-percent (6%) annual rate increases for another two fiscal years, which is a cumulative increase of 37.6% over five years to the District’s net revenue requirement.

¹ This 13.9% is the increase in total rate revenue needed based on current rate revenue the District collects. This does not necessarily translate to an “across-the-board” increase of 13.9% to every rate, as seen later in Figure 10.

Solid Waste Rates – The cost-of-service analysis that NBS performed estimated the percentage of costs allocated to collection, recycling, disposal, organics program and administration, and then allocated these costs to various cart sizes and “additional carts”. The “cost-of-service” differences, as explained in more detail in Sections 2 and 3, resulted in new flat rates along with incrementally higher rates for different cart sizes. Rates that are incrementally higher by cart size were evaluated side-by-side with current and proposed new flat rates, and all options compare favorably with rates for other communities in the region.

After District staff reviewed initial results, they determined that the District’s current billing system cannot accommodate rates that are differentiated by cart size. As a result, the new rates that continue the use of the District’s current flat rate fee schedule are proposed.

C. FREQUENTLY ASKED QUESTIONS ABOUT THE RATE STUDY

What is a rate study and why was it done? This rate study is a comprehensive analysis of the District’s solid waste rates that addresses several key factors such as the financial plan and revenue requirements, the cost-of-service for each cart size, and the fairness and equity of a flat rate compared to one that differentiates rates by cart size.

How was the study conducted and who was involved? The District selected and retained NBS in August of 2018 to begin evaluating its solid waste rates. During this process, the District reviewed data and results and provided feedback to NBS to provide the best recommendation to take to the Board. After input from the Citizen’s Advisory Committee is received and public hearings are held to discuss the proposed rates, the District Board will ultimately decide what new solid waste rates should be adopted.

What are the benefits of conducting such a study? First and foremost, it provides an independent, unbiased evaluation of the District’s solid waste rates. It also allows the District to consider rates that reflect the costs for each cart size. A solid waste rate model was also developed to document and ensure that District’s utility rates are properly aligned with the rate study methodology and industry standards.

What were the results of the rate study? The study shows several things. First, the solid waste utility is currently operating at an annual deficit, largely due to the implementation of the new organics collection program, although there is a healthy level of reserve funds. Second, moderate increases in rate revenue are recommended to maintain the financial health of the utility. Third, although the rate structure can be broken down into rates based on cart size, at this time billing system limitations do not allow for this type of rate schedule. The proposed rates will need to continue with the current flat rate schedule for now.

How and when will the recommended rate changes be implemented? To implement the new rates, the District will need to: (1) mail written notices of the proposed rate adjustments to customers, as mandated by Proposition 218, and (2) after a minimum of a 45-day protest period, hold a public hearing to tally protest ballots and, assuming there is no successful challenge during the Prop 218 process, adopt the new rates, and (3) the District Board could implement new rates on or about July 1, 2019.

How can someone learn more about the rate study and recommendations? The District’s website (at <https://www.cmsdca.gov/>) provides useful information about the rate study and the presentations and reports made to staff and the Board on this topic.

D. STUDY RECOMMENDATIONS

NBS recommends the District take the following actions:

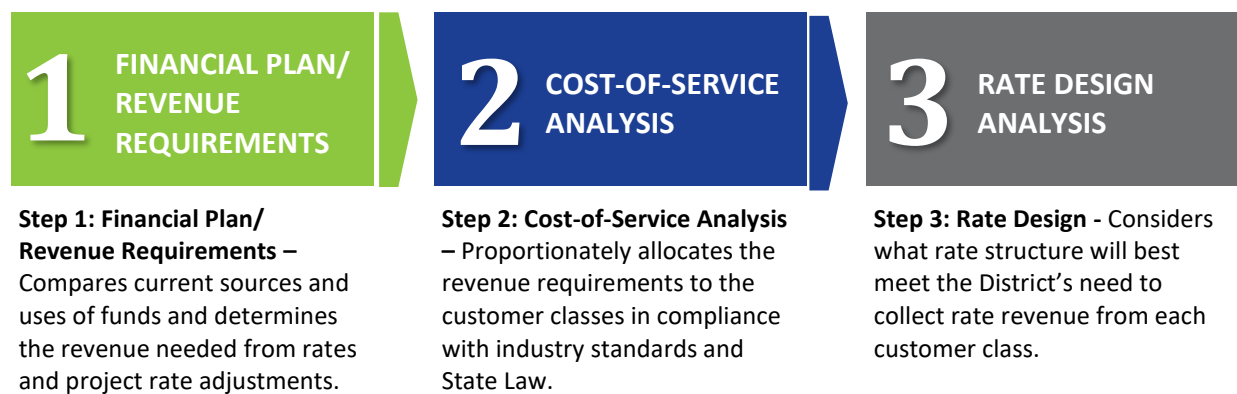
- Adopt the recommended long-range financial plan.
- Conduct a legal review of the proposed rates.
- Proceed with Prop 218 noticing requirements, including a protest period of at least 45-days.
- Assuming no successful Prop 218 protest (that is, there is no majority protest of the rates), adopt the solid waste rates recommended in this report.
- Develop the customer data and billing system capabilities necessary to implement cart-size based rates in the future.

The next section discusses the rate study.

SECTION 2. OVERVIEW OF THE STUDY METHODOLOGY

The basic technical components of a cost-of-service rate study, which are summarized in **Figure 1**, are the same whether the study is for a solid waste, wastewater or water utility. These components follow basic ratemaking principles set by organizations such as the APWA and AWWA², and are intended to comply with California State law (Prop 218), which requires that rates be fair and equitable, reflect actual cost of service, and not subsidize one set of customers at the expense of other customers.

Figure 1. Primary Components of a Rate Study



This methodology also addresses the requirements under Proposition 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this study. As a part of this rate study, the District provided NBS with the necessary data, including projected revenues and expenditures through FY 2018/19. NBS then projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new solid waste rates for the District. Rate increases – or more accurately, increases in the total revenue that needs to be collected from rates – are recommended.

Rate Design Criteria – It is important for utilities to send proper price signals to its customers about the actual cost of providing the service. This objective is typically addressed through both the magnitude of the rates and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important rate design considerations. In the District’s case, rates based on cart size vs. flat rates were evaluated.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in several rate-setting manuals. For example, the foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*³ which outlines pricing policies, theories, and economic concepts along with various

² American Water Works Association (AWWA), *Principles of Water Rates, Fees, and Charges – Manual of Water Supply Practices (M1)*, Seventh Edition, 2017. American Public Works Association (APWA), *Solid Waste Rate Setting and Financing: Guide Analyzing Cost of Services and Designing Rate for Solid Waste Agencies*, 2007.

³ James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

rate designs. The other common industry standard is the American Water Works Association's (AWWA) Manual M1.

The following is a simplified list of sound rate structure attributes, which apply to solid waste utilities:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should be equitable and non-discriminating (i.e., cost based).
- There should be continuity in the rate making philosophy over time.
- Other utility policies should be considered (e.g., encouraging waste reduction).
- Rates should provide year-to-year revenue stability and sufficiency for the utility.

Rate Structure Terminology – One of the most fundamental points in considering rate structures is the relationship between fixed costs and variable costs. Most water and wastewater rate structures contain a fixed or minimum charge, and a volumetric charge, while most solid waste rates collect both fixed and variable costs by means of either a per-container or per-customer rate.

The District's rate design criteria are unique to the characteristics of the District's solid waste services, such as the fact that the District only serves residential customers who, except for differences in cart size, all receive the same level of service. Also, there is often confusion over what a "rate increase" means. In the context of this rate study, we are referring to the increase in revenue collected from rates. This is not the same as an "across-the-board" increase to each rate, in this case the District's current flat rate of \$216/year. The following discussion of the District's solid waste fund reflects general industry rate-study practices in California.

Rate Alternatives – While this study evaluated rates by cart size, only flat rates are being recommended. Therefore, we have not shown the details of individual rates for 90-, 60- and 35-gallon carts. Also, several financial plan alternatives were considered for eliminating the current annual deficit. Based on staff input and feedback from the Citizen's Advisory Committee and the public, the District Board selected Option 2, which increases rates over five-years by 7% for the first three years and then 6% for the last two years. District staff are exploring the means to enhance their billing system and collect the necessary data so that rates by cart size can be used and will further explore that option over the next year before considering additional changes to the solid waste rates.

Key Financial Assumptions – The following are the key assumptions used in solid waste rate analyses:

- **Reserve Targets for Solid Waste** – The operational reserve funding target used in this study has been established with the input of District staff for the purpose of meeting specific objectives. Reserves for operations and maintenance are set at the following recommended levels:
 - ✓ Minimum Operating & Maintenance Reserve – Is set at 30% operating expenses per the District's Operation Code⁴.
 - ✓ Recommended Target Operating & Maintenance Reserve – Thirty five percent (35%) of annual solid waste operating expenses. This equates to approximately \$2.1 million in fiscal year 2018-19

⁴ Source file: operations_code_2017_08_24.pdf, Page 31, Section 4.03.020.

and increases annually in subsequent years. Industry standard target is typically 90-days of operating and maintenance expenses (less tipping fees/utility expenses and administrative costs), or about \$1.5 million. However, collecting rates through property tax bills vs. monthly rates requires a larger reserve fund.

- **Estimated Inflation and Growth Projections:**

- ✓ General inflation estimated at 3 percent annually.
- ✓ Customer growth estimated at 0.5 percent annually.
- ✓ Labor cost inflation estimated at 5 percent annually.

The next sections discuss the solid waste rate study in further detail.

SECTION 3. SOLID WASTE RATE STUDY

A. KEY SOLID WASTE RATE STUDY ISSUES

In evaluating solid waste rates, three of the District's key concerns were: (1) eliminating the annual deficit, (2) ensuring that rates annually contribute enough to meet the minimum operations and maintenance reserve balance, or at least meet this objective by the end of five years ending in FY 2023/24, and (3) evaluating rates based on cart size.

The following sections summarize the results of this analysis. More detailed tables showing the step-by-step development of the analysis are documented in Appendix A.

Rate Study Methodology and Assumptions – The basic steps in a solid waste rate analysis are similar to those for water, sewer, or solid waste utilities but, whereas water rates focus more on volumetric rates for consumption, solid waste rates are linked to the level of service provided, meaning the number and size of containers, the number of pickups per week, and the tonnages of waste collected by each customer class and/or cart size.

This solid waste rate analysis addressed the revenue requirements, cost-of-service, and rate design analyses previously noted in **Figure 1**. The solid waste cost-of-service analysis evaluated how the current rates could be allocated by cart size vs. remaining as a flat rate.

B. SOLID WASTE UTILITY REVENUE REQUIREMENTS

The solid waste utility's long-term financial needs were summarized in a 10-year financial plan that forecasts the amount of revenue needed to cover operating expenses, reserves, and other obligations. This plan is based on the utility's current operating budget, customer statistics and related information.

The basic objectives of the financial plan were:

- **Meeting Operations Costs:** The solid waste utility must generate enough revenue to cover the expenses of solid waste operations, including CR&R's contracted services. For FY '18/19, the net revenue requirement (total annual expenses, less non-rate revenues) is approximately \$5.4 million.
- **Maintaining Adequate Reserve Funds:** The solid waste utility at the beginning of FY 2018/19 has a healthy reserve fund balance of about \$4.6 million. However, without rate increases, this balance will fall to less than the minimum reserve target of 30% operating expenses by the end of FY '20/21.
- **Recommended Target Operating Reserve:** This reserve target is 35% of the District's budgeted annual solid waste operating expenses, which equates to a target reserve of about \$2.2 million in FY '19/20.

After considering feedback from the Citizen's Advisory Committee (CAC) and public comment, District staff recommended the Option 2 financial plan, which increases rates over five-years by 7% for the first three years and then 6% for the last two years, starting in July 2019. **Figure 2** summarizes the next five years of the financial plan under Option 2, and shows the sources and uses of funds, along with the estimated annual deficits.

