



## Section 3. Cost-of-Service Study

### METHODOLOGY

A cost-of-service study determines the unit cost of the solid waste, recycling, and organics collection services provided to the City's solid waste customers. Each cart size is charged the same unit cost for its share of the services required. The Total Revenue Requirement is split between the fixed service charges and volumetric charges, with volumetric charges further proportioned into variable and disposal/processing charges. The sizes for solid waste carts in this study are 35 gallons, 65 gallons, and 95 gallons. Carts are typically collected by a side-loader truck.

Solid waste management service levels will be determined as follows:

- Carts** – Because the City does not currently charge for solid waste management services, it does not have accurate data regarding the cart sizes used by its current customers. While the City knows that the vast majority of its customers currently use the 95-gallon solid waste carts, it does not know which customers have been using a smaller cart size for their solid waste services. Furthermore, customer selection of service levels is likely to vary under a system where there are charges based on the size of the cart. As such, for the first rate year (FY 25/26), the City will initially charge all customers at the 95-gallon service level rate. When customers select their service level through the online portal, they will be provided with the cart size that corresponds with their selected service level. Customers that subscribe to a 35- or 65-gallon service level will receive a credit for the difference in the 95-gallon bundled rate and the rate for their selected service level on their FY 26/27 annual bill, for the period of time between when they have received the containers reflective of their selected service level and the end of FY 25/26. If a customer currently has a solid waste cart that is smaller than 95 gallons and would like to receive a 95-gallon cart prior to subscribing to their future service level through the online portal, they will be provided one upon request. Additional carts will be provided upon request, for an additional fee.
- Bundled Service Levels** –Because the City does not currently charge for solid waste, recycling, and organics collection services, the service level information at the time of this study is an estimate based on best available data. The preliminary data indicates that ~1% of customers subscribe to the 35-gallon bundled service, ~10% subscribe to the 65-gallon bundled service, and ~90% subscribe to the 95-gallon bundled service. The City will be confirming and updating service levels during FY 25/26 as customers use of the online portal to indicate their requested service levels and through roll-out of new solid waste and recycling carts. However, it is reasonable to assume that once customers are charged for service, some customers will migrate to the smaller solid waste service levels, to benefit from the lower rate. Because the cost-of-service analysis assumes static service levels over the five-year planning period,





the City assumed that current assumed service levels would remain constant and did not account for customer migration, it would risk under-generating revenue.

Therefore, for rate modeling purposes, HF&H benchmarked the City's preliminary service level distributions to mature municipal residential collection programs within California. The average distribution for these programs was ~5% of customers in the smallest bundled service level, ~33% of customers in the middle bundled service level, and 62% in the largest bundled service level. As a conservative midpoint between the City's data and the benchmarked programs, HF&H assumed customers will migrate to ~2% at the 35-gallon bundled service level, ~16% at the 65-gallon bundled service level, and 82% at the 95-gallon bundled service level. This conservative midpoint reflects an estimated average service level distribution between the service levels over the modeling period and provides some protection for the City as customers reduce service levels during the transition to chargeable service. Using the midpoint, rather than the average distribution from mature collection programs alone, is a conservative approach because it leads to slightly lower rates at all service levels.

3. **Additional Carts.** The City will also be confirming and updating service information for additional carts during FY 25/26. Customers will not be charged for additional carts currently in service as of July 1, 2025. Customers that indicate on the online portal an intention to maintain or begin additional cart service will be charged for the additional cart service for the remainder of FY 25/26 after they confirm they have additional containers or receive new additional containers, with those prorated charges included on the following year's bill. If a customer has additional carts but does not log into or indicate the intention to continue service via the online portal, the additional carts will be removed during the FY 25/26 roll-out of new solid waste and recycling carts. As previously discussed in **Section 2**, the City estimates that most additional carts will either be accounted for by the online portal or removed from customer's addresses approximately 8 months into FY 25/26 and that the General Fund will support the estimated revenue loss from this transition.

