

# Review of Collection Service Options

## Background

R3 is currently under contract with the City of Davis (City) to conduct a Solid Waste Cost of Service & Rate Design Study that includes:

1. A Cost of Service Rate Study; and
2. A review of various collection services and service options, including loose-in-the-street (LITS) yard material pile collection and street sweeping services.

## Cost of Service Rate Study

The objectives of the Cost of Service Rate Study include:

1. Establishing the annual cost (\$/year) for each of the following five (5) lines of business (LOBs), which effectively comprise the City's solid waste management franchise:
  - a. **Residential Collection Services** - solid waste collection, dual stream recyclables collection and processing, organics cart, and LITS yard material pile collection;
  - b. **Commercial Collection Services** - solid waste collection, dual stream recyclables collection and processing, organics cart collection, and loose-in-the-street yard material pile collection;
  - c. **Roll-off services;**
  - d. **Street sweeping;** and
  - e. **Special Collection Services** - residential and commercial extra / special pick-ups etc.
2. Establishing the revenues associated with each of these five LOBs to determine the extent to which the revenues (and rates) support the associated expenses (i.e., identifying any associated revenue surplus or shortfall);<sup>1</sup> and
3. Determining what if any cost of service rate adjustments would be required so that the rates for each LOB are set to cover the cost of service without surplus or shortfall.

The Rate Study will also include projections of:

1. The cost of service for the various components of the residential and commercial collection services (i.e., solid waste collection, recycling collection, organics cart collection, and LITS yard material pile collection); and
2. The projected cost of various service options in support of the City's review of various options to existing services (see Review of Collection Service Options below).

## Review of Collection Service Options

Various Service Options were considered as part of this review. As noted, we are not recommending any changes to current Trash Service or Recycling Service (*the formal draft of the report will include discussion of the options*).

<sup>1</sup> The percentage difference between expenses and the associated net revenues is the rate adjustment necessary to establish cost of service rates (e.g., if revenues for a particular LOB are 10% less than expenses that the rates would need to be increased by 10% to establish cost of service rates, adjusted for any non-rate revenue not subject to rate adjustment). A cost of service rate adjustment has no net impact on total revenues, only the distribution of total revenues among the lines of businesses, and is separate and distinct from any overall rate adjustment necessary to meet annual revenue goals.

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Additionally, we recommend that the City defer consideration of any changes to the existing Street Sweeping Service schedule until after it has decided what, if any, changes to make to the current LITS yard material collection program. Any consideration of changes to the street sweeping schedule should also consider storm water management impacts. The following discussion focuses on the review of options for the City's LITS yard material pile collection service.

## Current Level of Organic Cart Service

Residential accounts currently receive 95-gallons of weekly organic cart capacity as part of the monthly base rate (~ 2.0 yards of monthly organic cart capacity).

## Current Level of LITS Yard Material Pile Collection Service

From mid-December to mid-October (non-leaf season), yard material piles are collected once a month. Beginning the third Monday in October through mid-December (leaf season), yard material piles are collected every week.

## Major LITS Yard Material Pile Collection Options

The following LITS yard material pile collection options were considered:

1. **Keep the LITS Collection Program As Is - Do Not Change**
2. **Eliminate the LITS Collection Program Entirely**
3. **Modify the LITS Collection Program**
  - a. **Eliminate LITS Collection During Non-Leaf Season - Maintain Current Leaf Season Weekly Schedule**
  - b. **Eliminate LITS Collection During Non-Leaf Season - Extend Leaf Season Weekly Collection Schedule**
  - c. **Eliminate LITS Collection During Non-Leaf Season - Biweekly Collection During Leaf Season**
  - d. **Eliminate LITS Collection During Non-Leaf Season - Monthly Collection During Leaf Season**
  - e. **Keep Non-Leaf Season Collection - Extend Leaf-Season Weekly Collection Schedule**
  - f. **Biweekly Collection Year-Round**
  - g. **Monthly Collection Year-Round**
  - h. **On Demand Pile Pickup**
  - i. **Neighborhood-Based Collection Schedule**
  - j. **Opt-In Yard Material Pile Collection**

As part of each of the above options, the City also has options for providing residents with additional/alternative yard material capacity, should it choose to do so, which are discussed below. That discussion is followed by an assessment of the current LITS yard material pile collection program, and an assessment of each of the above options.

## Options for Providing Residents with Alternative Yard Material Capacity

- **Option #1 - Residents Can Purchase an Unlimited Number of Additional 95-Gallon Organic Carts at \$4.98 Per Cart** – For less than \$10 per month, residents can get two (2) additional 95-gallon organic carts.

