

# Commercial Single-Stream Recycling Pilot Program Business Plan

City of Lawrence Solid Waste Division

December 2017

## Executive Summary

For 2018, the City of Lawrence Solid Waste Division proposes to implement a pilot program for commercial single-stream recycling collection service. The pilot program will provide valuable information on the cost of service, participation interest of the commercial sector, and better understanding of the challenges/issues with this type of collection service.

The timeline of the commercial single-stream recycling pilot program includes approval of business plan by the City Commission in January, communication with businesses in the pilot areas and confirmation of their participation by mid-March, and collection services provided for a fee for eight months, May through December. A couple months before the end of the pilot program, the division will work on a recommendation on whether to continue/expand the service.

Two areas of Lawrence have been selected for the pilot program.

**Pilot Area #1** is located within the Lawrence downtown district and includes 222 commercial accounts, south of 6<sup>th</sup> Street up to North Park Street and east of Vermont Street and west of New Hampshire Street. Pilot Area #1 represents alley collection service with limited space and has a high density of commercial accounts including lots of restaurants and bars.

**Pilot Area #2** is located on the south side of Lawrence and includes 148 commercial accounts, between Louisiana and Iowa Streets and between 23<sup>rd</sup> Street and the city limits. Pilot Area #2 represents a diverse group of businesses including offices, grocery stores, restaurants, retail stores, post office, etc. in a larger spread out collection area.

The pilot program will be structured as a subscription, fee-based collection service on a full cost recovery model. The target for full cost recovery is to achieve 15% participation within each pilot area. In Pilot Area #1, 15% is 33 participants. In Pilot Area #2, 15% is 22 participants. If fewer businesses sign up, the pilot program will be operating at a loss. The division has established a minimum participation rate of 8% from each pilot area to start this collection service.

To sign up, participants from both pilot areas will pay a startup fee of \$115 which includes one 95-gallon locking lid cart, delivery of cart, participant training with Recycling Specialist, and outreach/educational material. Additional carts will be available for \$76 each. Collection service for the Pilot Area #1, one 95-gallon recycling cart serviced six days per week, is \$131.56 per month. Collection service for the Pilot Area #2, one 95-gallon recycling cart serviced two days per week, is \$43.85 per month.

## Introduction and Background

To continue to achieve the goals for waste reduction and diversion, the City of Lawrence Solid Waste Division plans to expand the current commercial recycling services to include a pilot program for commercial single-stream recycling collection in 2018. The current commercial recycling collection services provided by the City are corrugated cardboard recycling and office paper recycling. Businesses also take advantage of the city-provided drop-off recycling bins throughout Lawrence for cardboard, mixed paper, newspaper, and glass.

The community was engaged in a comprehensive look at solid waste management services in Lawrence, through the Solid Waste Task Force (SWTF). The final report was presented to the City Commission on February 28, 2012. The report focuses on providing strategic direction to manage the waste stream to place increasing emphasis on waste diversion over time. The SWTF recommended **the goal of 50 percent recycling rate by volume in 2020**. To achieve this goal the SWTF recommended implementing a city-wide, single-stream residential curbside recycling program, if fiscally prudent and sustainable. The SWTF did not have adequate time to analyze significant changes for commercial solid waste services. However, the task force expected staff and policy-makers to consider enhancements to these services toward the goals of source reduction, increased solid waste diversion, and rate equity as new opportunities for more automated collections, recycling, organic collections, and other services arise through the implementation of improvements to residential services.

For the past three years, the Solid Waste Division has been collecting single-stream recycling from residential customers in single-family and multi-family dwellings, including apartments. At the time of implementation of the residential single-stream recycling program, the City and Hamm signed a 7-year contract agreement with option for two 3-year renewals for the recyclable materials processing and marketing services. The Hamm Material Recovery Facility (MRF) is located at 26195 Linwood Road. This facility has the capacity to accept additional single-stream recycling material from the City's commercial customers. For 2018, Hamm has agreed to accept the commercial single-stream recycling from the pilot program under the same guidelines/requirements as the residential single-stream recycling (same \$ per ton, rebate, etc.).