Figure 2. Summary of the Revenue Requirements for the CMSD Solid Waste Utility

RATE REVENUE REQUIREMENTS SUMMARY	Actual	Estimated	Projected				
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Sources of Solid Waste Funds							
Rate Revenue	4,778,520	4,855,596	4,879,874	4,904,273	4,928,795	4,953,439	4,978,206
<i>Sub-Total Rate Revenues:</i>	<i>\$ 4,778,520</i>	<i>\$ 4,855,596</i>	<i>\$ 4,879,874</i>	<i>\$ 4,904,273</i>	<i>\$ 4,928,795</i>	<i>\$ 4,953,439</i>	<i>\$ 4,978,206</i>
Non-Rate Revenue							
Other Revenue	321,845	328,282	190,450	191,402	192,359	193,321	194,288
Interest Income	77,901	87,108	77,156	63,091	44,195	21,563	(5,016)
Tax Income	313,456	319,725	325,994	332,386	338,903	345,548	352,324
<i>Sub-Total Non-Rate Revenue</i>	<i>\$ 713,202</i>	<i>\$ 735,115</i>	<i>\$ 593,600</i>	<i>\$ 586,879</i>	<i>\$ 575,457</i>	<i>\$ 560,432</i>	<i>\$ 541,595</i>
Total Solid Waste Revenues	\$ 5,491,722	\$ 5,590,711	\$ 5,473,474	\$ 5,491,153	\$ 5,504,252	\$ 5,513,871	\$ 5,519,801
Uses of Solid Waste Funds							
Operating Expenses:							
Salaries and Benefits	\$ 473,224	\$ 523,800	\$ 551,946	\$ 581,675	\$ 613,083	\$ 646,270	\$ 681,345
CR&R Services - Trash Hauler	2,650,214	2,672,685	2,768,902	2,796,591	2,897,268	2,926,241	3,031,586
CR&R Services - Recycling/Disposal	1,724,459	1,709,116	1,760,389	1,813,201	1,867,597	1,923,625	1,981,334
CR&R Services - Organics Disposal	643,998	675,050	708,803	744,243	781,455	820,528	861,554
Operations and Maintenance	349,954	418,000	431,997	452,741	474,520	497,385	521,390
Programs	134,014	155,500	163,275	171,439	180,011	189,011	198,462
Total Solid Waste Operating Expenses	\$ 5,975,863	\$ 6,154,151	\$ 6,385,312	\$ 6,559,890	\$ 6,813,934	\$ 7,003,060	\$ 7,275,671
Annual Surplus/(Deficit) without rate increase	\$ (484,141)	\$ (563,440)	\$ (911,838)	\$ (1,068,738)	\$ (1,309,682)	\$ (1,489,189)	\$ (1,755,870)
Net Revenue Req't. <i>(Total Uses less Non-Rate Rev.)</i>	\$ 5,262,661	\$ 5,419,036	\$ 5,791,712	\$ 5,973,011	\$ 6,238,476	\$ 6,442,628	\$ 6,734,076
Total Rate Revenue After Rate Increases	\$ 4,778,520	\$ 4,855,596	\$ 5,221,465	\$ 5,614,903	\$ 6,037,985	\$ 6,432,266	\$ 6,852,293
Annual Surplus/(Deficit) with rate increases	\$ (484,141)	\$ (563,440)	\$ (570,247)	\$ (358,108)	\$ (200,491)	\$ (10,362)	\$ 118,217
Rate Increase*	0.0%	0.0%	7.0%	7.0%	7.0%	6.0%	6.0%
Additional Revenue from Rate Increases	\$0	\$0	\$341,591	\$710,629	\$1,109,191	\$1,478,827	\$1,874,087
Cumulative Rate Increases	0.0%	0.0%	7.0%	14.5%	22.5%	29.9%	37.6%

*Note: Percent increase is calculated off the net revenue requirement. Customer rates may not exactly reflect the percent increase of the net revenue requirement.

Figure 3 shows a summary of the projected solid waste utility reserves.

Figure 3. Summary of the Reserve Funds for the CMSD Solid Waste Utility

SUMMARY OF RESERVE FUND ACTIVITY	Actual	Estimated	Projected				
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Total Beginning Cash ¹	\$ 5,092,049	\$ 4,594,611					
Solid Waste O&M Reserve Fund							
Beginning Reserve Balance	\$ 5,092,049	\$ 4,594,611	\$ 4,031,171	\$ 3,460,925	\$ 3,102,816	\$ 2,902,326	\$ 2,891,963
Plus: Net Cash Flow (After Rate Increases)	(484,141)	(563,440)	(570,247)	(358,108)	(200,491)	(10,362)	118,217
Ending O&M Reserve Balance	\$ 4,607,908	\$ 4,031,171	\$ 3,460,925	\$ 3,102,816	\$ 2,902,326	\$ 2,891,963	\$ 3,010,181
<i>Total Ending Balance w/o Rate Increases</i>	<i>\$ 4,607,908</i>	<i>\$ 4,031,171</i>	<i>\$ 3,119,334</i>	<i>\$ 2,392,187</i>	<i>\$ 1,793,135</i>	<i>\$ 1,413,136</i>	<i>\$ 1,136,094</i>
<i>Minimum Ending Balance (30% O&M) ²</i>	<i>\$ 1,792,759</i>	<i>\$ 1,846,245</i>	<i>\$ 1,915,594</i>	<i>\$ 1,967,967</i>	<i>\$ 2,044,180</i>	<i>\$ 2,100,918</i>	<i>\$ 2,182,701</i>
<i>Minimum Ending Balance (35% O&M) ³</i>	<i>\$ 2,091,552</i>	<i>\$ 2,153,953</i>	<i>\$ 2,234,859</i>	<i>\$ 2,295,962</i>	<i>\$ 2,384,877</i>	<i>\$ 2,451,071</i>	<i>\$ 2,546,485</i>
Ending vs. Target - Annual Surplus/(Deficit)	\$ 2,815,149	\$ 2,184,926	\$ 1,545,331	\$ 1,134,849	\$ 858,146	\$ 791,045	\$ 827,480
Annual Interest Earnings Rate ⁴	N.A.	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%

1. Total Beginning Cash for FY 2017/2018 and FY 2018/2019 is per District staff in source files: *Item 8a Balance Sheet Fund 10.pdf* and *Item 8b Balance Sheet Fund 10.pdf*.

2. Per District Operations Code, Solid Waste Fund will maintain a minimum of 30% of operating budget in reserves.

Source file: *operations_code_2017_08_24.pdf*, Page 30, Section 4.03.020.

3. Target ending reserve balance of 35% shown for comparative purposes only.

4. Interest earned at 1.90% of average reserve balance for prior year. Source: CMSD Solid Waste Projections for NBS.xls, Davis Farr LLP, 1-29-19.

A summary of the entire 10-year financial plan, showing revenue requirements, revenue sources (including rate revenue), and necessary rate increases is presented in Appendix A.

C. CART SIZE CHARACTERISTICS AND COST OF SERVICE

The solid waste cost of service analysis relies on specific allocation factors for each cart size to divide costs into various types of service (collection, recycling, disposal, etc.). This allocation was prepared based on input from District staff and a detailed review of collection, recycling, disposal, organics and administrative/overhead expenses. **Figure 4** through **Figure 9** summarizes the function and classification of expenses and the basic allocation factors used in this analysis.

Figure 4 shows the FY 2019/20 net revenue requirement of \$5.791 million, which is still greater than the \$5.221 million of revenue from new rates (Option 2) as previously shown in **Figure 2**. Because of this, there is an annual deficit of approximately \$570,000 (also shown in **Figures 2** and **3**).

Figure 4. Summary of Function and Classification of FY 2019/20 Revenue Requirements

Summary of Classification of Expenses and Adjustments					
Budget Categories	Total for FY 2019/20	MSW & Recycling COLLECTION	MSW & Recycling DISPOSAL	Organics Program	Overhead & Admin
Salaries and Benefits	\$551,946	\$137,987	\$137,987	\$55,195	\$220,778
Operations and Maintenance					
Trash Hauler	\$2,768,902	\$2,768,902	\$0	\$0	\$0
Recycling/Disposal	\$1,760,389	\$0	\$1,760,389	\$0	\$0
Organics Disposal	\$708,803	\$0	\$0	\$708,803	\$0
Other O&M	\$431,997	\$96,072	\$82,032	\$53,351	\$200,543
Programs	\$163,275	\$68,381	\$68,381	\$26,513	\$0
Total Revenue Requirements	\$6,385,312				
Less: Non-Rate Revenues	(\$593,600)	(\$285,522)	(\$190,462)	(\$78,448)	(\$39,167)
Net Revenue Requirements	\$5,791,712	\$2,785,819	\$1,858,326	\$765,413	\$382,153
<i>Percent of Revenue</i>	100.0%	48.1%	32.1%	13.2%	6.6%

After adjusting for the first 7% rate increase, the rate revenue collected is \$5.221 million shown in **Figure 5**. Based on the percentage allocation to the four classifications of costs, this rate revenue is then allocated to each of the four functional categories, as shown here.

Figure 5. Adjusted Rate Revenue

Adjusted Rate Revenue to be Collected from Rates					
Budget Categories	Total for FY 2019/20	MSW & Recycling COLLECTION	MSW & Recycling DISPOSAL	Organics Program	Overhead & Admin
Projected Rate Rev. w/o Rate Increase	\$4,879,874				
Additional Rate Revenue from Increase	\$341,591				
Adjusted Rate Revenue	\$5,221,465	\$2,511,530	\$1,675,357	\$690,051	\$344,527
<i>Percent of Revenue</i>	100.0%	48.1%	32.1%	13.2%	6.6%

The collection cost allocation factors assume that most of the collection costs (90%) are tied to the number of “container lifts” and, to a smaller degree (10%), to the size of the carts, which likely affects the amount of material collected and how often the collection vehicle needs to deliver waste to the transfer station. These collection costs are shown in **Figure 6**.

Figure 6. Summary of Collection Costs

Solid Waste Collection Allocation Factors -						
For MSW & Recycling COLLECTION Costs			Allocated Collection Costs: \$2,511,530			
Cart Size/Type ¹	Collection Allocation Factor (CAF)		Disposal Allocation Factor (DAF) ²	Weighted Collection Cost Allocation Factors		
	'17/18 No. of Carts/Accounts	% of Carts/Accounts		% CAF Weight	% DAF Weight	Weighted Avg. ³
	(a)	(b)	(c)	(d)	(e)	(f)
All Size Carts (Flat Rate)	22,804	97.9%	98.2%	90%	10%	98.0%
Additional Carts (50%) ⁴	479	2.1%	1.8%	90%	10%	2.0%
Total	23,283	100.0%	100.0%	--	--	100%
<i>Additional Carts (50%) ⁴</i>	<i>479</i>	<i>(Not counted in Collection Cost Allocation factors)</i>				

1. From "Solid Waste Tonnage Allocation Factors - For MSW & Recycling Disposal Costs" table below, except for additional carts, which are reduced by 50% (see footnote 4).

2. From the Disposal Cost Allocation Factor table.

3. Weighted Average (f) = (b) x (d) + (c) x (e)

4. Additional carts are only counted at 50% in the Container Alloc. Factor because collection is already provided for the account, and there is minimal cost to lift the second cart. This adjustment is not applied to Disposal Allocation Factor, which affects how often the vehicle has to deliver waste to the transfer station.

The disposal allocation factors are developed assuming that most of the disposal costs are tied to the tonnages processed (for recycling) and disposed, which can be estimated based on the number of carts and their respective volume. These factors are shown in **Figure 7**.

Figure 7. Summary of Disposal Costs

Solid Waste Disposal Allocation Factors -					
For MSW & Recycling DISPOSAL Costs				Allocated Costs: \$1,675,357	
Cart Size/Type	No. of Carts/Accounts ¹	No. of Carts ¹	Total Cart Volumes ²	Est. '17/18 Landfill Tonnage ³	Disposal Allocation Factors
All Size Carts (Flat Rate)	22,804	45,920	166,243,740 gal.	16,597 tons	98.2%
Additional Carts ⁴	957	957	2,985,840 gal.	298 tons	1.8%
Total	23,761	46,877	169,229,580 gal.	16,895 tons	100.0%

1. From District records. Source File: Item 14 CMSD Occupancy Query_10.18.18_jtManipulated.xlsx, NBS_Pivot Tab.

2. Number of carts times gallons/cart times 52 weeks.

3. Percentage of Cart Volume times '17/18 Landfill Tonnage (from District records).

4. Assumes additional carts are 60-gallons.

In general, the organics program and the administration/overhead expenses are allocated based on the number of accounts the District serves. **Figure 8** summarizes the methodology and various allocations used for each cart size.

Figure 8. Summary of Organics Program and Admin/Overhead Costs

Solid Waste Tonnage Allocation Factors - For ORGANICS & ADMIN/OVERHEAD Costs			Alloc. Admin. \$:	\$344,527
			Alloc. Organics \$:	\$690,051
Cart Size/Type	Organics Program Costs		Admin/Overhead Costs	
	Number of Carts/Accounts	Organics Allocation %'s	Number of Carts/Accounts	Admin/ Overhead Allocation %'s
All Size Carts (Flat Rate)	22,804	100.0%	22,804	96.0%
Additional Carts ¹	--	--	957	4.0%
Total	22,804	100.0%	23,761	100.0%

1. These carts are already assigned to an account, but are still billed and have other admin/overhead costs.

The allocation factors and revenue requirements allowed for calculating the total revenue requirements from each cart size, although the updated rates will be a flat rate fee. **Figure 9** summarizes the aggregated revenue requirements and indicate that about 98% of the annual revenue should be collected from the flat rate fee, and about 2% from the additional carts.

Figure 9. Summary of Revenue Requirements by Cart Size

Allocated Revenue Requirements by Cart Size						
Cart Size/Type	Cost Categories				FY 2019/20 TOTAL REV. REQ'TS.	Percent of Total
	MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN		
Revenue Req'ts	\$2,511,530	\$1,675,357	\$690,051	\$344,527	\$5,221,465	
Allocated Costs ¹						
Flat Rate Only	\$2,460,644	\$1,645,798	\$690,051	\$330,651	\$5,127,143	98.2%
Additional Carts	\$50,886	\$29,560	\$0	\$13,876	\$94,322	1.8%
Total	\$2,511,530	\$1,675,357	\$690,051	\$344,527	\$5,221,465	100.0%

1. Revenue requirement allocation factors times the "Revenue Req'ts" by Type of Cost.

D. RATE DESIGN AND PROPOSED SOLID WASTE RATES

Flat-Fee Rates – Based on the revenue requirements by flat rate and additional cart fees shown in **Figure 9**, rate design analysis determined the updated rates for FY 2019/20. **Figure 10** below summarizes this calculation and provides the basis for the rates. The recommended residential solid waste rates are provided in **Figure 11**. A comparison of typical single-family monthly solid waste bills is provided in **Figure 12**. An additional comparison of typical single-family monthly solid waste bills compared to other regional rates among Districts and Cities in Orange County is provided in **Figure 13**.