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That would provide approximately 1.5 cubic yards of weekly organics capacity, and more than 6 cubic yards of monthly organics capacity.<sup>2</sup>

- **Option #2 – Implement a Residential Bulky Item Collection (BIC) Program**<sup>3</sup> - “Free”<sup>4</sup> on-call bulky item collection (BIC) programs have become part of the basic service in many jurisdictions. In addition to bulky items, yard material can also be collected through BIC programs (e.g., Republic Service collects up to 2.0 cubic yards of yard material (12-15 bags), two-times per year through its BIC program in West Contra Costa County), although diversion of yard material collected through a BIC program would be a challenge and require additional cost.

**Note:** The same equipment (rear loaders and claws), and crews that provide residential BIC services in the City of Sacramento provide LITS yard material collection during leaf season.

- **Option #3 – Free Landfill Dump Coupons** - The City can provide residents with “Free Dump” Coupons for delivery of yard material and/or bulky items to the Yolo County Central Landfill.<sup>5</sup>

## Assessment of Current of LITS Yard Material Collection Program

- **Loose in the Street Collection of Yard Material is not a Widespread Practice** - A survey of approximately 60 jurisdictions within the Sacramento – San Francisco Bay Area identified a total of six (6) jurisdictions that offer some level of LITS yard material collection service: Davis, Woodland, Winters, Sacramento, Roseville, and San Jose. The City of Sacramento offers weekly collection only during leaf season, the City of Roseville offers LITS collection “every two weeks or so” only during leaf season, and the City of San Jose offers weekly LITS yard material collection year-round. Davis, Woodland and Winters offer weekly yard material collection during leaf season, and monthly yard material collection the rest of the year.
- **Impact of Residential Organic Cart Program on the LITS Collection Program:**
  - a. **Tons Collected** – Findings based on a review the Organics Collection Program and Yard Material Pile Collection Update presented to the City Council on August 29, 2017, and a detailed analysis of the monthly tonnage data for July 2015-June 2016 (the full year prior to the implementation of the residential organics cart program), and July 2016 through June 2017 (the first full year of the program) include the following:
    - During the first full year of operation of the residential organics cart program the total organic tons collected for composting (yard material and food scraps) increased by 13% (1,342 tons) [Cells H36 & H 37].
    - During that same period, the amount of material collected in LITS yard material piles decreased by 57% (5,645 tons) [Cells C36 & C37].
  - b. **LITS Participation Rates Since the implementation of the Residential Organics Cart Program**

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<sup>2</sup> Three (3) 95-gallon organic carts = 280 gallons per week of capacity (1-cubic yard = ~ 202 gallons)

<sup>3</sup> Approximately half of the approximately 60 jurisdictions included in a survey of cities in the Sacramento – San Francisco Bay Area provide some level of “free” residential bulky item collection, including the cities of Sacramento, West Sacramento, Winters, Folsom, Rancho Cordova, Citrus Heights Galt, Vacaville, and Vallejo.

<sup>4</sup> Part of basic rate – no additional charge.

<sup>5</sup> The Cities of Sacramento, West Sacramento, Vacaville, and Fairfield, all provide their residents with free landfill dump coupons.

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- i. **Monthly Participation Rates During Non-Leaf Season Averaged ~12%** - During the first year of the residential organic cart program on average ~2,000 (12%) of the 16,000 total residential accounts set yard material piles out for LITS collection on a monthly basis. In addition, many of the piles placed on the street for pick-up were small and could have been placed in the organics carts.
  - ii. **Weekly Participation Rates During Leaf Season Averaged ~4% (Monthly Participation = 15%)** - This is based on very limited data and weekly tracking of yard material piles and tonnages during the upcoming leaf season should be conducted.
- **LITS Collection of Yard Material is a Duplicative Service** - With the implementation of the organics cart program, LITS collection is now largely a duplicative service,<sup>6</sup> with duplicative costs.
  - **LITS Collection Costs \$1 Million Annually** - It costs approximately \$1 million per year (10% of total franchised operating costs) to operate the LITS collection program (\$900k residential | \$100 K commercial).
  - **LITS Collection Costs Each Residential Account ~ \$5 per Month** - LITS yard material collection costs every resident ~ \$4.65 per month, or between 12% and 15% of the monthly bill depending on solid waste service level.<sup>7</sup> As such, eliminating this service would have a significant positive rate impact, all other factors the same.<sup>8</sup>
  - **LITS Collection Costs \$20 Per Pickup** - The actual cost to pick-up a yard material pile is estimated to be ~\$20 to \$25 per pickup (the Cost of Service Rate).