The Solid Waste Division has the resources to implement the proposed small-scale commercial single-stream recycling pilot program in 2018. This pilot program will provide the City valuable information including interest level / participation for this type of fee-based recycling collection service. It will also give the City and participants an opportunity to work through identified challenges (space constraints, site plan requirements, and contamination issues).

If the commercial single-stream recycling pilot program is successful, the City may consider expanding this collection service in 2019. There may be adjustments to collection service fees and program details (type of containers, recyclable materials accepted, etc.).

## Pilot Program Description

The pilot program will provide single-stream recycling collection service to businesses in two selected pilot areas. It will be structured as a subscription, fee-based collection service on a full cost recovery model. It will not be set up as mandatory participation by all businesses within the pilot areas. Businesses that do sign up to participate will pay a service fee that includes all costs associated with the single-stream collection service.

Collection containers: 95-gallon blue recycling carts with locking yellow lids will be the only type of collection container offered during the pilot program. The cart lid will include an embedded label with a list of the recyclable materials accepted. These carts will be purchased from Rehrig Pacific Co. under the current City-Rehrig contract agreement.

Collection equipment: An existing fleet vehicle, a small packer rear load truck, will be used for the commercial single-stream recycling collection service. The City is not purchasing any new equipment for the pilot program. The truck will be run as a one-person collection crew, one Operator I with no Loaders, for a portion of each collection day.

Frequency of service: In Pilot Area #1, recycling carts will be serviced 6 days a week, Monday through Saturday, which is the regular collection schedule for the downtown area. In Pilot Area #2, recycling carts will be serviced twice a week.

Processing of recyclable materials: The single-stream recycling collected will be transported to the Hamm Material Recovery Facility (MRF). Hamm will sort, process, and market the recyclable materials under the current City-Hamm contract agreement. During the pilot program in 2018, Hamm will charge \$48.24 per ton of single-stream recycling the City collects from businesses. This is the same fee for the residential single-stream recycling. Hamm has only committed to the same rate structure for the initial pilot period, as an opportunity to evaluate the volume and composition differences.

Recyclable materials accepted: Glass food and beverage containers, mixed paper including magazines, junk mail, and chipboard, milk and juice cartons, newsprint, office paper, small cardboard boxes, plastic bottles, tubs, and jars, plastic deli clamshells, and tin, steel and aluminum food and beverage containers. Businesses will be encouraged to continue recycling corrugated cardboard through the existing collection dumpster service.

Guidelines for accepted recyclable materials: All recyclable containers must be rinsed off with no food residue. Paper must be dry and not soiled with grease or food residue.

Materials not accepted: No plastic bags and wrap (includes food wrap and bags, and bubble wrap and soda rings), no Styrofoam (includes packing peanuts and blocks, and to-go clamshells, cups, plates), no receipts, no items under 3 inches (includes bottle caps and lids, straws, paperclips, nails), no prohibited glass (includes Pyrex and cooking dishes, glass and ceramic serveware, and window and mirror glass), no rope-like items, no hazardous waste (includes aerosols, paint cans, batteries, and light bulbs, and no electronics (includes cables, chargers, televisions, computers, cell phones, and appliances).

Training for participants: A Waste Reduction and Recycling Specialist with the Solid Waste Division will coordinate a brief single-stream recycling training with each participating business as well as leave educational handbook(s) and large poster(s) to be shared with all their employees. The Specialist will also be available for questions throughout their participation in the pilot program. Education is a fundamental part of the success of this pilot program.

## **Pilot Area Proposal**

Two areas of Lawrence have been selected for the pilot program.

Pilot Area #1 is located within the Lawrence downtown district and includes 222 commercial accounts, highlighted yellow area on the map (see attached map), south of 6<sup>th</sup> Street up to North Park Street and east of Vermont Street and west of New Hampshire Street. Pilot Area #1 is unique. It represents alley collection service with limited space and has a high density of commercial accounts including lots of restaurants and bars. Collection service would take place within the two major alleys of the downtown district: the alley between Vermont and Massachusetts Streets and the alley between New Hampshire and Massachusetts Streets. NOTE: the highlighted pink area on the map represents 58 commercial accounts and has been noted as an "extended" area. Only if 15% participation in the yellow area cannot be met, the businesses in the nearby pink area will be contacted for participation in the pilot program.

