

City of Cornwall

# Landfill Full Cost Accounting Analysis Financial Sustainability Report

Council Presentation

January 13<sup>th</sup> 2020



DFA Infrastructure International Inc.

# What is the Purpose of this Presentation?



- Review the City's Waste Management System
- Present Current and Future Costs
- Present findings and recommendations
- Address any comments and questions that you may have





# City's Waste Management System



## Waste Diversion

**Blue Box Collection & Processing**

**Household Hazardous Waste (HHW)**

**Leaf & Yard Waste Collection**

**Wood Waste**

**Other (electronics, mattresses, etc.)**

## Waste Disposal

**Waste Collection**

**Landfill Disposal Operation**

**Landfill Monitoring**

**Leachate & Gas Management**

**Security**

# Current Costs(2019)

Account Description	Waste Diversion		Waste Disposal		Total (\$)
	\$	%	\$	%	
Gross Operating Cost	\$2,861,689	55%	\$2,331,764	45%	\$5,193,452
Capital Related Cost	\$10,000	3%	\$290,000	97%	\$300,000
Gross Annual Cost	\$2,871,689	52%	\$2,621,764	48%	<b>\$5,493,452</b>
Annual Revenue	(\$1,161,873)	42%	(\$1,626,150)	58%	<b>(\$2,788,023)</b>
Net Operating Cost	\$1,709,816	63%	\$995,614	37%	<b>\$2,705,429</b>



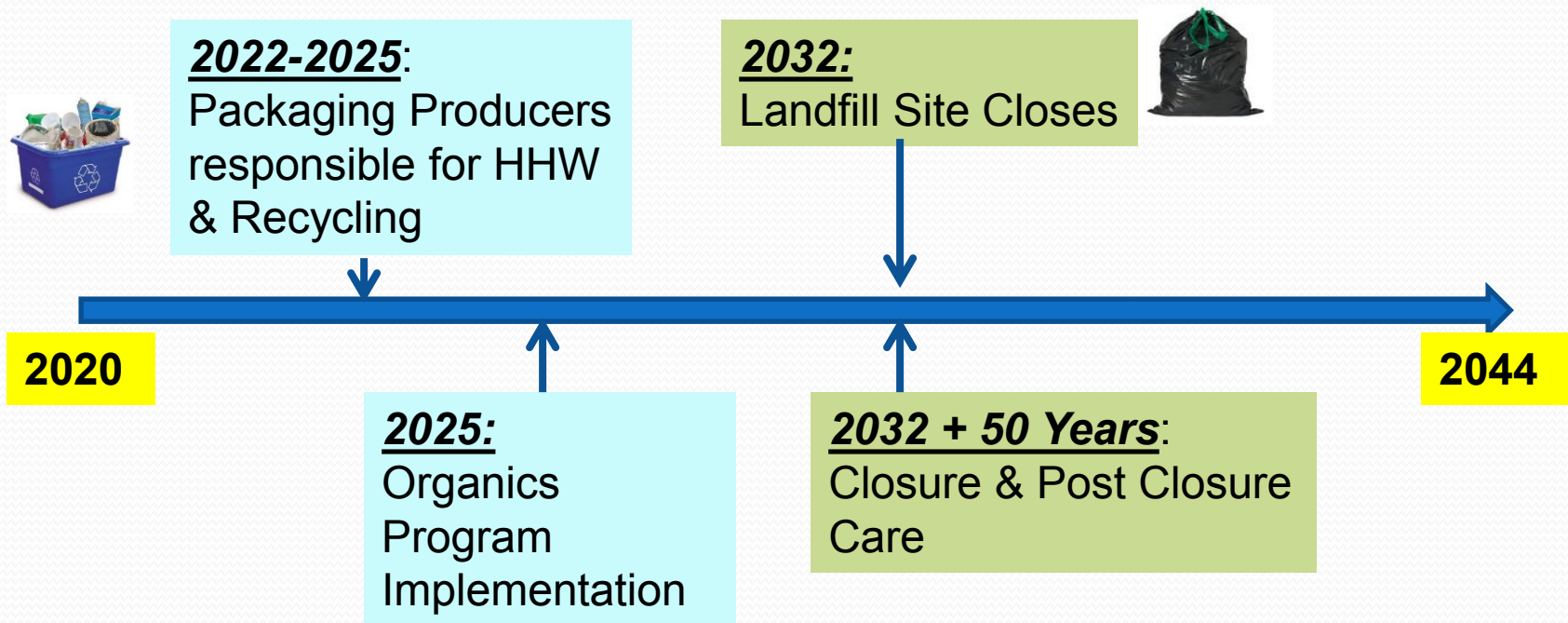
# Contract Costs (2019)