## Assessment of Major LITS Yard Material Collection Options

An assessment of the various LITS yard material pile collection options that were considered is provided below. Projected costs for various options are provided below (*the formal draft of the report will include discussion of the options.*)

**Note:** The cost projections and associated rate impacts are specific to residential LITS yard material pile collection, which comprises 90% of overall LITS costs. There would be similar proportional cost impacts to the commercial rates.

Given the Assessment of the Current LITS Yard Material Pile Collection Program discussed above, with particular note that:

- LITS yard material pile collection is a duplicative service to residential organic cart collection, which costs each residential account approximately \$5 per month;
- The relatively low participation rates in the LITS program;
- The finding that many of the LITS piles are small and could be placed in organics carts; and
- The relatively inexpensive cost of additional organic cart capacity.

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<sup>6</sup> i.e., Yard material collected through the LITS program can be placed in the organics carts and collected through that program.

<sup>7</sup> Not including City overhead costs.

<sup>8</sup> Portions of the monthly cost would remain even if the service were eliminated (e.g., DWR and City overhead costs), There would be some offsetting costs related to the handling of the associated tonnages through the residential organic cart system

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**We suggest that the City's goal should be to reduce or eliminate LITS yard material pile collection.** As such, in considering the various options, it may be useful to start by determining if the City wishes to continue any form of regular LITS program during the non-leaf season.

**Note:** *Should the City eliminate LITS collection during non-leaf season, the associated equipment would be idle during much of the year, unless used in another capacity (e.g., on-demand bulky item collection).*

## 1. Keep LITS Program As Is – Do Not Change

### Assessment:

As noted above:

- With the implementation of the organic cart program, LITS collection is a duplicative service that is used by ~12% of residential accounts during each scheduled collection
- The program costs approximately \$1 million annually to operate, and costs each residential account approximately \$5 per month (~15% of the monthly rate)
- It is estimated that the full cost of service rate is ~ **\$20 to \$25 for each pile that is picked up.**

### **No Cost Impact**

## 2. Eliminate LITS Collections Entirely

### Assessment:

After living with a year of limited pile collection service, many residents seem to be rarely (12% average participation rate) using on-street pile collection service, although there are some customers that have indicated that they need the service. This option would provide huge cost savings.

While eliminating the program would require those residents who regularly use the program to alter their management of the yard material they generate, a case can be made that doing so would not place any more undue burden on Davis' residents than those residents in the many jurisdictions that do not provide LITS collection. Particularly given the ability of residents to purchase additional organic cart capacity at a reasonable rate.

**Projected Cost Savings:** \$894,000; 15% residential rate decrease

## 3. Modify Current LITS Program

- **Option A - Eliminate LITS Yard Material Collection During Non-Leaf Season - Maintain Current Leaf Season Weekly Schedule**

Collect yard material piles beginning the third Monday in October through Mid-December Only - Discontinue collection from Mid-December to Mid-October

### Assessment:

This option is estimated to save ~\$470,000 annually (8% of the residential rate), while continuing to provide residents with weekly yard material collection during leaf season.

**Projected Cost Savings:** \$470,000; 8% residential rate decrease

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- **Option 3B - Eliminate LITS Collection During Non-Leaf Season - Extended Leaf Season Weekly Collection 4 Weeks**

Collect yard material piles beginning the third Monday in October through Mid-January Only - Discontinue collection from Mid-January to Mid-October

**Assessment:**

51% of the LITS tonnage collected during the first year of the residential organic cart program was collected during the three-month period (November – January), with January LITS tonnages for the first year of the residential organics cart program more than the December LITS tonnages.

The additional time frame given for pile pick-up would solve most customer complaints that were received within the first year of the organics program regarding: Christmas tree pick-up, late-dropping leaves due to abnormal weather patterns, and the January tree pruning season. However, DWR pile count data does not indicate that all customers utilize the on-street yard piles. Most piles that are collected are small enough to fit in the organics cart.

**Projected Cost Savings:** \$282,000; 5% residential rate decrease

- **Option 3C – Eliminate LITS Collection During Non-Leaf Season - Biweekly Collection During Leaf Season**

**Assessment:** NEW

Maintains leaf season capacity at lower service level and lower cost than current leaf season collection schedule. The downside is that more yard material piles set out for longer periods of time prior to collection unless alternate week pile setout schedule were enforced (Any schedule enforcement would require additional enforcement resources and associated costs). Operation of a biweekly LITS collection program, with half the City collected one week and half the other would provide for operational efficiencies and cost savings.