Figure 10. Summary of Proposed Solid Waste Rates by Cart Size

Proposed Rates by Cart Size						
Cart Size/Type	FY 2019/20 Total Revenue Requirements	Accounts/ Carts	Calculated Mo. Rate per Account/Cart ¹	Proposed Annual Rate per Account/Cart*	Current Rates and Percentage Increase vs. Proposed Rates	
			\$/month	\$/year	\$/year	% Change
Flat Rate Only	\$5,127,143	22,804	\$18.74	\$224.88	\$216.00	4%
Additional Carts*	\$94,322	957	\$9.00	\$108.00	\$108.00	0%
Total	\$5,221,465	23,761	--	--	--	--

1. Revenue requirement divided by the number of accounts or carts

*Note: Although the flat rate was less, but the District decided to maintain the current rate of \$9.00/month.

Figure 11. Current and Proposed Solid Waste Rates Fiscal Year 2018/19 – 2023/24

Customer Classes/Service Type	Current Rates	Proposed vs. Alternative Rates				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Proposed Rates						
Annual increases in Revenue Req'ts	0.00%	7.00%	7.00%	7.00%	6.00%	6.00%
Annual Rates						
Flat Rate Only	\$ 216.00	\$ 224.88	\$ 240.60	\$ 257.40	\$ 272.88	\$ 289.20
Additional Cart	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00
Monthly Rates						
Flat Rate Only	\$ 18.00	\$ 18.74	\$ 20.05	\$ 21.45	\$ 22.74	\$ 24.10
Additional Cart*	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00

District only services residential solid waste customers. Source File: CSMD_CollectionRates.pdf

*Note: Although this rate was slightly less than the current rate; the District decided to maintain the current rate of \$9.00/month in FY 2019/20.

Monthly rates may not be precisely one-twelfth of the annual rate because it is rounded to the nearest cent.

The District's flat rate is collected on an annual basis through property tax assessments, while the rates for the additional cart service is collected separately by CR&R. The District's legal counsel has advised the District that the additional cart rates should not be included in the proportionate rate setting process as the charge is not imposed as an incident of property ownership but as an additional service requested by the customer on a voluntary basis.

Figure 12. Monthly Residential Solid Waste Bill Comparison Over the Next 5 years

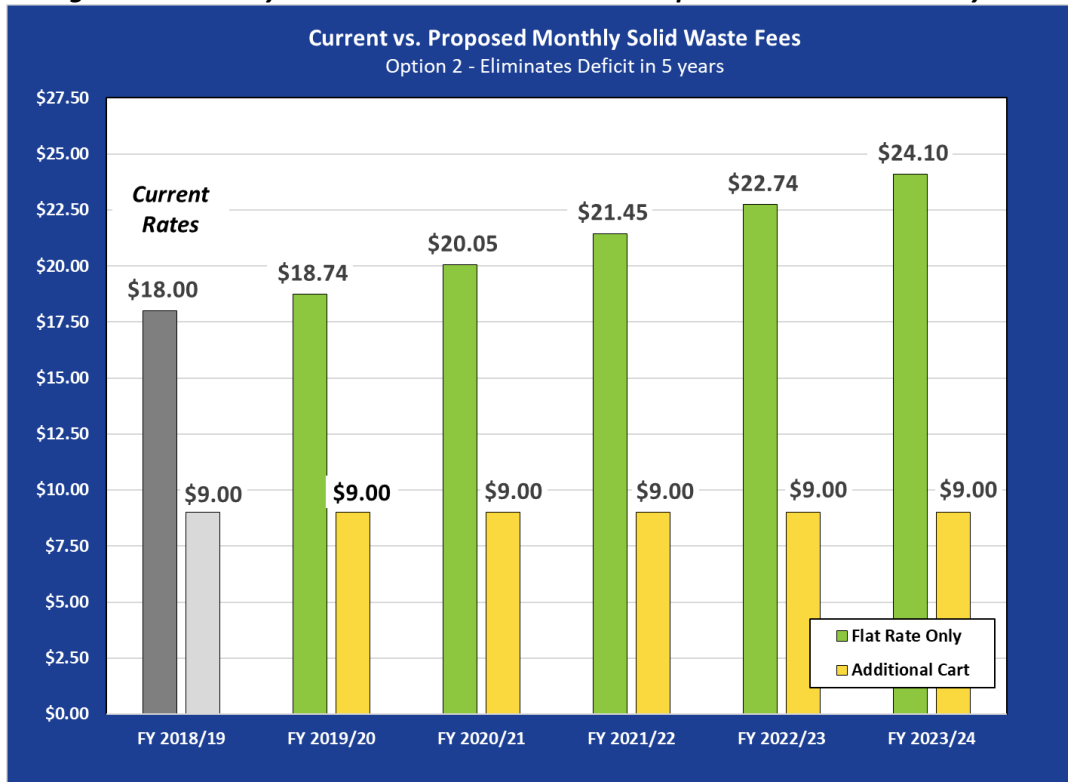
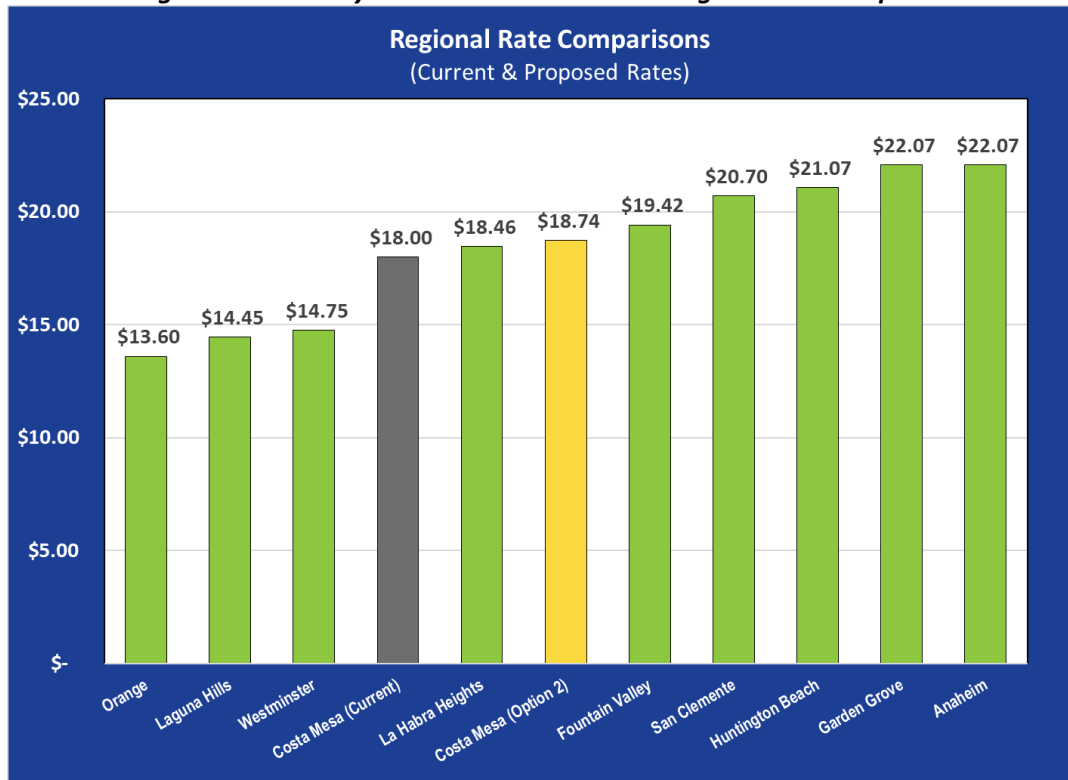


Figure 13. Monthly Residential Solid Waste Regional Bill Comparison



E. PROPOSED AND ALTERNATIVE SOLID WASTE RATES

As part of this rate study, NBS evaluated several options for rate increases over the next five years, along with changing the solid waste rates to separate charges based on cart sizes. District staff determined that the billing system is not capable of implementing charges based on cart size. The following is a comparison of the two solid waste rate alternatives that District staff considered the most viable options:

- **Alternative Rates** – This is a first-year increase in rate revenue of 13.9% in FY 2019/20, with no additional increases.
- **Proposed Rates** – Eliminating the current fiscal deficit in five years using seven-percent (7%) annual rate increases for the next three fiscal years followed by six-percent (6%) annual rate increases for another two fiscal years. While this does not immediately eliminate the annual deficit, it does eliminate it over five years. Following this, District staff will evaluate the viability of implementing rates that are differentiated by cart size, and future rate increases would then be applied to the rate design recommended as a result of District staff's evaluation.

Figure 14 summarizes the financial plan and the total annual revenue under both alternatives. **Figure 15** shows the ending cash balances (total reserves) and target reserve levels under both alternatives, and **Figure 16** compares the flat and additional cart rates for both alternatives. Finally, **Figure 17** shows projected alternative rates for the next five years compared to the proposed rates that were previously shown in **Figure 11**. As these figures show, future rate increases will be needed to meet annual revenue requirements and avoid mounting deficits.

Figure 14. Comparison of Revenue Requirements – Proposed vs. Alternative Rate Increases