Contract	Waste Diversion	
	\$	%
<b><i>Waste Diversion</i></b>		
Household Hazardous Waste	\$67,980	2%
Blue Box Program	\$2,152,320	48%
Leaf Diversion Program	\$214,600	5%
Wood Waste Diversion Program	\$21,000	0.5%
<b>Total Diversion Contracts</b>	<b>\$2,455,900</b>	<b>55%</b>
<b><i>Waste Disposal</i></b>		
Landfill Site Monitoring	\$102,146	2%
Landfill Security	\$69,656	2%
Landfill Maintenance	\$32,400	1%
Gas / Leachate Collection Old Site	\$136,680	3%
Solid Waste Disposal	\$737,378	17%
Curbside Collection	\$921,834	21%
<b>Total Disposal Contracts</b>	<b>\$2,000,094</b>	<b>45%</b>
<b>Total Contracts</b>	<b>4,455,994</b>	<b>100%</b>

**81% of  
Annual Cost**

# Future Changes (2020-2044)



## ASSUMPTIONS:

- City will continue to be responsible for ALL Waste Diversion
- Waste Disposal at Private Landfill Site beyond 2032
- Drop-Off Depot will continue after landfill site closes
- Landfill Closure & Post Closure Care Reserve Fund:
  - target balance will be achieved by 2032 (closure)

# Cost of Service Guiding Principles

- **Existing Levels of Service** - continue indefinitely
- **Landfill Liability Fairness & Equity** -recovered from existing users of the landfill site before it closes in 2032
- **Full Cost of Service** – all costs including asset life cycle costs over the long-term (2020-2044 inclusive)
- **Capital Financing** – funding from reserves. Debt to finance the new landfill gas control system.
- **Transparency.** Cost of service calculations and assumptions must be transparent and easily explained.