Pilot Area #2 is located on the south side of Lawrence and includes 148 commercial accounts, highlighted yellow area on the map (see attached map), between Louisiana and Iowa Streets and between 23<sup>rd</sup> Street and the city limits. The majority of the commercial accounts within this area are along the south side of 23<sup>rd</sup> Street and along the east side of Iowa Street. Pilot Area #2 represents a diverse group of businesses including offices, grocery stores, restaurants, retail stores, post office, etc. in a larger spread out collection area.

## **Market Analysis**

All businesses (all types and sizes / big or small) within the two Pilot Areas will be invited to participate in the commercial single-stream recycling pilot program. The division assumption is that 15% of commercial accounts within each pilot area will sign up to participate. In Pilot Area #1 with 222 commercial accounts, 15% would be 33 participants. In Pilot Area #2 with 148 commercial accounts, 15% would be 22 participants. Between the two areas, the total number of participants would be 55 businesses.

Staff considered cost impact of participation rates at 10, 15, and 20 percent.

While the City has received feedback from businesses interested in single-stream recycling, the proposed pilot program will be a subscription, fee-based collection service on a full cost recovery model. The cost for this collection service may keep some businesses from signing up. Many businesses are currently recycling through volunteers/staff who are dropping off materials at different recycling outlets in Lawrence. Also, there is one commercial single-stream recycling collection service provider in Lawrence (Community Living Opportunities – CLO). Most larger businesses, including grocery stores, who have larger amounts of recyclable materials are working directly with recycling brokers to sell their cardboard and other recyclable materials.

## **Marketing Strategy**

The division's marketing strategy and goal is to sign up at least 15% of commercial accounts within each pilot area for eight months in 2018, May through December. This is a total of 55 businesses. 15% participation will keep the pilot program from operating at a loss. Working closely with 55 businesses throughout this commercial single-stream recycling pilot program will provide valuable information for possible expansion of the program at the end of the pilot period.

To achieve the marketing strategy and goal, the Solid Waste Division will develop a marketing plan that reaches out to all commercial accounts in the two pilot areas. The marketing plan will include direct mail (letter and postcard) to businesses in pilot areas, news release, website page, and social media.

Businesses have shared feedback with the City stating they would like a recognition program for participating in the commercial single-stream recycling pilot program. Ideas to be considered during implementation include creating decals for store fronts, posting photos of business recycling participants on social media (Facebook and Twitter), and providing a list of participating businesses on website page and flyers. This may help in securing the participation needed for a successful pilot program, 15% of commercial accounts within each pilot area.

## **Operational Plan**

With City Commission approval in January 2018 of the commercial single-stream recycling pilot program business plan, the Solid Waste Division will begin reaching out to businesses within the two pilot areas. Businesses must confirm their participation by mid-March which is when the division will place the recycling cart order. Collection services will begin in May 2018 and the pilot will continue through the end of the year, providing the City 8 months of data. Businesses who participate will receive written guidelines for the pilot program as well as an explanation that the collection service fees may need to be adjusted. The division assumption is that 15% of commercial accounts within each pilot area will sign up to participate. If fewer businesses sign up, the pilot program will be operating at a loss. The division has established a minimum participation rate of 8% from each pilot area to start this collection service. If 8% participation cannot be met, the pilot program will not be implemented in 2018.

Commercial single-stream recycling from the participants of the pilot program will be collected by a one-person crew with a small packer truck. Single-stream recyclable materials will be collected in 95-gallon carts with locking lids. For Pilot Area #1 (downtown), service frequency will be daily Monday through Saturday. For Pilot Area #2 (outer), service frequency will be twice a week.

The division is not purchasing a new collection truck. A current fleet vehicle (e.g. small packer truck) will be used to collect single-stream from participating businesses within the Pilot Areas. There is a total of three small packer trucks in the division's fleet: one for trash, one for yard waste, and one for recycling (used for residential single-stream recycling and then emptied to be used to collect business office paper for recycling). These trucks each run partial routes daily (not 8-hour routes), so the trucks serve as backup for each other if one or two are in for maintenance.