## **FY 25/26 COST OF SERVICE**

### ***Key Assumptions/Inputs***

The analysis relied in part on the following key assumptions provided by the City, which were supplemented with data from other sources as noted:

- Residential service level information for first and second carts was provided by the City and is based on revised data from what was used in the previous report.
- The distribution of residential service levels between the various cart sizes is based on a conservative estimate of both the City's preliminary service level data and benchmarked mature municipal residential collection programs. The model assumes ~2% of residents will subscribe to the 35-gallon solid waste cart, ~16% will subscribe to the 65-gallon solid waste cart, and ~82% will subscribe to the 95-gallon solid waste cart.
- Customers are entitled to receive one 95-gallon recycling contain and one 95-gallon organics cart, and these service levels are included in the bundled rate. Additional solid



waste carts may be purchased at any size in rate year 26/27. Additional recycling and organics carts are all 95 gallons. If a customer wants to receive a 35 or 65-gallon recycling or organics cart due to non-solid waste related reason, such as lack of space to store it on the property or difficulties moving the larger carts, they may request a smaller cart, but they will still be charged the bundled rate, which includes 95-gallon recycling and organics carts.

- The EPA's 2016 Volume to Weight Conversion Factor Report was a guide to facilitate standardization of municipal solid waste data collection and included volume-to-weight conversion factors for comparing recovery efforts of divertible material between municipalities, regions, and states. When HF&H compared the City's volume-to-weight factor for collected materials, it noted that the City's factor was notably lower than the EPA report. This indicated to HF&H that the City's carts were not filled to maximum capacity each week and that customers may subscribe to a larger volume of solid waste service than needed for the amount of material generated because there is no charge for service, and therefore no price incentive to choose a smaller, more appropriate cart size.

For rate modeling purposes, HF&H maintained the City's actual pounds per gallon of solid waste, but adjusted the assumed fill capacity for each volume as follows:

- Residential 35-gallon solid waste carts were assumed to be 100% full when collected.
- Residential 65-gallon solid waste carts were assumed to be 90% full when collected.
- Residential 95-gallon solid waste carts were assumed to be 80% full when collected.
- Collection vehicle maximum weight and capacity was provided by City staff and was based on actual data for vehicles from their fleet.
- Route statistics for solid waste, recycling, and organic collection routes were provided by City staff based on actual route information; a calculated average of route statistics was used in the cost-of-service analysis.
- Per ton solid waste, recycling, and organics disposal and processing costs were provided for FY 24/25 and were projected for future years by the City based on an inflation factor or anticipated future increases.
- Annual tonnage of material collected, disposed, or processed was provided by City staff and is based on historical actual information.
- Cart replacement costs by cart size were provided by City staff.
- Expense projections were provided by the City and are assumed to be informed and accurate. HF&H did not independently verify or audit the proposed expenses incorporated into the model. The City reviewed and confirmed all financial data included in the cost-of-service model.



**Figure 3-1** summarizes the allocation factors used to allocate the Total Revenue Requirement (**Figure 2-1**) into each material stream (solid waste, recycling, and organics). HF&H calculated these factors based on average operational or financial information provided by the City or through qualitative factors such as program participation levels over five years.

The model assumes all customers receive a bundled set of three carts, therefore the allocation factors for Accounts and Containers are both estimated at an equal one-third split between material streams. As the City intends to replace all solid waste and recycling carts in FY 25/26, a separate subset of the cart allocation was created to split replacement costs between the solid waste and recycling cart material streams. To capture the transition in recycling service from bi-weekly collection to weekly collection, the allocation factor for lifts assumes a 5-year average of cart lifts with the first two years being every other week for recycling service, and the following three years being once a week service. For costs that are only applicable to a specific material stream, HF&H created allocation factors to direct 100% of the costs to a specific material stream.