The City of Roseville provides LITS collection only during leaf season on a biweekly schedule.

**Projected Cost Savings:** \$682,000; 11% residential rate decrease

- **Option 3D – Eliminate LITS Collection During Non-Leaf Season – Monthly Pile Collections During Leaf Season**

**Assessment:** NEW

Maintains leaf season capacity at lowest service level and lowest cost. The downside is that more yard material piles are set out for longer periods of time prior to collection unless set outs restricted to one week per month, like the current non-leaf season schedule, and the setout schedule were enforced. (Any schedule enforcement would require additional enforcement resources and associated costs). The most cost-effective collection operation would be to divide the City into four collection areas (week 1, week 2, week 3, and week 4), with routes sweeping across the City one time over the course of each month.

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**Projected Cost Savings:** \$753,000; 13% residential rate decrease

- **Option 3E – Keep Non-Leaf Season Collection - Extended Leaf Season Weekly Collection Schedule 4 Weeks**

Maintain monthly LITS collection during non-leaf season and extend leaf season through Mid-January rather than ending in Mid-December

**Assessment:**

Same as Option 3B above except this option maintains current monthly collection schedule, resulting in a net overall cost increase versus a cost decrease for Option 3B, which eliminates non-leaf season collection.

**Projected Cost Increase:** \$141,000; 2% residential rate increase

- **Option 3F Biweekly Collection Year-Round**

Yard materials piles would be collected every other week year-round.

**Assessment:**

This option provides an increased service level during non-leaf season and a decreased service level during leaf season. Given the relatively limited participation in LITS program during non-leaf season (~12% of residential accounts), it does not make sense to increase the service level and associated cost during non-leaf season – See Option 3C for leaf season impact. (Any schedule enforcement would require additional enforcement resources and associated costs).

**Projected Cost Increase:** \$329,000; 5% residential rate increase

- **Option 3G – Monthly Collection Year-Round**

Piles are collected only once-per-month year-round.

**Assessment:**

Maintains existing non-leaf season monthly schedule, and reduces collection frequency during leaf season - See Option 3D above for leaf season impact.

**Projected Cost Savings:** \$329,000; 5% residential rate decrease

- **Option 3H – On Demand Pile Pick-Up**

No scheduled pile pick-ups, but all customers are given 3 pile pick-ups per year, which they would schedule directly with DWR, as needed.

**Assessment:**

Estimating the cost of such a program is difficult due to the many unknown variables: how many customers would utilize the service? How many service calls can DWR handle per day? What volume of material might be expected etc.? But given current use of current LITS collection system cost likely to be similar to, if not more than the current projected cost (i.e., \$20 - \$25 for each pile that is picked up).

This option is similar to an On-Call Bulky Waste Collection(BIC) Program that is becoming a common residential service in neighboring jurisdictions (i.e. 2-3 on-call BICs per residential account per year/2-5 cubic

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yards per pickup), except it is focused specifically on yard material. The City may wish to consider operating a residential on-call BIC program, that accepts yard material (with yard material setout requirements (e.g., bagged, 4 ft. limbs tied)). Note: The ability to recover BIC yard material becomes more difficult if not impossible if it is not segregated at point of collection.

**Preliminary Projected Cost Impact:** Similar to current program cost (i.e., \$20 - \$25 for each pile that is picked up). If less people use the service, the cost per pickup will increase.

## ▪ Option 3I – Neighborhood-Based LITS Collection

Various collection schedules would be established based on each neighborhoods' needs. Neighborhoods with large established trees would have a more frequent yard material pile collection service, while newer neighborhoods might not have pile service.

### **Assessment:**

This type of program would be very confusing to convey to customers, very challenging for billing and very difficult to estimate potential cost of service. This may encourage illegal dumping in neighborhoods where it known that one customer has pile service--all the other neighbors could utilize their pile service by placing material in front of the one house.

**Projected Cost Impact:** Similar to current program cost assuming some increased service in some neighborhoods and corresponding decrease in others.

## ▪ Option 3J –Opt-In LITS Collection

Default service is no yard pile collection. Customers can request to opt-in to have weekly yard material pile service.

### **Assessment:**

Most equitable option if LITS is maintained as only the users pay for the service, but monitoring this service, enforcing it, and keeping track of who places piles where would be very challenging. This may encourage illegal dumping in neighborhoods where it is known that one customer has pile service--all the other neighbors could utilize their pile service by placing material in front of the one house.

**Preliminary Projected Cost Impact:** Similar to current program cost (i.e., \$20 - \$25 for each pile that is picked up). If less people use the service, the cost per pickup will increase.