The division will not be hiring additional staff for the 2018 commercial single-stream recycling pilot program. Existing staff (e.g. Solid Waste Operator I) will be assigned to run the collection service for commercial single-stream recycling. This will be a one-person operation; only one staff will be assigned to this truck route. At least six Solid Waste Operator I's will be cross-trained on the commercial single-stream recycling collection service. If the Operator I assigned to this truck route is off work on a day, there will be trained drivers to substitute, preventing interruption to the collection service. In addition, an existing staff (e.g. Waste Reduction and Recycling Specialist) will be assigned to provide training to pilot participants as well as answer any questions. The outreach/educational material including a handbook, flyer, and poster will be designed internally by existing staff to keep costs down.

Recycling carts will be purchased for the commercial single-stream recycling pilot program. The cart size available will be 95-gallon (other cart sizes not available). These single-stream recycling carts will be blue with yellow locking lids and an in-mold label (IML) on the lid that communicates the list of permitted recyclable materials. Single-stream recycling dumpsters will not be available for this initial pilot program, but may be considered throughout the pilot and if the program expands in 2019.

## Budget / Financials

The Solid Waste Division utilizes an Enterprise Fund account for its operations. These solid waste services are financed and operated in a manner similar to private business enterprises. The intent of the governing body is that the costs of providing services (collection, disposal, recycling, and technical assistance) to the general public is financed or recovered primarily through user fees.

### Revenue (with 15% participation rate from each of the two Pilot Areas):

Startup fee per participant with one 95-gallon cart	Amount
Participant startup fee: includes one locking lid 95-gallon cart, delivery of cart, participant training with Recycling Specialist, and outreach/educational material. Additional carts available, \$76 each.	\$115
<b>Total startup x 55 participants</b>	<b>\$6,325</b>

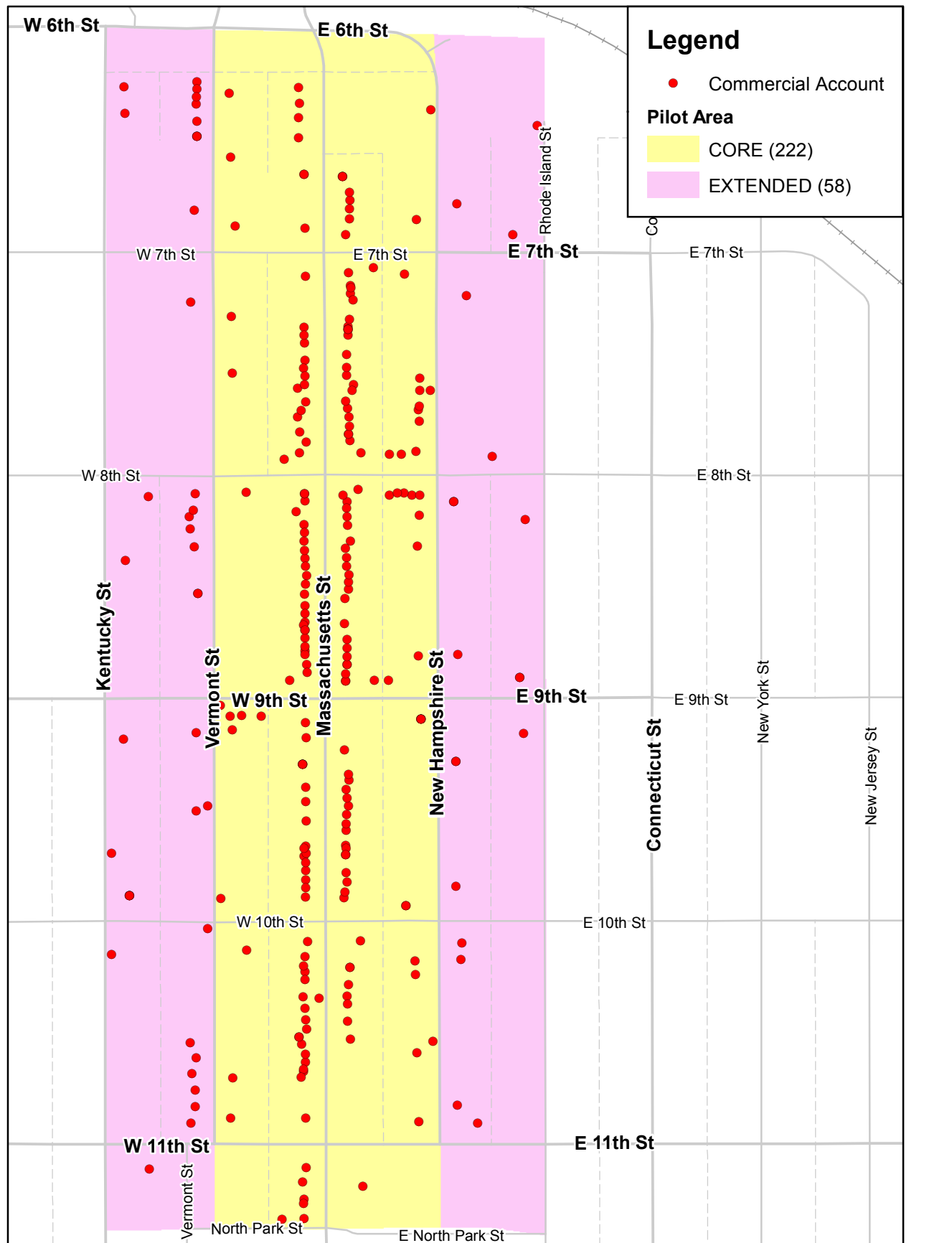
Collection service fees, one 95-gallon cart per participant	Amount
33 Participants monthly fee from Pilot Area #1, \$131.56	\$4,341
22 Participants monthly fee from Pilot Area #2, \$43.85	\$965
Total monthly fee from both Pilot Areas	\$5,306
<b>Total for 8 months (May - December) from both Pilot Areas</b>	<b>\$42,448</b>