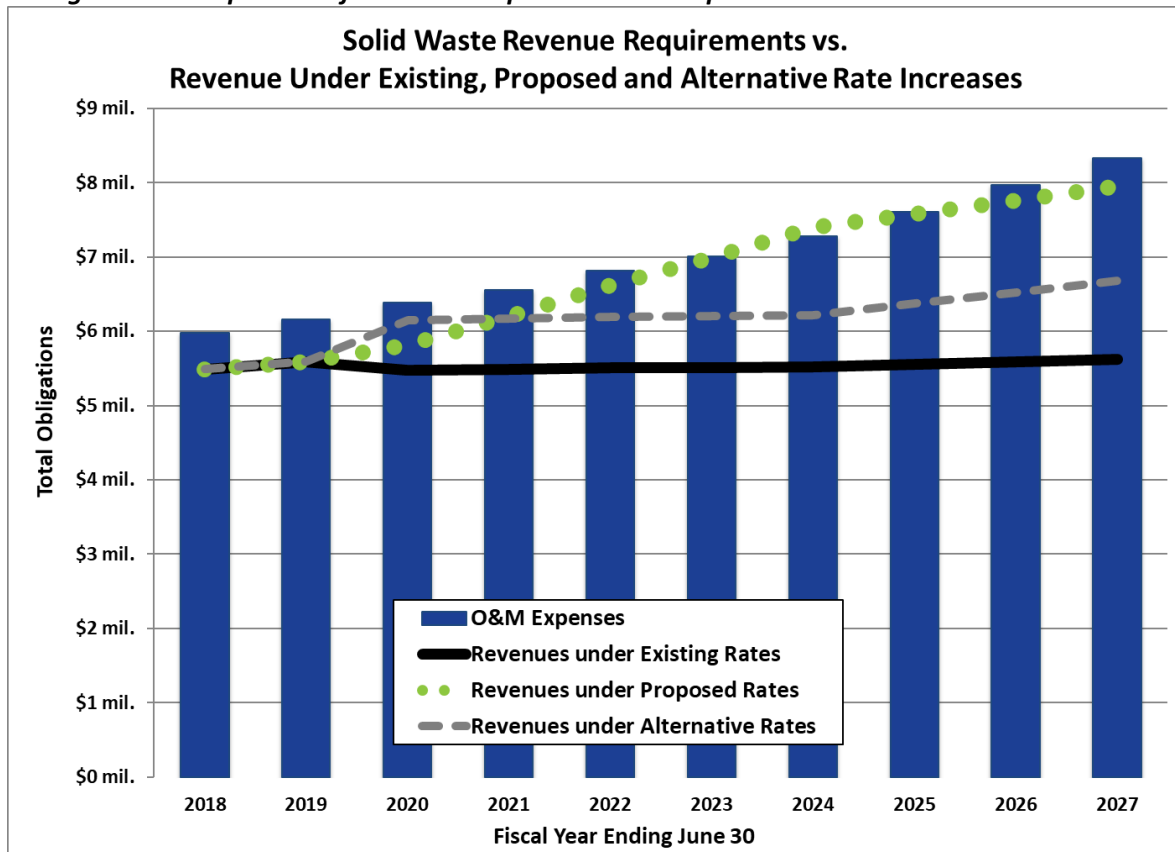


Figure 15. Comparison of Cash Balances – Proposed vs. Alternative Rate Increases

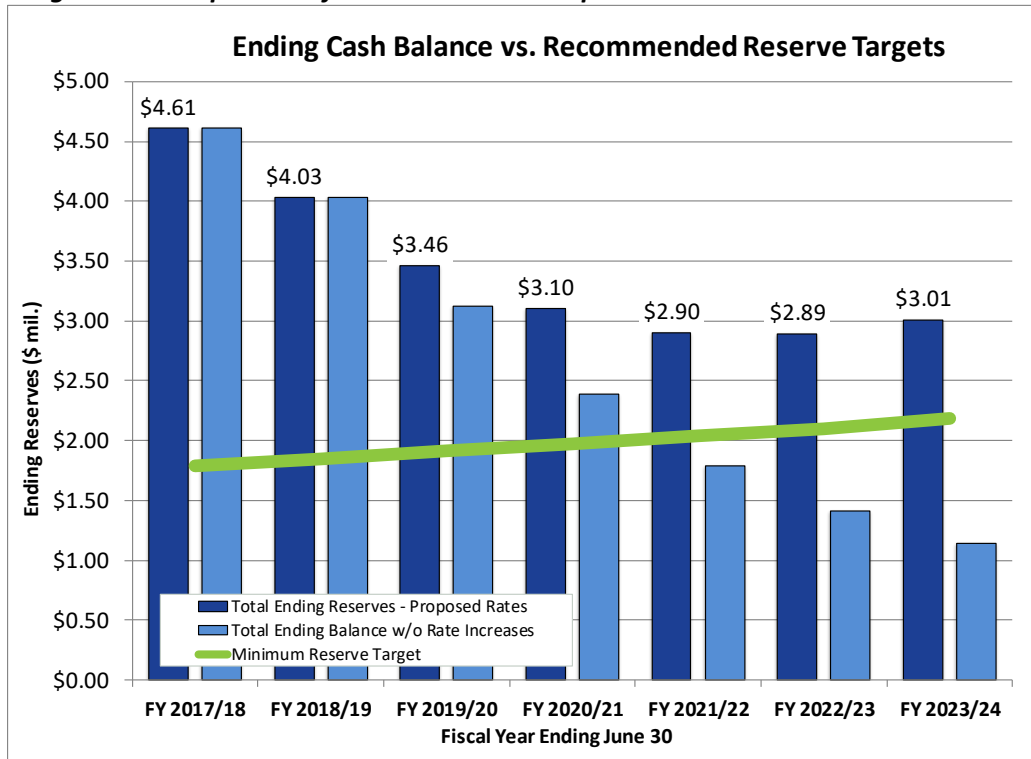


Figure 16. Comparison of Flat and Additional Cart Rates – Proposed vs. Alternative Rate Increases

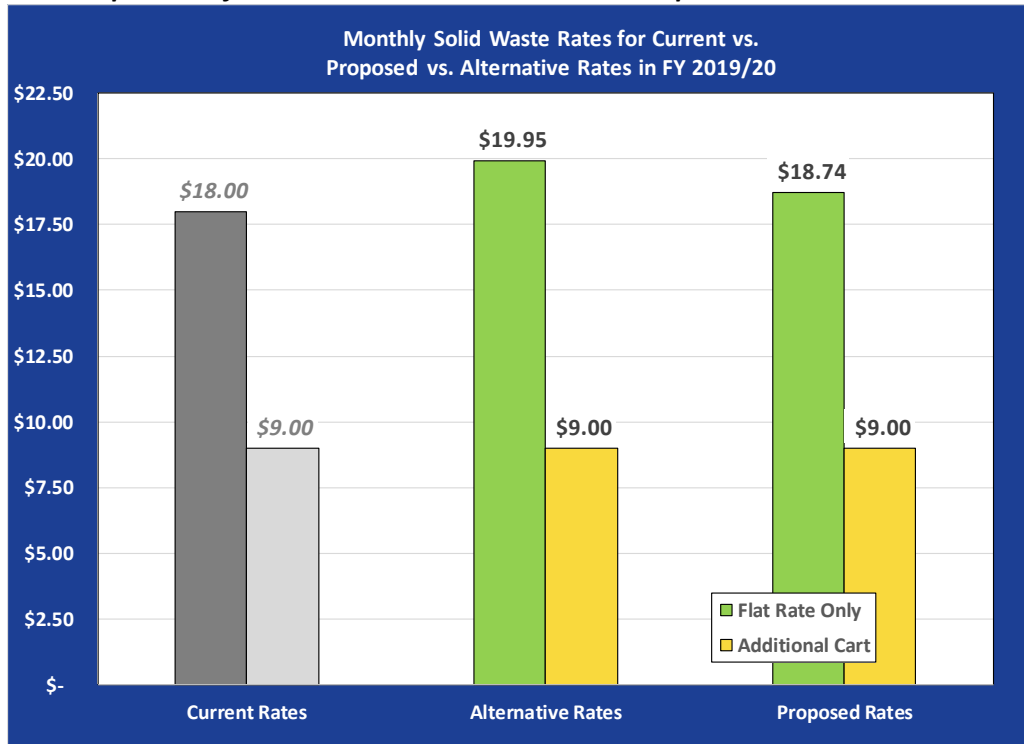


Figure 17. Current, Alternative and Proposed Solid Waste Rates Fiscal Year 2018/19 – 2023/24

Customer Classes/Service Type	Current Rates	Proposed vs. Alternative Rates				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Proposed Rates						
<i>Annual increases in Revenue Req'ts</i>	0.00%	7.00%	7.00%	7.00%	6.00%	6.00%
Annual Rates						
Flat Rate Only	\$ 216.00	\$ 224.88	\$ 240.60	\$ 257.40	\$ 272.88	\$ 289.20
Additional Cart	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00
Monthly Rates						
Flat Rate Only	\$ 18.00	\$ 18.74	\$ 20.05	\$ 21.45	\$ 22.74	\$ 24.10
Additional Cart*	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00
Alternative Single Family Rates						
<i>Annual increases in Revenue Req'ts</i>	0.00%	13.93%	0.00%	0.00%	0.00%	0.00%
Annual Rates						
Flat Rate Only	\$ 216.00	\$ 239.40	\$ 239.40	\$ 239.40	\$ 239.40	\$ 239.40
Additional Cart	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00
Monthly Rates						
Flat Rate Only	\$ 18.00	\$ 19.95	\$ 19.95	\$ 19.95	\$ 19.95	\$ 19.95
Additional Cart*	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00

District only services residential solid waste customers. Source File: CSMD_CollectionRates.pdf

*Note: Although this rate was slightly less than the current rate; the District decided to maintain the current rate of \$9.00/month in FY 2019/20.

Monthly rates may not be precisely one-twelfth of the annual rate because it is rounded to the nearest cent.

SECTION 4. RECOMMENDATIONS AND NEXT STEPS

CONSULTANT RECOMMENDATIONS

This rate study reflects input from District staff and is intended to meet the requirements of Proposition 218. Public hearings and protest balloting requirements are the next steps required to complete the adoption and implementation requirements. As a part of this process, NBS recommends the District take the following actions:

- **Accept and Approve This Study Report:** NBS recommends the District formally accept and approve this report and its recommendations. This will provide the documentation and administrative record necessary to adopt and implement these rates.
- **Adopt Reserve Fund Targets:** NBS recommends the District adopt the recommended reserve fund target described in this report. While this operating reserve target is greater than the minimum set by the District, it is a good standard to follow in maintaining reserves in the future.
- **Implement Recommended Rate Increases and Proposed Rates:** Based on successfully meeting the Proposition 218 requirements, and assuming no successful protest challenge, the District should proceed with implementing the recommended rates, which continue using the current flat rate structure (*see Figure 11*). These rates fairly and equitably collect revenue customers and are necessary to ensure the continued financial health of the District's solid waste utility.
- **Evaluate Implementing Rates Based on Cart Size:** District staff should begin developing the necessary customer account data, including the number and size of carts used by individual customers, and making improvements to the billing system, with the objective of providing an option of adopting rates that are differentiated by cart size.

NEXT STEPS

Public hearings and protest balloting requirements are the next steps required to complete the adoption and implementation requirements. The District should also periodically review these rates.

Annually Review Rates and Revenue – Any time an agency adopts new utility rates, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic factors and regulatory requirements underscore the need for this review, as well as potential and unseen changing revenue requirements, such as environmental regulations that can significantly affect costs.

PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, including the District's solid waste budgets, CR&R contract costs, the number of customer accounts, the number and size of collection carts, and other conditions and events that may occur in the future. This information and these assumptions were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

APPENDIX A. DETAILED SOLID WASTE RATE STUDY TABLES

COSTA MESA SANITARY DISTRICT
Solid Waste Revenue Requirements
Financial Plan

Financial Plan and Reserve Summary

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

Alternative - Eliminate Deficit in 5 years

RATE REVENUE REQUIREMENTS SUMMARY	Actual	Estimated	Projected					Projected				
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sources of Solid Waste Funds												
Rate Revenue	4,778,520	4,855,596	4,879,874	4,904,273	4,928,795	4,953,439	4,978,206	5,003,097	5,028,112	5,053,253	5,078,519	5,103,912
<i>Sub-Total Rate Revenues:</i>	\$ 4,778,520	\$ 4,855,596	\$ 4,879,874	\$ 4,904,273	\$ 4,928,795	\$ 4,953,439	\$ 4,978,206	\$ 5,003,097	\$ 5,028,112	\$ 5,053,253	\$ 5,078,519	\$ 5,103,912
Non-Rate Revenue												
Other Revenue	321,845	328,282	190,450	191,402	192,359	193,321	194,288	195,259	196,235	197,217	198,203	199,194
Interest Income	77,901	87,108	77,156	63,091	44,195	21,563	(5,016)	-	-	-	-	-
Tax Income	313,456	319,725	325,994	332,386	338,903	345,548	352,324	359,232	366,275	373,457	380,780	388,246
<i>Sub-Total Non-Rate Revenue</i>	\$ 713,202	\$ 735,115	\$ 593,600	\$ 586,879	\$ 575,457	\$ 560,432	\$ 541,595	\$ 554,491	\$ 562,511	\$ 570,674	\$ 578,982	\$ 587,439
Total Solid Waste Revenues	\$ 5,491,722	\$ 5,590,711	\$ 5,473,474	\$ 5,491,153	\$ 5,504,252	\$ 5,513,871	\$ 5,519,801	\$ 5,557,588	\$ 5,590,623	\$ 5,623,927	\$ 5,657,501	\$ 5,691,351
Uses of Solid Waste Funds												
Operating Expenses:												
Salaries and Benefits	\$ 473,224	\$ 523,800	\$ 551,946	\$ 581,675	\$ 613,083	\$ 646,270	\$ 681,345	\$ 718,422	\$ 757,623	\$ 799,080	\$ 842,931	\$ 889,326
CR&R Services - Trash Hauler	2,650,214	2,672,685	2,768,902	2,796,591	2,897,268	2,926,241	3,031,586	3,152,849	3,278,963	3,410,122	3,546,527	3,688,388
CR&R Services - Recycling/Disposal	1,724,459	1,709,116	1,760,389	1,813,201	1,867,597	1,923,625	1,981,334	2,080,401	2,184,421	2,293,642	2,408,324	2,528,740
CR&R Services - Organics Disposal	643,998	675,050	708,803	744,243	781,455	820,528	861,554	904,632	949,863	997,356	1,047,224	1,099,585
Operations and Maintenance	349,954	418,000	431,997	452,741	474,520	497,385	521,390	546,593	573,052	600,832	629,997	660,618
Programs	134,014	155,500	163,275	171,439	180,011	189,011	198,462	208,385	218,804	229,744	241,232	253,293
Total Solid Waste Operating Expenses	\$ 5,975,863	\$ 6,154,151	\$ 6,385,312	\$ 6,559,890	\$ 6,813,934	\$ 7,003,060	\$ 7,275,671	\$ 7,611,281	\$ 7,962,727	\$ 8,330,776	\$ 8,716,235	\$ 9,119,950
Annual Surplus/(Deficit) without rate increase	\$ (484,141)	\$ (563,440)	\$ (911,838)	\$ (1,068,738)	\$ (1,309,682)	\$ (1,489,189)	\$ (1,755,870)	\$ (2,053,693)	\$ (2,372,104)	\$ (2,706,850)	\$ (3,058,734)	\$ (3,428,599)
Net Revenue Req't.	\$ 5,262,661	\$ 5,419,036	\$ 5,791,712	\$ 5,973,011	\$ 6,238,476	\$ 6,442,628	\$ 6,734,076	\$ 7,056,790	\$ 7,400,216	\$ 7,760,103	\$ 8,137,253	\$ 8,532,511
<i>(Total Uses less Non-Rate Rev.)</i>												
Total Rate Revenue After Rate Increases	\$ 4,778,520	\$ 4,855,596	\$ 5,221,465	\$ 5,614,903	\$ 6,037,985	\$ 6,432,266	\$ 6,852,293	\$ 7,024,285	\$ 7,200,595	\$ 7,381,330	\$ 7,566,601	\$ 7,756,523
Annual Surplus/(Deficit) with rate increases	\$ (484,141)	\$ (563,440)	\$ (570,247)	\$ (358,108)	\$ (200,491)	\$ (10,362)	\$ 118,217	\$ (32,505)	\$ (199,621)	\$ (378,773)	\$ (570,651)	\$ (775,988)
Rate Increase*	0.0%	0.0%	7.0%	7.0%	7.0%	6.0%	6.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Additional Revenue from Rate Increases	\$0	\$0	\$341,591	\$710,629	\$1,109,191	\$1,478,827	\$1,874,087	\$2,021,189	\$2,172,483	\$2,328,077	\$2,488,082	\$2,652,611
Cumulative Rate Increases	0.0%	0.0%	7.0%	14.5%	22.5%	29.9%	37.6%	40.4%	43.2%	46.1%	49.0%	52.0%

*Note: Percent increase is calculated off the net revenue requirement. Customer rates may not exactly reflect the percent increase of the net revenue requirement.