**Figure 3-1. Cost-of-Service Allocation Factors**

| Allocation Factors |   | Calculation Methodology | Solid Waste Carts | Recycling Carts | Organic Carts | Total         |
|--------------------|---|-------------------------|-------------------|-----------------|---------------|---------------|
| Accounts           | Total Number of Eligible Accounts                     |                         | 33.3%             | 33.3%           | 33.3%         | <b>100.0%</b> |
| Carts              | Total Number of Carts in Service                      |                         | 33.3%             | 33.3%           | 33.3%         | <b>100.0%</b> |
| Carts (Subset)     | Solid Waste and Recycling Carts Only                  |                         | 50.0%             | 50.0%           | 0.0%          | <b>100.0%</b> |
| Lifts              | 5 Year Average of Annual Instances of Cart Collection |                         | 35.7%             | 28.6%           | 35.7%         | <b>100.0%</b> |
| Solid Waste Only   | N/A   |                         | 100.0%            |                 |               | <b>100.0%</b> |
| Recycling Only     | N/A   |                         |                   | 100.0%          |               | <b>100.0%</b> |
| Organics Only      | N/A   |                         |                   |                 | 100%          | <b>100.0%</b> |

HF&H and City staff reviewed the purpose of each expenditure category and allocated costs between solid waste, recycling, and organics material streams as follows:

- Labor costs, Vehicle costs, and Fuel costs were allocated by Lifts because these are costs that fluctuate directly in relation to the amount of collection service activity required for the number of carts in service.
- Other costs and Overhead costs were allocated by Accounts because these costs remain relatively constant regardless of the amount of collection service activity associated with the service level (e.g., administrative support, professional services, hardware/software, and customer service) and each customer receives a similar level of benefit, or effort, regardless of the number or size of carts they have.
- Cart costs were allocated by Carts because these costs are related to ongoing repair and maintenance of current carts in service.
- Disposal or Processing costs were allocated to each respective material stream directly, as the cost of disposing or processing collected materials are specific to, and vary based on, the material type (and service levels).
- Required reliability adjustments to current services were allocated by either Accounts (for costs that will remain relatively constant regardless of the amount of collection service activity) or by Carts (for costs related to the missed collections program designed to ensure customers are not missed on their collection day).

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- Reserve Building costs were allocated by Lifts to spread the cost of reserve building proportionally to customers based on their overall participation in the collections program.
- SB 1383 Debt for Vehicles and Carts were allocated by Organics Only as these costs are related to funding of vehicles and carts for the organics collection program.
- Replacement costs for solid waste and recycling carts were allocated by Carts (Subset) to properly attribute the costs to the solid waste and recycling material streams and to not allocate any to the organics material stream.
- Operational Efficiency Study recommendations were allocated by either Accounts (for costs that will remain relatively constant regardless of the amount of collection service activity) or Lifts (for costs that fluctuate based on changes to service levels).
- New weekly recycling program costs were allocated by Recycling Only as these costs are specific to the roll-out of the recycling program.
- New bulky item pickup program costs were allocated by Solid Waste Only as these costs are specific to the bulky item program, which will be covered by the solid waste component of the bundled service rate.

Refer to **Attachment C** of this report for a detailed breakdown of the baseline and new program expenditure cost categories and allocation factors described above.

**Figure 3-2** summarizes the Total Revenue Requirement by fiscal year as grouped by cost category (fixed, variable, and disposal costs) and allocation factor. **Figure 3-3** applies the allocation factors in **Figure 3-1** to the FY 25/26 Total Revenue Requirement as shown in **Figure 3-2** and calculates the Total Revenue Requirement by material stream for rate setting purposes.