### Expenses (with 15% participation rate from each of the two Pilot Areas):

Start up expenses - 95-gallon carts and labor	Amount
112, 95-gallon carts (\$76 each): includes locking lid, in-mold label on lid, and freight charges. Note: minimum order requirement, 112.	\$8,512
Labor for delivery of cart and participant training (\$39/hour x 55)	\$2,145
<b>Total for 112 cart order and startup labor costs</b>	<b>\$10,657</b>
(The difference between startup expenses over revenue is \$4,332 which is equivalent to 57 carts. Ordering extra carts allows participating businesses to request additional carts, as needed. If businesses request an extra cart, this will increase their startup fee and monthly collection service fees.)	

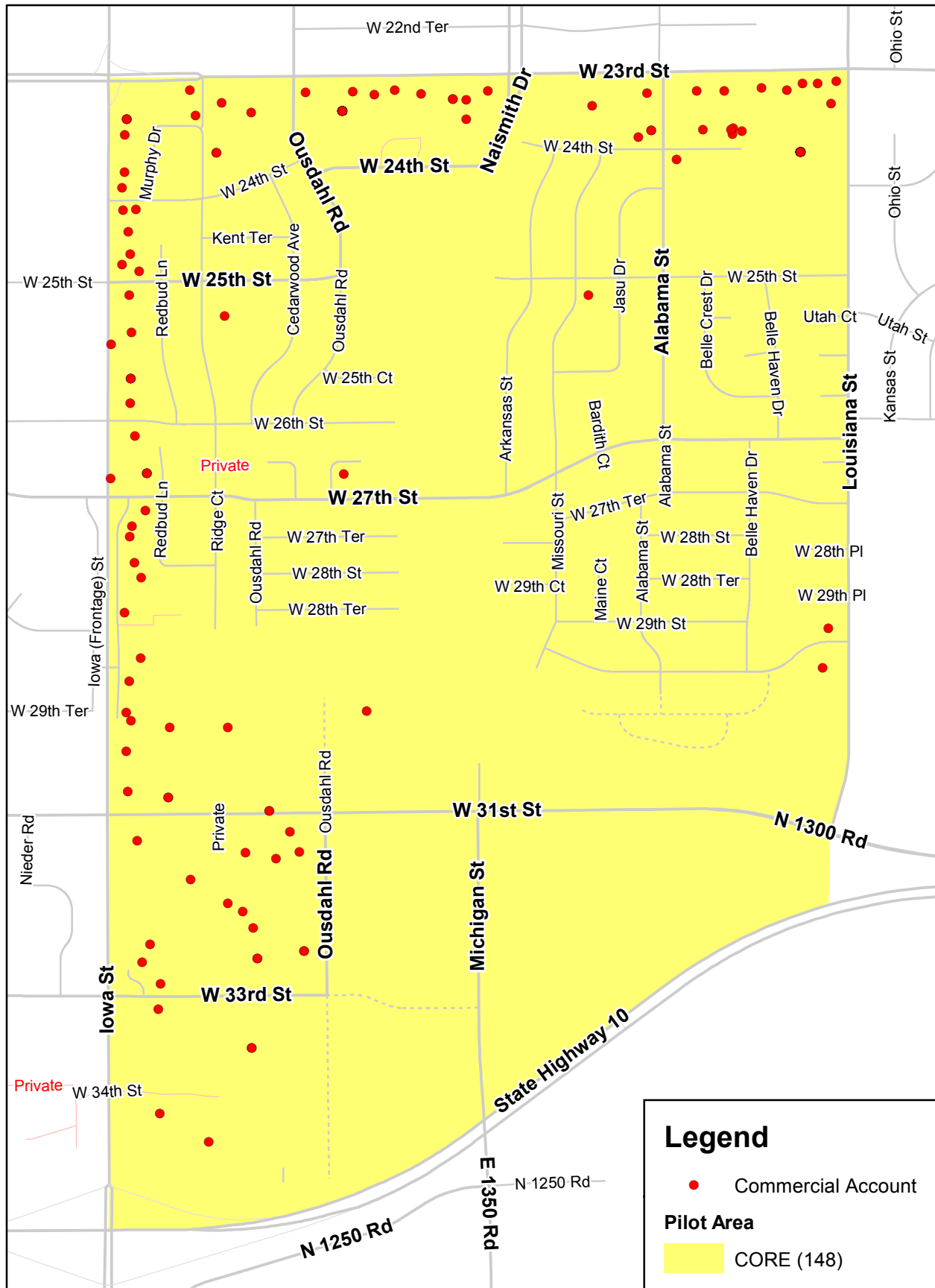
Collection costs	Amount
Monthly collection costs: includes labor (hourly rate and benefits), cost per hour for operation of truck (fuel, maintenance/service, depreciation schedule), MRF tip fee for single-stream recycling, and 20% administrative cost (billing and customer service).	\$5,306
<b>Total for 8 months (May - December) from both Pilot Areas</b>	<b>\$42,448</b>

# Commercial Recycling Collection - Pilot Area 1



0 0.125 0.25 0.5 Miles

# Commercial Recycling Collection - Pilot Area 2



0 0.25 0.5 1 Miles