Financial Plan Alternatives	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Proposed - One-Time Rate Increase in 2019	13.93%	0.00%	0.00%	0.00%	0.00%
Alternative - Eliminate Deficit in 5 years	7.00%	7.00%	7.00%	6.00%	6.00%

TABLE 2 : RESERVE FUND SUMMARY *Alternative - Eliminate Deficit in 5 years*

SUMMARY OF RESERVE FUND ACTIVITY	Actual	Estimated	Projected						Projected			
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Total Beginning Cash ¹	\$ 5,092,049	\$ 4,594,611										
<i>Solid Waste O&M Reserve Fund</i>												
Beginning Reserve Balance	\$ 5,092,049	\$ 4,594,611	\$ 4,031,171	\$ 3,460,925	\$ 3,102,816	\$ 2,902,326	\$ 2,891,963	\$ 3,010,181	\$ 2,977,676	\$ 2,778,055	\$ 2,399,282	\$ 1,828,631
Plus: Net Cash Flow (After Rate Increases)	(484,141)	(563,440)	(570,247)	(358,108)	(200,491)	(10,362)	118,217	(32,505)	(199,621)	(378,773)	(570,651)	(775,988)
Ending O&M Reserve Balance	\$ 4,607,908	\$ 4,031,171	\$ 3,460,925	\$ 3,102,816	\$ 2,902,326	\$ 2,891,963	\$ 3,010,181	\$ 2,977,676	\$ 2,778,055	\$ 2,399,282	\$ 1,828,631	\$ 1,052,643
Total Ending Balance w/o Rate Increases	\$ 4,607,908	\$ 4,031,171	\$ 3,119,334	\$ 2,392,187	\$ 1,793,135	\$ 1,413,136	\$ 1,136,094	\$ 956,488	\$ 605,572	\$ 71,205	\$ (659,451)	\$ (1,599,968)
Minimum Ending Balance (30% O&M) ²	\$ 1,792,759	\$ 1,846,245	\$ 1,915,594	\$ 1,967,967	\$ 2,044,180	\$ 2,100,918	\$ 2,182,701	\$ 2,283,384	\$ 2,388,818	\$ 2,499,233	\$ 2,614,871	\$ 2,735,985
Minimum Ending Balance (35% O&M) ³	\$ 2,091,552	\$ 2,153,953	\$ 2,234,859	\$ 2,295,962	\$ 2,384,877	\$ 2,451,071	\$ 2,546,485	\$ 2,663,948	\$ 2,786,954	\$ 2,915,772	\$ 3,050,682	\$ 3,191,983
Ending vs. Target - Annual Surplus/(Deficit)	\$ 2,815,149	\$ 2,184,926	\$ 1,545,331	\$ 1,134,849	\$ 858,146	\$ 791,045	\$ 827,480	\$ 694,292	\$ 389,237	\$ (99,951)	\$ (786,240)	\$ (1,683,342)
Annual Interest Earnings Rate ⁴	N.A.	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.75%	2.00%	2.00%	2.00%	2.00%

1. Total Beginning Cash for FY 2017/2018 and FY 2018/2019 is per District staff in source files: *Item 8a Balance Sheet Fund 10.pdf* and *Item 8b Balance Sheet Fund 10.pdf*.
2. Per District Operations Code, Solid Waste Fund will maintain a minimum of 30% of operating budget in reserves.
Source file: *operations_code_2017_08_24.pdf*, Page 30, Section 4.03.020.
3. Target ending reserve balance of 35% shown for comparative purposes only.
4. Interest earned at 1.90% of average reserve balance for prior year. Source: CMSD Solid Waste Projections for NBS.xls, Davis Farr LLP, 1-29-19.

CHART 1

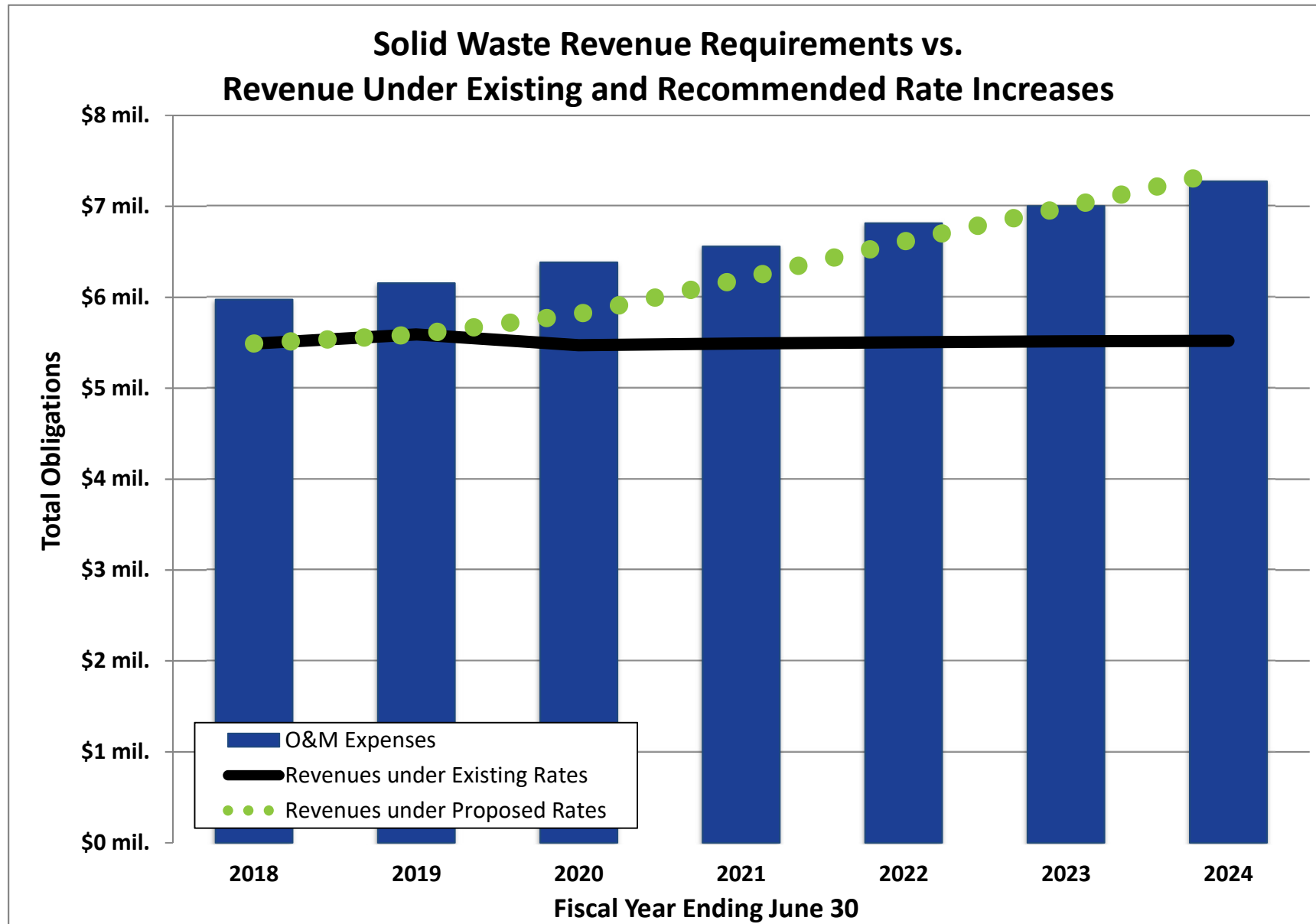


CHART 2

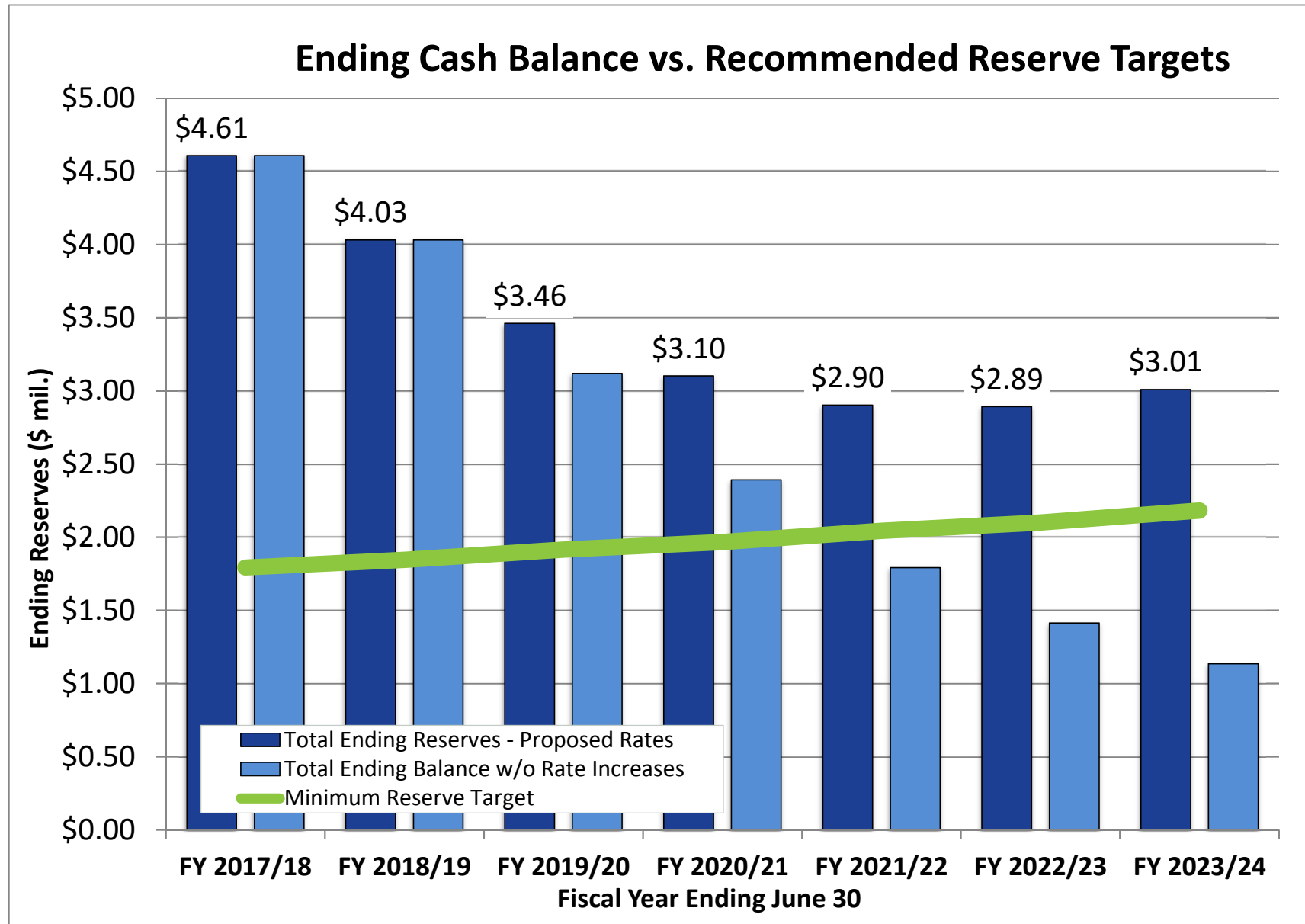
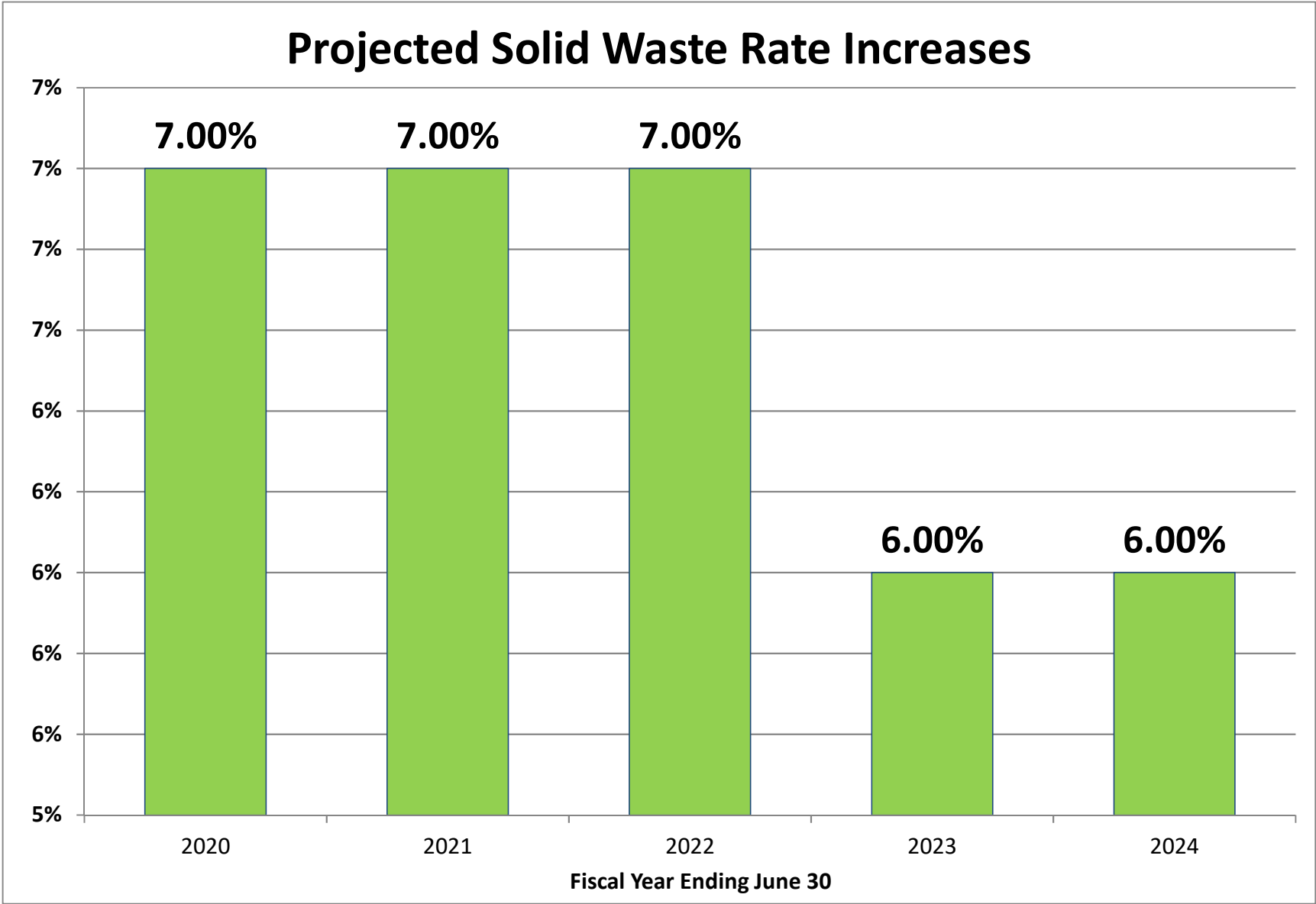


