

# MODERNIZATION OF SOLID WASTE COLLECTION SERVICE



Meeting mobility and environmental needs



# Solid Waste Collection Modernization

- The report entitled “Solid Waste Collection Modernization” is recommended as receive and file by Common Council.
- City Staff will return to council to seek the appropriate approvals
  - The Pilot Project
  - Prior to full implementation
  - Any major milestones

# HOW WE ARRIVED HERE

## Equipment Replacement

- 4 packers scheduled for replacement
  - Complete with Helping Hand
- Council approval
  - November 2018
  - May 2019

## Cart Selection

- Staff reviewed available cart sizes
  - 120, 180, 240 and 360 litres

## Natural Progression

- Curb side recycling
- Bag limits and tags

# EXISTING SOLID WASTE VOLUMES

- Bag Count Average
  - Bi-weekly Routes = 3.71 bags/stop
  - Weekly = 2.64 bags/stop
- Tipping Fees
  - \$1.3 million annually



# EXISTING CHALLENGES

## Manual Collection

- Waste Collection Industry is 3X Provincial Frequency of injuries
- Recommended = 3.6 ton/day
- Excessive Daily Tonnage (over 5 ton/day on average)
- Resource Reallocation Limits

## Regional Landfill

- Blue Bin Usage – 3,900 ton/year (est. only 15-20% Citizen Participation)
- 11,000 ton of Solid Waste / Year
- 2,350 ton of Compost / Year



# SOLID WASTE COLLECTION – NEW MODEL

- “Helping Hand” Automated Collection System



- Cart Collection System
  - 1 x 180L (48 Gal) Refuse Cart per Household



- Excess Refuse
  - “Bag Tag” System – User Pay - \$2/Bag
  - Local Community Distribution System



# SOLID WASTE COLLECTION – NEW MODEL

- Curb Side Recycling
  - 2 x 80L (21 Gal) Recycling Totes / Household
    - Two Stream Recycling - Paper/Cardboard & Plastic/Metal
  - Regular Scheduled Curb-Side Pick-Up (TBD)
  - No Charge to Citizens
  - No Tipping Fees



# IMPLEMENTATION

## Phase #1 Details

- Equipment Arrival (Fall 2019)
- Carts & Totes Acquisition & Distribution
- Pilot
  - 1000 Households – Commencing Early 2020
  - Public Engagement – Community Education
- Data Collection (2-3 Months)
  
- Results of the Pilot will be communicated to Council prior to moving forward with full implementation



# FINANCIAL CONSIDERATIONS

## Phase #1 Costs (1000 Households)

- Carts (180L) = approx. \$50/cart = \$50,000
- Recycle Totes (22 Gal) = \$7.50/tote x 2 = \$15,000
- Recycle Tote Lids = \$3.75/lid x 1000 Households = \$3,750
  - Recommended by FRSC to invest in 1 lid / Household
- Cost of “Helping Hand” Mechanism = \$62K/Truck = \$124K
  - Additional expense for unbudgeted add-on
- Phase #1 - estimated total investment = \$192,750

# FINANCIAL CONSIDERATIONS

## Full Implementation Costs (23,163 Households)

- Carts (180L) = approx. \$50/cart = \$1.16M
- Recycle Totes (22 Gal) = \$7.50/tote x 2 = \$347K
- Recycle Tote Lids = \$3.75/lid x 23,163 Households = \$87K
  - Recommended by FRSC to invest in 1 lid / Household
- Cost of “Helping Hand” Mechanism = \$62K/Truck = \$620K
  - Additional expense for unbudgeted add-on/retrofit
- Full Implementation - estimated total investment = \$2.2M
- Staff will be seeking Councils approval to move from the pilot to full implementation

# FINANCIAL CONSIDERATIONS

## Bag Tag Revenue (23,163 Households)

- Estimated 1 Tag/month/household would be required, initially
- Cost to the Citizen per Bag Tag = \$2
- Total Estimated Bag Tag Revenue/Year = \$556,000
  - Revenue may reduce over time as more citizens partake in waste diversion

# FINANCIAL CONSIDERATIONS

## Reduction in Tipping Fees

- Current Diversion Rate = 21%
- Diversion Target = 50%
  
- Newly Diverted Solid Waste = 29%
  - 25% Recycling (\$108/ton)
  - 4% Compost (\$28/ton)
  
- Total Estimated Reduction in Tipping Fees/Year = \$354,320



# SPECIAL CONSIDERATIONS

## High Density Urban Neighborhoods

- South Central Peninsula / Old North / Lower West
- On-Street Parking
- Off-Street Storage Space (Carts & Totes)
- Multi residential units
  
- Staff to Determine Best Practices and Adjust Model Accordingly

# SUMMARY OF ANNUAL COSTS, SAVINGS, & REVENUES

## Summary of Annual Costs, Savings, & Revenues

### Replacement Cost (Addition to Budget)

	Total Units	Estimated %	Cost	Total
Solid Waste Collection Cart - 180L (48 Gal)- On-Hand Supply	23,163	10%	\$50.00	\$115,815
Curb-Side Recycling Tote - 83L (22 Gal) (2 per Household)	46,326	10%	\$7.50	\$34,745
Curb-Side Recycling Tote Cover (1 per Household)	23,163	10%	\$3.75	\$8,686

<b>Total Estimated Costs/Year:</b>	<b>\$159,246</b>
------------------------------------	------------------

### Budget Savings

#### Estimated increase in existing diversion (29% change)

25% Solid Waste Reduction (\$108/Tonne)	-\$369,654
4% Compost Increase (\$28/tonne)	\$15,334
Recycling (No Charge)	\$0

<b>Total Estimated Savings/Year:</b>	<b>-\$354,320</b>
--------------------------------------	-------------------

<b>Total Annual Costs (surplus)</b>	<b>-\$195,074</b>
-------------------------------------	-------------------

### Estimated Revenue

	Total Units	Estimated Bags /Month / Household	Charge/Bag	Estimated Revenue
Bag Tags	23,163	1	\$2.00	\$555,912

<b>Total Annual Savings + Estimated Revenue:</b>	<b>\$750,986</b>
--	------------------



# QUESTIONS?