**City of Lawrence Solid Waste Division - PILOT PROGRAM commercial single-stream recycling**  
**Assumption: 15% participation from each pilot area / total businesses 55**

Labor for collection: Operator I  
Mid-point of hourly rate range: \$21.5559  
Multiply wages by 0.1714 for 2018 rates for unemployment, KPERS, Social Security, Medicare  
Flat rate for 2018 employer provided life insurance is \$18.20 per position.  
Flat rate for 2018 healthcare is \$10,482 per position.  
26 pay periods x 80 hours per pay period = 2,080 hours per year  
Regular:  $\$21.5559 + \$21.5559 \times 0.1714 + \$18.20 / 2,080 + \$10,482 / 2,080 = \$30.2988$  per hour  
Overtime:  $\$21.5559 \times 1.5 = \$32.3339 \times 0.1714 = \$5.5420 + \$32.3339 = \$37.8759$  per hour

Small packer truck (average of 3 trucks) - fuel maintenance/service, depreciation schedule  
Per hour cost: \$17.94

Labor + Truck: Monday - Friday =  $\$30.30 + \$17.94 = \$48.24$  (FYI - FEMA for 25cy truck = \$48.50)  
Labor + Truck: Saturday =  $\$37.88 + \$17.94 = \$55.82$

Pilot Area #1 (downtown) (Mon-Fri) =  $1.75 \text{ hours} \times 5 \text{ days} = 8.75 \text{ hours} \times \$48.24 = \$422.10$   
Pilot Area #1 (downtown) (Sat) =  $1.75 \text{ hours} \times 1 \text{ day} = 1.75 \text{ hours} \times \$55.82 = \$97.69$   
Pilot Area #2 (outer) =  $1.75 \text{ hours} \times 2 \text{ days} = 3.5 \text{ hours} \times \$48.24 = \$168.84$   
 $\$422.10 + \$97.69 + \$168.84 = \$688.63$  per week