CHART 3



COSTA MESA SANITARY DISTRICT
Solid Waste Revenue Requirements
Operating Income and Expenses

Preliminary Draft Subject to Material Revision/Do Not Cite or Distribute

EXHIBIT 1

TABLE 3 : SOLID WASTE UTILITY REVENUE FORECAST ¹

Solid Waste Fund Revenue	Basis	Actual	Budget	Projected									
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Annual Charge	1	\$ 4,768,520	\$ 4,845,596	\$ 4,869,824	\$ 4,894,173	\$ 4,918,644	\$ 4,943,237	\$ 4,967,953	\$ 4,992,793	\$ 5,017,757	\$ 5,042,846	\$ 5,068,060	\$ 5,093,400
Additional Container Charge	1	90,000	90,000	90,450	90,902	91,357	91,814	92,273	92,734	93,198	93,664	94,132	94,603
Investment Earnings	1	77,901	87,108	77,156	63,091	44,195	21,563	(5,016)	-	-	-	-	-
Contributions	1	56,845	63,282	25,000	25,125	25,251	25,377	25,504	25,631	25,759	25,888	26,018	26,148
Charges for Services	1	10,000	10,000	10,050	10,100	10,151	10,202	10,253	10,304	10,355	10,407	10,459	10,511
Property Taxes	7	313,456	319,725	325,994	332,386	338,903	345,548	352,324	359,232	366,275	373,457	380,780	388,246
Other Non-Operating	1	175,000	175,000	75,000	75,375	75,752	76,131	76,511	76,894	77,278	77,665	78,053	78,443
Total Solid Waste Fund Revenue		\$ 5,491,722	\$ 5,590,711	\$ 5,473,474	\$ 5,491,153	\$ 5,504,252	\$ 5,513,871	\$ 5,519,801	\$ 5,557,588	\$ 5,590,623	\$ 5,623,927	\$ 5,657,501	\$ 5,691,351

TABLE 4 : REVENUE SUMMARY

Rate Revenue		\$ 4,778,520	\$ 4,855,596	\$ 4,879,874	\$ 4,904,273	\$ 4,928,795	\$ 4,953,439	\$ 4,978,206	\$ 5,003,097	\$ 5,028,112	\$ 5,053,253	\$ 5,078,519	\$ 5,103,912
Other Revenue		321,845	328,282	190,450	191,402	192,359	193,321	194,288	195,259	196,235	197,217	198,203	199,194
Interest Income		77,901	87,108	77,156	63,091	44,195	21,563	(5,016)	-	-	-	-	-
Tax Income		313,456	319,725	325,994	332,386	338,903	345,548	352,324	359,232	366,275	373,457	380,780	388,246
Total Revenue		\$ 5,491,722	\$ 5,590,711	\$ 5,473,474	\$ 5,491,153	\$ 5,504,252	\$ 5,513,871	\$ 5,519,801	\$ 5,557,588	\$ 5,590,623	\$ 5,623,927	\$ 5,657,501	\$ 5,691,351

TABLE 5 : SOLID WASTE UTILITY EXPENSE FORECAST ¹

Salaries and Benefits	Basis	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Regular Salaries	3	\$ 292,624	\$ 338,000	\$ 354,900	\$ 372,645	\$ 391,277	\$ 410,841	\$ 431,383	\$ 452,952	\$ 475,600	\$ 499,380	\$ 524,349	\$ 550,566
Part-time Salaries	3	37,000	40,000	42,000	44,100	46,305	48,620	51,051	53,604	56,284	59,098	62,053	65,156
Board Salaries	3	21,200	21,200	22,260	23,373	24,542	25,769	27,057	28,410	29,831	31,322	32,888	34,533
Overtime	3	1,500	1,500	1,575	1,654	1,736	1,823	1,914	2,010	2,111	2,216	2,327	2,443
Auto Allowance	2	2,400	2,400	2,520	2,646	2,778	2,917	3,063	3,216	3,377	3,546	3,723	3,909
Cell Phone Allowance	2	3,000	3,000	3,150	3,308	3,473	3,647	3,829	4,020	4,221	4,432	4,654	4,887
Incentive Pay	3	2,500	2,500	2,625	2,756	2,894	3,039	3,191	3,350	3,518	3,694	3,878	4,072
Tuition Reimbursement	3	5,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	7,387	7,757	8,144
Compensated Absences	3	6,100	6,500	6,825	7,166	7,525	7,901	8,296	8,711	9,146	9,603	10,084	10,588
Cafeteria Plan	3	49,000	49,000	51,450	54,023	56,724	59,560	62,538	65,665	68,948	72,395	76,015	79,816
Medicare	4	6,000	6,200	6,758	7,366	8,029	8,752	9,539	10,398	11,334	12,354	13,466	14,678
Social Security	4	1,500	1,500	1,635	1,782	1,943	2,117	2,308	2,516	2,742	2,989	3,258	3,551
Retirement - Employer	4	34,700	36,200	39,458	43,009	46,880	51,099	55,698	60,711	66,175	72,131	78,623	85,699
Retirement - Employee	4	1,500	1,600	1,744	1,901	2,072	2,259	2,462	2,683	2,925	3,188	3,475	3,788
Deferred Medical	4	3,500	3,400	3,706	4,040	4,403	4,799	5,231	5,702	6,215	6,775	7,384	8,049
Benefits Admin Costs	3	1,000	1,000	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629
Workers' Compensation	3	4,700	4,800	5,040	5,292	5,557	5,834	6,126	6,432	6,754	7,092	7,446	7,819
Sub-Total: Salaries and Benefits		\$ 473,224	\$ 523,800	\$ 551,946	\$ 581,675	\$ 613,083	\$ 646,270	\$ 681,345	\$ 718,422	\$ 757,623	\$ 799,080	\$ 842,931	\$ 889,326

COSTA MESA SANITARY DISTRICT

Solid Waste Revenue Requirements

Operating Income and Expenses

Preliminary Draft Subject to Material Revision/Do Not Cite or Distribute

EXHIBIT 1

TABLE 6 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

Operations and Maintenance	Basis	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Professional Services	2	\$ 68,064	\$ 76,890	\$ 80,735	\$ 84,771	\$ 89,010	\$ 93,460	\$ 98,133	\$ 103,040	\$ 108,192	\$ 113,602	\$ 119,282	\$ 125,246
Legal Services	2	25,000	25,000	26,250	27,563	28,941	30,388	31,907	33,502	35,178	36,936	38,783	40,722
Fiscal Services	2	12,600	12,600	13,230	13,892	14,586	15,315	16,081	16,885	17,729	18,616	19,547	20,524
Medical/Employment Services	2	500	500	525	551	579	608	638	670	704	739	776	814
Contract Services	2	1,300	1,300	1,365	1,433	1,505	1,580	1,659	1,742	1,829	1,921	2,017	2,118
County Collection Fee	2	17,000	17,000	17,850	18,743	19,680	20,664	21,697	22,782	23,921	25,117	26,373	27,691
Trash Hauler	5	2,650,214	2,672,685	2,768,902	2,796,591	2,897,268	2,926,241	3,031,586	3,152,849	3,278,963	3,410,122	3,546,527	3,688,388
Recycling/Disposal	2	1,724,459	1,709,116	1,760,389	1,813,201	1,867,597	1,923,625	1,981,334	2,080,401	2,184,421	2,293,642	2,408,324	2,528,740
Organics Disposal	2	643,998	675,050	708,803	744,243	781,455	820,528	861,554	904,632	949,863	997,356	1,047,224	1,099,585
Container Collection Costs	5	13,500	13,500	14,040	14,602	15,186	15,793	16,425	17,082	17,765	18,476	19,215	19,983
Election Costs	2	-	32,500	34,125	35,831	37,623	39,504	41,479	43,553	45,731	48,017	50,418	52,939
Building Maintenance	2	4,800	4,800	5,040	5,292	5,557	5,834	6,126	6,432	6,754	7,092	7,446	7,819
Equipment Maintenance	2	2,850	2,850	2,993	3,142	3,299	3,464	3,637	3,819	4,010	4,211	4,421	4,642
Office Supplies	2	600	600	630	662	695	729	766	804	844	886	931	977
Multi Media/Copy/Blueprint	2	100	100	105	110	116	122	128	134	141	148	155	163
Postage	2	700	700	735	772	810	851	893	938	985	1,034	1,086	1,140
Public Info/Education	2	24,400	48,900	51,345	53,912	56,608	59,438	62,410	65,531	68,807	72,248	75,860	79,653
Small Tools	2	800	1,000	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629
Computer Licenses and Maintenance	2	6,300	6,300	6,615	6,946	7,293	7,658	8,041	8,443	8,865	9,308	9,773	10,262
EOC Equipment and Supplies	2	150	200	210	221	232	243	255	268	281	295	310	326
Memberships/Dues	2	12,700	12,660	13,293	13,958	14,656	15,388	16,158	16,966	17,814	18,705	19,640	20,622
Staff Development	2	8,100	8,280	8,694	9,129	9,585	10,064	10,568	11,096	11,651	12,233	12,845	13,487
Board Development	2	600	3,380	3,549	3,726	3,913	4,108	4,314	4,530	4,756	4,994	5,243	5,506
Mileage Reimbursement	2	120	120	126	132	139	146	153	161	169	177	186	195
Liability Insurance	2	7,600	7,600	7,980	8,379	8,798	9,238	9,700	10,185	10,694	11,229	11,790	12,380
Telephone	6	2,270	2,270	2,406	2,551	2,704	2,866	3,038	3,220	3,413	3,618	3,835	4,065
Gas - Building	6	350	350	371	393	417	442	468	496	526	558	591	627
Water - Building	6	300	300	318	337	357	379	401	426	451	478	507	537
Electric - Building	6	1,500	1,500	1,590	1,685	1,787	1,894	2,007	2,128	2,255	2,391	2,534	2,686
Rent - Building	2	52,800	52,800	55,440	58,212	61,123	64,179	67,388	70,757	74,295	78,010	81,910	86,006
Asset Replacement	2	30,000	38,000	39,900	41,895	43,990	46,189	48,499	50,924	53,470	56,143	58,950	61,898
Capital Outlay	2	15,000	25,000	26,250	27,563	28,941	30,388	31,907	33,502	35,178	36,936	38,783	40,722
Contingency	2	-	-	-	-	-	-	-	-	-	-	-	-

COSTA MESA SANITARY DISTRICT
Solid Waste Revenue Requirements
Operating Income and Expenses