**Section 4** describes the calculated rate structure to meet the cost-of-service.

**Figure 3-2. Summary of Total Revenue Requirement by Allocation Factors**

| Cost Category                    | Allocation Factor | FY 25/26              | FY 26/27              | FY 27/28              | FY 28/29              | FY 29/30              |
|----------------------------------|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Fixed                            | Carts (Subset)    | \$4,048,580           | \$6,564,631           | \$7,822,657           | \$7,822,657           | \$7,822,657           |
| Fixed                            | Solid Waste Only  | -                     | -                     | 5,019,720             | 5,120,554             | 5,224,464             |
| Fixed                            | Recycling Only    | 688,153               | 616,499               | 1,000,596             | 1,003,852             | 855,984               |
| Fixed                            | Organics Only     | 1,526,887             | 1,526,887             | 1,526,887             | 1,526,887             | 1,526,887             |
| Fixed                            | Accounts          | 21,704,497            | 21,029,693            | 22,213,771            | 22,047,243            | 20,340,803            |
| Fixed                            | Carts             | -                     | -                     | -                     | -                     | -                     |
| Variable                         | Solid Waste Only  | -                     | -                     | 10,655,899            | 10,804,744            | 10,958,368            |
| Variable                         | Recycling Only    | -                     | -                     | 8,702,588             | 8,744,663             | 8,911,726             |
| Variable                         | Organics Only     | 4,931,485             | 4,931,485             | 4,931,485             | 4,931,485             | 4,931,485             |
| Variable                         | Lifts             | 78,562,034            | 73,563,169            | 79,278,084            | 79,811,824            | 81,510,352            |
| Variable                         | Carts             | 1,119,840             | 1,092,165             | 1,125,476             | 1,159,803             | 1,195,177             |
| Disposal                         | Solid Waste Only  | 22,965,741            | 23,769,542            | 24,601,476            | 25,462,528            | 26,353,717            |
| Disposal                         | Recycling Only    | 6,210,000             | 6,427,350             | 6,652,307             | 6,885,138             | 7,126,118             |
| Disposal                         | Organics Only     | 5,942,573             | 6,150,563             | 6,365,833             | 6,588,637             | 6,819,239             |
| <b>Total Revenue Requirement</b> |                   | <b>\$ 147,699,791</b> | <b>\$ 145,671,985</b> | <b>\$ 179,896,781</b> | <b>\$ 181,910,016</b> | <b>\$ 183,576,977</b> |



**Figure 3-3. Calculation of FY 25/26 Total Revenue Requirement by Material Stream**

| Cost Category                    | Allocation Factor | FY 25/26             | Solid Waste Carts   | Recycling Carts     | Organic Carts       |
|----------------------------------|-------------------|----------------------|---------------------|---------------------|---------------------|
| Fixed                            | Carts (Subset)    | \$4,048,580          | \$2,024,290         | \$2,024,290         | -                   |
| Fixed                            | Solid Waste Only  | -                    | -                   | -                   | -                   |
| Fixed                            | Recycling Only    | 688,153              | -                   | 688,153             | -                   |
| Fixed                            | Organics Only     | 1,526,887            | -                   | -                   | 1,526,887           |
| Fixed                            | Accounts          | 21,704,497           | 7,234,832           | 7,234,832           | 7,234,832           |
| Fixed                            | Carts             | -                    | -                   | -                   | -                   |
| Variable                         | Solid Waste Only  | -                    | -                   | -                   | -                   |
| Variable                         | Recycling Only    | -                    | -                   | -                   | -                   |
| Variable                         | Organics Only     | 4,931,485            | -                   | -                   | 4,931,485           |
| Variable                         | Lifts             | 78,562,034           | 28,057,869          | 22,446,296          | 28,057,869          |
| Variable                         | Carts             | 1,119,840            | 373,280             | 373,280             | 373,280             |
| Disposal                         | Solid Waste Only  | 22,965,741           | 22,965,741          | -                   | -                   |
| Disposal                         | Recycling Only    | 6,210,000            | -                   | 6,210,000           | -                   |
| Disposal                         | Organics Only     | 5,942,573            | -                   | -                   | 5,942,573           |
| <b>Total Revenue Requirement</b> |                   | <b>\$147,699,791</b> | <b>\$60,656,013</b> | <b>\$38,976,851</b> | <b>\$48,066,927</b> |