2 hours per week for MRF drop off =  $2 \text{ hours} \times \$48.24 = \$96.48$   
 $\$688.63 + \$96.48 = \$785.11$  per week

MRF costs = \$47.08 per ton (includes 3% increase from 2017)  
5 tons x \$47.08 = \$235.40  
 $\$785.11 + \$235.40 = \$1,020.51$  per week

20% administrative cost =  $0.2 \times \$1,020.51 = \$204.10$   
 $\$1,020.51 + \$204.10 = \$1,224.61$  per week

Assumptions:  
Pilot Area #1 (downtown) = 222 businesses (33 to participate; 15%)  
 $33 \times 1 \text{ cart} = 33 \text{ carts} \times 6 \text{ days} = 198 \text{ cart tips per week}$   
Pilot Area #2 (outer) = 148 businesses (22 to participate; 15%)  
 $22 \times 1 \text{ cart} = 22 \text{ carts} \times 2 \text{ days} = 44 \text{ cart tips per week}$   
 $198 + 44 = 242 \text{ cart tips per week}$   
 $\$1,224.61 / 242 \text{ tips} = \$5.06$  per cart tip  
  
Pilot Area #1 (downtown) =  $\$5.06 \times 6 = \$30.36$  per week  
\$131.56 per month  
Pilot Area #2 (outer) =  $\$5.06 \times 2 = \$10.12$  per week  
\$43.85 per month  
Additional cart(s) =  $\$5.06 / 2 = \$2.53$  (Pilot Area #1  $\$2.53 \times 6 = \$15.18$  per week)  
Additional cart(s) =  $\$5.06 / 2 = \$2.53$  (Pilot Area #2  $\$2.53 \times 2 = \$5.06$  per week)

## Commercial Single-Stream Recycling: subscription-based, cost-recovery model

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- Commercial solid waste services are based on volume, frequency, and type of collection.
- In the downtown area, solid waste services are based on square footage and type of use (i.e., restaurants are higher generators than retail), using shared containers that are collected six days per week, due to space constraints.
- The commercial single-stream recycling pilot program was designed as a subscription-based, cost-recovery model.
- Cost-recovery is mandatory for the program to be sustainable over time.
- The intent is to achieve equity where the business requesting the service is paying for the service. Fees are directly related to the cost of providing the service.
- The separate collection of recyclables results in increased costs (separate collection vehicle, labor, mileage, different tipping fee).
- The pilot program proposal submitted assigns costs to those requesting services. It does not shift costs to all commercial businesses or residential customers.
- Commercial services are highly variable in the type and volume of materials generated.
- Commercial establishments will make value-based decisions on whether they wish to participate in single-stream recycling, which may require paying staff time to separate materials for placement in the recycling container(s).
- When residential single-stream was established, all program costs were added to the residential rates (not spread between residential, commercial, and industrial customers).
- Higher levels of participation than projected may result in future reductions to the rate model costs, as collections reach certain economies of scale.
- Staff is sensitive to the idea that once a service is started, customers will become reliant on those services and will expect services to continue at a predictable cost (i.e., it is difficult to increase rates dramatically for future services, if base assumptions are incorrect.)
- Staff has received some feedback suggesting the rate structure should spread the cost of commercial single-stream recycling over all businesses, or between both commercial and residential customers. Commercial single-stream recycling programs have always been envisioned as a subscription-based, cost-recovery model. The proposal submitted is consistent with what staff understood to be policy and management direction.
- Future expansion of commercial single-stream recycling programs may have higher start-up costs or become more complex. For example, if a business desired a single-stream dumpster-style container, the business may be required to amend their site-plan and construct additional enclosures to meet site-planning requirements.
- For commercial establishments outside the downtown area, if they start participating in recycling and are able to decrease their trash service level (switching to a smaller dumpster, or decreasing the number of pickups per week) with less being thrown away, the trash collection service component of their monthly bill may decrease which could help pay for their participation in the single-stream recycling program.