Preliminary Draft Subject to Material Revision/Do Not Cite or Distribute

EXHIBIT 1

TABLE 7 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

Operations and Maintenance	Basis	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Solid Waste Division Capital Investment Plan ²													
Computer Software/Hardware		\$ 4,850	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Solar Panels HQ		15,000	-	-	-	-	-	-	-	-	-	-	-
HQ Roof		8,100	-	-	-	-	-	-	-	-	-	-	-
One HVAC unit HQ		2,000	-	-	-	-	-	-	-	-	-	-	-
Automatic Front Door Opener (ADA)		1,500	-	-	-	-	-	-	-	-	-	-	-
HVAC Ducts		8,500	-	-	-	-	-	-	-	-	-	-	-
Used Portable Generator		-	-	-	-	-	-	-	-	-	-	-	-
Landscaping HQ		-	10,000	-	-	-	-	-	-	-	-	-	-
Main Entrance Sign HQ		-	1,000	-	-	-	-	-	-	-	-	-	-
Future CIP Costs ³		-	-	15,238	15,238	15,238	15,238	15,238	15,238	15,238	15,238	15,238	15,238
Sub-Total: Operations and Maintenance		\$ 5,368,625	\$ 5,474,851	\$ 5,670,091	\$ 5,806,776	\$ 6,020,840	\$ 6,167,779	\$ 6,395,864	\$ 6,684,474	\$ 6,986,300	\$ 7,301,952	\$ 7,632,072	\$ 7,977,331
Programs													
Sharps Program	2	\$ 23,000	\$ 23,000	\$ 24,150	\$ 25,358	\$ 26,625	\$ 27,957	\$ 29,354	\$ 30,822	\$ 32,363	\$ 33,981	\$ 35,681	\$ 37,465
Household Hazardous Waste	2	20,514	42,000	44,100	46,305	48,620	51,051	53,604	56,284	59,098	62,053	65,156	68,414
Anti-scavenging	2	5,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	7,387	7,757	8,144
Educational Programs	2	50,500	50,500	53,025	55,676	58,460	61,383	64,452	67,675	71,059	74,611	78,342	82,259
Pharmaceutical	2	15,000	15,000	15,750	16,538	17,364	18,233	19,144	20,101	21,107	22,162	23,270	24,433
Battery Recycling Program	2	20,000	20,000	21,000	22,050	23,153	24,310	25,526	26,802	28,142	29,549	31,027	32,578
Sub-Total: Programs		\$ 134,014	\$ 155,500	\$ 163,275	\$ 171,439	\$ 180,011	\$ 189,011	\$ 198,462	\$ 208,385	\$ 218,804	\$ 229,744	\$ 241,232	\$ 253,293
Total Expenses		\$ 5,975,863	\$ 6,154,151	\$ 6,385,312	\$ 6,559,890	\$ 6,813,934	\$ 7,003,060	\$ 7,275,671	\$ 7,611,281	\$ 7,962,727	\$ 8,330,776	\$ 8,716,235	\$ 9,119,950

TABLE 8 : FORECASTING ASSUMPTIONS

Economic Variables ⁴		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Customer Growth	1	-	-	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
General Cost inflation	2	-	-	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Salaries and Benefits	3	-	-	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Retirement and OPEB	4	-	-	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Transportation and Fuel	5	-	-	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Utilities	6	-	-	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Property Tax	7	-	-	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%
No Inflation	8	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Operating revenue and expenses for FY 17-18 and 18-19 from source file: *Item 2 Budget FY 17-18, FY18-19.pdf, Pages 46-58; and CMSD Solid Waste Projections for NBS.xlsx.*

2. Source file: *Item 2 Budget FY17/18, FY18/19.pdf, Page 52, 62.*

3. Future projects, beyond the initial period are estimated at the average of rate-funded capital projects in FY 2017/18 - 2018/19.

4. NBS has assumed inflation variables. District staff needs to confirm these inflation values.

COSTA MESA SANITARY DISTRICT
Solid Waste Revenue Requirements
Existing Solid Waste Rate Schedule
Preliminary Draft Subject to Material Revision/Do Not Cite or Distribute

EXHIBIT 2

TABLE 9 :

SOLID WASTE RATE SCHEDULE						Current Rate
Billing done quarterly by CR&R. CMSD gets 80% back, 20% to CR&R						
Single Family Flat Rate	\$216/year	basic service	2 waste	2 organic	Annually	\$ 216.00
After 7/1/18	\$9/month	additional cart			Monthly	\$ 9.00

District only services residential solid waste customers. Source File: *CSMD_CollectionRates.pdf*

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Cost of Service Analysis, Functionalization and Classification

FUNCTION & CLASSIFICATION

TABLE 10 :

Classification of Expenses									
Budget Categories	FY 2019/20	MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN	Basis of Classification			
	Total Revenue Requirements					MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN
Salaries and Benefits									
Regular Salaries	\$ 354,900	\$ 88,725	\$ 88,725	\$ 35,490	\$ 141,960	25%	25%	10%	40%
Part-time Salaries	42,000	10,500	10,500	4,200	16,800	25%	25%	10%	40%
Board Salaries	22,260	5,565	5,565	2,226	8,904	25%	25%	10%	40%
Overtime	1,575	394	394	158	630	25%	25%	10%	40%
Auto Allowance	2,520	630	630	252	1,008	25%	25%	10%	40%
Cell Phone Allowance	3,150	788	788	315	1,260	25%	25%	10%	40%
Incentive Pay	2,625	656	656	263	1,050	25%	25%	10%	40%
Tuition Reimbursement	5,250	1,313	1,313	525	2,100	25%	25%	10%	40%
Compensated Absences	6,825	1,706	1,706	683	2,730	25%	25%	10%	40%
Cafeteria Plan	51,450	12,863	12,863	5,145	20,580	25%	25%	10%	40%
Medicare	6,758	1,690	1,690	676	2,703	25%	25%	10%	40%
Social Security	1,635	409	409	164	654	25%	25%	10%	40%
Retirement - Employer	39,458	9,865	9,865	3,946	15,783	25%	25%	10%	40%
Retirement - Employee	1,744	436	436	174	698	25%	25%	10%	40%
Deferred Medical	3,706	927	927	371	1,482	25%	25%	10%	40%
Benefits Admin Costs	1,050	263	263	105	420	25%	25%	10%	40%
Workers' Compensation	5,040	1,260	1,260	504	2,016	25%	25%	10%	40%
Sub-Total: Salaries and Benefits	\$ 551,946	\$ 137,987	\$ 137,987	\$ 55,195	\$ 220,778	25%	25%	10%	40%

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Cost of Service Analysis, Functionalization and Classification

FUNCTION & CLASSIFICATION

TABLE 11 :

Operations and Maintenance									
Professional Services	\$ 80,735	\$ 20,184	\$ 20,184	\$ 8,073	\$ 32,294	25%	25%	10%	40%
Legal Services	26,250	6,563	6,563	2,625	10,500	25%	25%	10%	40%
Fiscal Services	13,230	3,308	3,308	1,323	5,292	25%	25%	10%	40%
Medical/Employment Services	525	131	131	53	210	25%	25%	10%	40%
Contract Services	1,365	341	341	137	546	25%	25%	10%	40%
County Collection Fee	17,850	4,463	4,463	1,785	7,140	25%	25%	10%	40%
Trash Hauler	2,768,902	2,768,902	-	-	-	100%	0%	0%	0%
Recycling/Disposal	1,760,389	-	1,760,389	-	-	0%	100%	0%	0%
Organics Disposal	708,803	-	-	708,803	-	0%	0%	100%	0%
Container Collection Costs	14,040	14,040	-	-	-	100%	0%	0%	0%
Election Costs	34,125	-	-	-	34,125	0%	0%	0%	100%
Building Maintenance	5,040	-	-	-	5,040	0%	0%	0%	100%
Equipment Maintenance	2,993	-	-	-	2,993	0%	0%	0%	100%
Office Supplies	630	-	-	-	630	0%	0%	0%	100%
Multi Media/Copy/Blueprint	105	-	-	-	105	0%	0%	0%	100%
Postage	735	-	-	-	735	0%	0%	0%	100%
Public Info/Education	51,345	12,836	12,836	25,673	-	25%	25%	50%	0%
Small Tools	1,050	-	-	-	1,050	0%	0%	0%	100%
Computer Licenses and Maintenance	6,615	-	-	-	6,615	0%	0%	0%	100%
EOC Equipment and Supplies	210	-	-	-	210	0%	0%	0%	100%
Memberships/Dues	13,293	-	-	-	13,293	0%	0%	0%	100%
Staff Development	8,694	-	-	-	8,694	0%	0%	0%	100%
Board Development	3,549	-	-	-	3,549	0%	0%	0%	100%
Mileage Reimbursement	126	-	-	-	126	0%	0%	0%	100%
Liability Insurance	7,980	-	-	-	7,980	0%	0%	0%	100%
Telephone	2,406	-	-	-	2,406	0%	0%	0%	100%
Gas - Building	371	-	-	-	371	0%	0%	0%	100%
Water - Building	318	-	-	-	318	0%	0%	0%	100%
Electric - Building	1,590	-	-	-	1,590	0%	0%	0%	100%
Rent - Building	55,440	13,860	13,860	5,544	22,176	25%	25%	10%	40%
Asset Replacement	39,900	9,975	9,975	3,990	15,960	25%	25%	10%	40%
Capital Outlay	26,250	6,563	6,563	2,625	10,500	25%	25%	10%	40%
Contingency	-	-	-	-	-	25%	25%	10%	40%
Future CIP Costs	15,238	3,809	3,809	1,524	6,095	25%	25%	10%	40%
Sub-Total: Operations and Maintenance	\$ 5,670,091	\$ 2,864,974	\$ 1,842,421	\$ 762,154	\$ 200,543	51%	32%	13%	4%

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Cost of Service Analysis, Functionalization and Classification

FUNCTION & CLASSIFICATION

TABLE 12 :

Programs									
Sharps Program	\$ 24,150	\$ 12,075	\$ 12,075	\$ -	\$ -	50%	50%	0%	0%
Household Hazardous Waste	44,100	22,050	22,050	-	-	50%	50%	0%	0%
Anti-scavenging	5,250	2,625	2,625	-	-	50%	50%	0%	0%
Educational Programs	53,025	13,256	13,256	26,513	-	25%	25%	50%	0%
Pharmaceutical	15,750	7,875	7,875	-	-	50%	50%	0%	0%
Battery Recycling Program	21,000	10,500	10,500	-	-	50%	50%	0%	0%
Sub-Total: Programs	\$ 163,275	\$ 68,381	\$ 68,381	\$ 26,513	\$ -	42%	42%	16%	0%

TOTAL REVENUE REQUIREMENTS	\$ 6,385,312	\$ 3,071,342	\$ 2,048,789	\$ 843,861	\$ 421,321	48%	32%	13%	7%
Less: Non-Rate Revenues									
Tax Income	\$ 325,994	\$ 156,803	\$ 104,598	\$ 43,082	\$ 21,510	48%	32%	13%	7%
Other Revenue	190,450	91,607	61,108	25,169	12,566	48%	32%	13%	7%
Interest Income	77,156	37,112	24,756	10,197	5,091	48%	32%	13%	7%
Total: Non-Rate Revenue	\$ 593,600	\$ 285,522	\$ 190,462	\$ 78,448	\$ 39,167	48%	32%	13%	7%
NET REVENUE REQUIREMENTS	\$ 5,791,712	\$ 2,785,819	\$ 1,858,326	\$ 765,413	\$ 382,153				
Allocation of Revenue Requirements	100%	48%	32%	13%	7%				

Classification of Expenses, continued
Adjustments to Classification of Expenses

Adjustment for Current Rate Level:	Total	MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN
FY 2019/20 Target Rate Rev. After Rate Incr.	\$ 5,221,465				
Current Level of Rate Revenue	\$ 4,879,874				
FY 2019/20 Projected Rate Increase	7.0%				
Adjusted Net Revenue Req'ts	\$5,221,465	\$2,511,530	\$1,675,357	\$690,051	\$344,527
<i>Percent of Revenue</i>		<i>48.1%</i>	<i>32.1%</i>	<i>13.2%</i>	<i>6.6%</i>

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Cost of Service Analysis

ALLOCATION FACTORS

CLASSIFICATION OF COSTS - Results of functionally allocating budget line items to each of four classifications of costs: (1) Collection costs, (2) Disposal costs, (3) Organics program costs, and (4) General Overhead and Administrative Costs.

TABLE 13 :

Summary of Classification of Expenses and Adjustments					
Budget Categories	Total for FY 2019/20	MSW & Recycling COLLECTION	MSW & Recycling DISPOSAL	Organics Program	Overhead & Admin
Salaries and Benefits	\$551,946	\$137,987	\$137,987	\$55,195	\$220,778
Operations and Maintenance					
Trash Hauler	\$2,768,902	\$2,768,902	\$0	\$0	\$0
Recycling/Disposal	\$1,760,389	\$0	\$1,760,389	\$0	\$0
Organics Disposal	\$708,803	\$0	\$0	\$708,803	\$0
Other O&M	\$431,997	\$96,072	\$82,032	\$53,351	\$200,543
Programs	\$163,275	\$68,381	\$68,381	\$26,513	\$0
Total Revenue Requirements	\$6,385,312				
Less: Non-Rate Revenues	(\$593,600)	(\$285,522)	(\$190,462)	(\$78,448)	(\$39,167)
Net Revenue Requirements	\$5,791,712	\$2,785,819	\$1,858,326	\$765,413	\$382,153
<i>Percent of Revenue</i>	100.0%	48.1%	32.1%	13.2%	6.6%

RATE REVENUE COLLECTED IN FY 2019/20 - Based on the percentage allocation of costs to the four classifications of costs, the rate revenue collected through rates needs to be adjusted by adding the rate revenue from rate increases.

TABLE 14 :

Adjusted Rate Revenue to be Collected from Rates					
Budget Categories	Total for FY 2019/20	MSW & Recycling COLLECTION	MSW & Recycling DISPOSAL	Organics Program	Overhead & Admin
Projected Rate Rev. w/o Rate Increase	\$4,879,874				
Additional Rate Revenue from Increase	\$341,591				
Adjusted Rate Revenue	\$5,221,465	\$2,511,530	\$1,675,357	\$690,051	\$344,527
Percent of Revenue	100.0%	48.1%	32.1%	13.2%	6.6%

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Cost of Service Analysis

ALLOCATION FACTORS

COLLECTION COSTS - The collection cost allocation factors assume that most of the collection costs (90%) are tied to the number of "container lifts" and, to a smaller degree (10%), to the size of the Carts which likely affects the amount of material collected and how often the collection vehicle needs to deliver waste to the transfer station.

TABLE 15 : ALLOCATION OF COLLECTION COSTS

Solid Waste Collection Allocation Factors -						
For MSW & Recycling COLLECTION Costs			Allocated Collection Costs: \$2,511,530			
Cart Size/Type ¹	Collection Allocation Factor (CAF)		Disposal Allocation Factor (DAF) ²	Weighted Collection Cost Allocation Factors		
	'17/18 No. of Carts/Accounts	% of Carts/Accounts		% CAF Weight	% DAF Weight	Weighted Avg. ³
	(a)	(b)	(c)	(d)	(e)	(f)
All Size Carts (Flat Rate)	22,804	97.9%	98.2%	90%	10%	98.0%
Additional Carts (50%) ⁴	479	2.1%	1.8%	90%	10%	2.0%
Total	23,283	100.0%	100.0%	--	--	100%
<i>Additional Carts (50%) ⁴</i>	<i>479</i>	<i>(Not counted in Collection Cost Allocation factors)</i>				

1. From "Solid Waste Tonnage Allocation Factors - For MSW & Recycling Disposal Costs" table below, except for additional carts, which are reduced by 50% (see footnote 4).
2. From the Disposal Cost Allocation Factor table.
3. Weighted Average (f) = (b) x (d) + (c) x (e)
4. Additional carts are only counted at 50% in the Container Alloc. Factor because collection is already provided for the account, and there is minimal cost to lift the second cart. This adjustment is not applied to Disposal Allocation Factor, which affects how often the vehicle has to deliver waste to the transfer station.

DISPOSAL COSTS - These allocation factors are developed assuming that most of the disposal costs are tied to the tonnages processed (for recycling) and disposed, which can be estimated based on the number of carts for each size container and their respective volume.

TABLE 16 : ALLOCATION OF DISPOSAL COSTS

Solid Waste Disposal Allocation Factors - For MSW & Recycling DISPOSAL Costs					
				Allocated Costs: \$1,675,357	
Cart Size/Type	No. of Carts/ Accounts ¹	No. of Carts ¹	Total Cart Volumes ²	Est. '17/18 Landfill Tonnage ³	Disposal Allocation Factors
All Size Carts (Flat Rate)	22,804	45,920	166,243,740 gal.	16,597 tons	98.2%
Additional Carts ⁴	957	957	2,985,840 gal.	298 tons	1.8%
Total	23,761	46,877	169,229,580 gal.	16,895 tons	100.0%

1. From District records. Source File: Item 14 CMSD Occupancy Query_10.18.18_jtManipulated.xlsx, NBS_Pivot Tab.
2. Number of carts times gallons/cart times 52 weeks.
3. Percentage of Cart Volume times '17/18 Landfill Tonnage (from District records).
4. Assumes additional carts are 60-gallons.

ORGANICS and ADMIN COSTS - These allocation factors assume that organics collection and admin/overhead costs are tied to the number accounts, and that all accounts equally share in the organics programs costs.

TABLE 17 : ALLOCATION OF ORGANICS AND ADMIN COSTS

Solid Waste Tonnage Allocation Factors - For ORGANICS & ADMIN/OVERHEAD Costs			Alloc. Admin. \$:	\$344,527
			Alloc. Organics \$:	\$690,051
Cart Size/Type	Organics Program Costs		Admin/Overhead Costs	
	Number of Carts/Accounts	Organics Allocation %'s	Number of Carts/Accounts	Admin/ Overhead Allocation %'s
All Size Carts (Flat Rate)	22,804	100.0%	22,804	96.0%
Additional Carts ¹	--	--	957	4.0%
Total	22,804	100.0%	23,761	100.0%

1. These carts are already assigned to an account, but are still billed and have other admin/overhead costs.

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Rate Design Analysis

RATE CALCULATIONS

TABLE 18 :

Revenue Requirement Allocation Factors by Type of Cost and Cart Size				
Cart Size/Type	MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN ²
Summary of Allocation Factors ¹				
90-Gallon Carts	33.7%	42.4%	33.4%	32.1%
60-Gallon Carts	62.8%	55.0%	65.0%	62.4%
35-Gallon Carts	1.5%	0.8%	1.6%	1.5%
Flat Rate Only	98.0%	98.2%	100.0%	96.0%
Additional Carts	2.0%	1.8%	--	4.0%
Total	100.0%	100.0%	100.0%	100.0%

1. Results of the cost-of-service analysis and their respective cost allocation tables.
2. Allocated based on number of accounts, but additional carts are only allocated 50% of an account.

TABLE 19 :

Allocated Revenue Requirements by Cart Size						
Cart Size/Type	Cost Categories				FY 2019/20 TOTAL REV. REQ'TS.	Percent of Total
	MSW & RECYCLING COLLECTION	MSW & RECYCLING DISPOSAL	ORGANICS PROGRAM	OVERHEAD & ADMIN		
Revenue Req'ts	\$2,511,530	\$1,675,357	\$690,051	\$344,527	\$5,221,465	
Allocated Costs ¹						
Flat Rate Only	\$2,460,644	\$1,645,798	\$690,051	\$330,651	\$5,127,143	98.2%
Additional Carts	\$50,886	\$29,560	\$0	\$13,876	\$94,322	1.8%
Total	\$2,511,530	\$1,675,357	\$690,051	\$344,527	\$5,221,465	100.0%

1. Revenue requirement allocation factors times the "Revenue Req'ts" by Type of Cost.

TABLE 20 :

Proposed Rates by Cart Size						
Cart Size/Type	FY 2019/20 Total Revenue Requirements	Accounts/ Carts	Calculated Mo. Rate per Account/Cart ¹	Proposed Annual Rate per Account/Cart*	Current Rates and Percentage Increase vs. Proposed Rates	
			<i>\$/month</i>	<i>\$/year</i>	<i>\$/year</i>	<i>% Change</i>
Flat Rate Only	\$5,127,143	22,804	\$18.74	\$224.88	\$216.00	4%
Additional Carts*	\$94,322	957	\$9.00	\$108.00	\$108.00	0%
Total	\$5,221,465	23,761	--	--	--	--

1. Revenue requirement divided by the number of accounts or carts

COSTA MESA SANITARY DISTRICT
SOLID WASTE RATE STUDY
Rate Schedules

CURRENT & PROPOSED RATES

TABLE 21 :

Customer Classes/Service Type	Current Rates	Proposed vs. Alternative Rates				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Proposed Rates						
<i>Annual increases in Revenue Req'ts</i>	0.00%	7.00%	7.00%	7.00%	6.00%	6.00%
Annual Rates						
Flat Rate Only	\$ 216.00	\$ 224.88	\$ 240.60	\$ 257.40	\$ 272.88	\$ 289.20
Additional Cart	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00
Monthly Rates						
Flat Rate Only	\$ 18.00	\$ 18.74	\$ 20.05	\$ 21.45	\$ 22.74	\$ 24.10
Additional Cart*	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00
Alternative Single Family Rates						
<i>Annual increases in Revenue Req'ts</i>	0.00%	13.93%	0.00%	0.00%	0.00%	0.00%
Annual Rates						
Flat Rate Only	\$ 216.00	\$ 239.40	\$ 239.40	\$ 239.40	\$ 239.40	\$ 239.40
Additional Cart	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00	\$ 108.00
Monthly Rates						
Flat Rate Only	\$ 18.00	\$ 19.95	\$ 19.95	\$ 19.95	\$ 19.95	\$ 19.95
Additional Cart*	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00

District only services residential solid waste customers. Source File: CSMD CollectionRates.pdf

*Note: Although this rate was slightly less than the current rate; the District decided to maintain the current rate of \$9.00/month in FY 2019/20.
Monthly rates may not be precisely one-twelfth of the annual rate because it is rounded to the nearest cent.

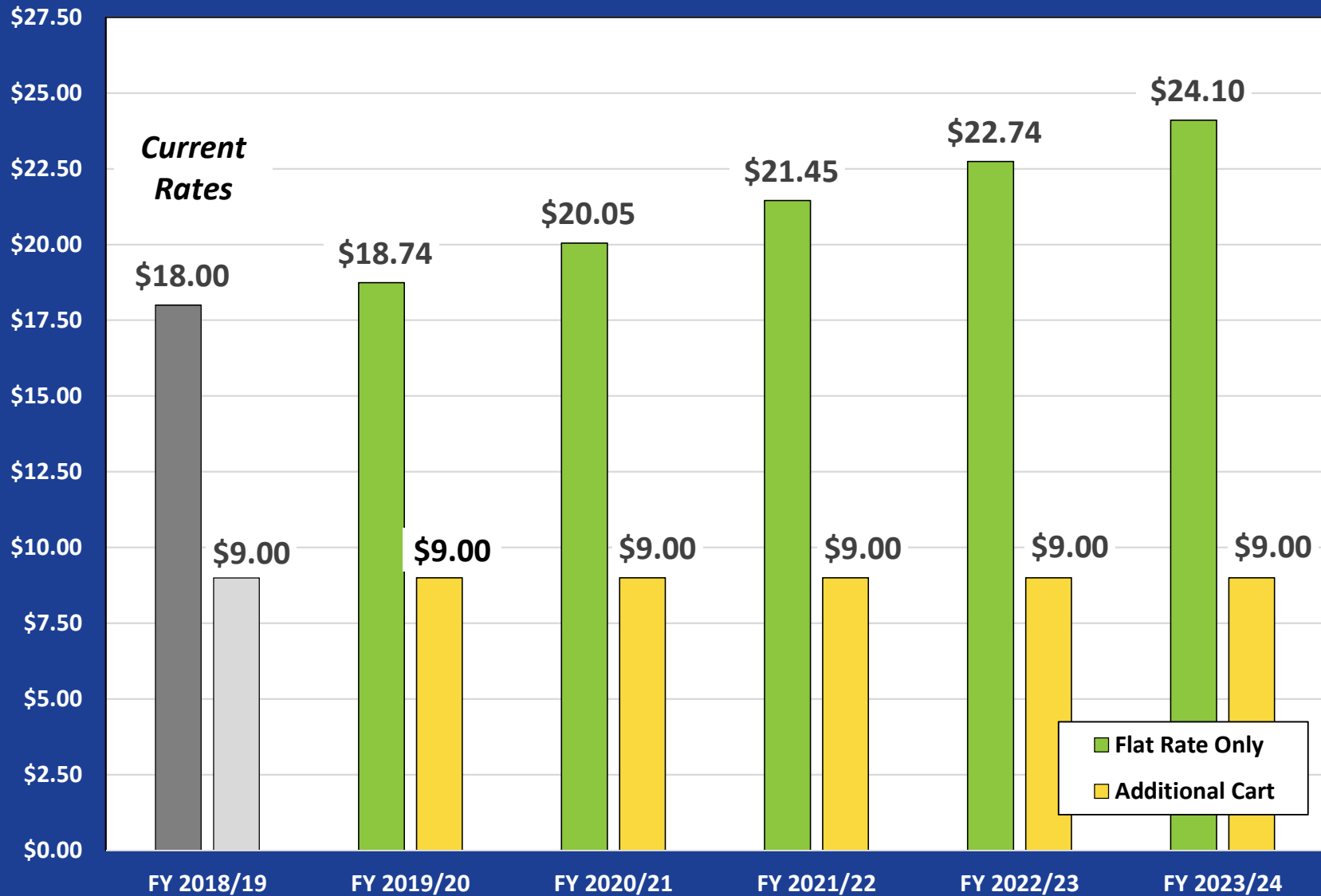
Current vs. Proposed Monthly Solid Waste Fees

Option 1 - One-Time Rate Increase in 2019



Current vs. Proposed Monthly Solid Waste Fees

Option 2 - Eliminates Deficit in 5 years



Monthly Solid Waste Rates for Current vs.
Proposed vs. Alternative Rates in FY 2019/20



Regional Rate Comparisons

(Current & Proposed Rates)