# Waste Diversion Capital Needs(2020-2044)

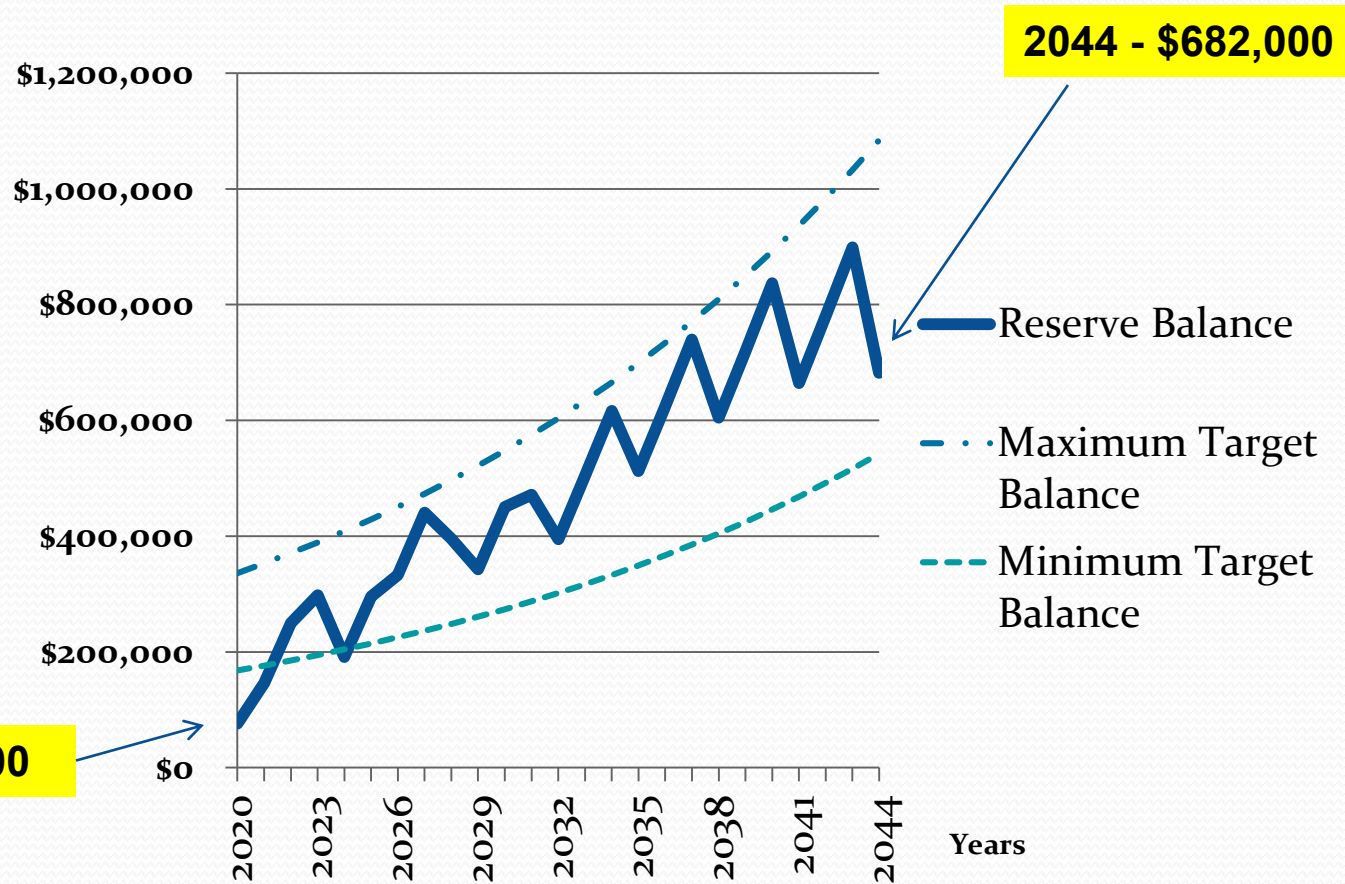


Capital Project	2020-2044
<u>City's Capital Program</u>	
Diversion Facilities Equipment and Building Upgrades	\$537,034
Inbound Scale Replacement	\$31,500
<i>Subtotal</i>	\$568,534
<u>Asset Management Needs</u>	
Weigh Scales & Building	\$153,154
Recycling Facility	\$1,290,709
Special Waste Depot (HHW)	\$89,793
<i>Subtotal</i>	\$1,533,656
<i>Total</i>	\$2,102,189

**Requires Annual Reserve Contribution = \$100,000**



# Waste Diversion Capital Reserve



# Waste Diversion Costs (2019-2021)



Cost Description	2019	2020	2021
Gross Operating Costs	\$2,861,689	\$3,359,423	\$3,442,643
Transfers to Capital Reserve	\$10,000	\$87,833	\$100,000
Transfers to Capital Life Cycle Reserve	\$0	\$0	\$0
Debt Servicing	\$0	\$0	\$0
<b>COST OF SERVICE (GROSS)</b>	<b>\$2,871,689</b>	<b>\$3,447,256</b>	<b>\$3,542,643</b>
<b>Program Revenues</b>			
Household Hazardous Waste Program Revenues	\$32,600	\$16,500	\$16,665
Blue Box Program Revenues - Ontario Grant (Collection)	\$284,150	\$286,349	\$289,212
Blue Box Program Revenues - Ontario Grant (Processing)	\$284,150	\$286,349	\$289,212
Blue Box Program Revenues - Other Municipalities	\$0	\$777,311	\$785,084
Blue Box Program Revenues - Blue Box Materials Sales	\$338,500	\$286,022	\$288,506
Blue Box Program Revenues - Other	\$171,873	\$87,800	\$88,678
Leaf Diversion Program Revenues	\$4,000	\$4,000	\$4,040
Wood Waste Diversion Program Revenues	\$46,600	\$47,300	\$47,773
<b>Total Program Revenues</b>	<b>\$1,161,873</b>	<b>\$1,791,631</b>	<b>\$1,809,171</b>
<b>COST OF SERVICE (NET) TO BE RECOVERED</b>	<b>\$1,709,816</b>	<b>\$1,655,625</b>	<b>\$1,733,472</b>
<b>Annual Percent Change</b>		<b>-3.2%</b>	<b>4.7%</b>

**2022-2044 = 3%- 4% increases**

# Waste Diversion Costs (2019-2021)



Cost Description	2019	2020	2021
<b><i>Cost per Capita</i></b>			
Gross Cost per Capita	\$59	\$71	\$73
Revenue per Capita	\$24	\$37	\$37
Net Cost per Capita	\$35	\$34	\$36
<b><i>Cost per Household</i></b>			
Gross Cost per Household	\$135	\$160	\$164
Revenue per Household	\$54	\$83	\$84
Net Cost per Household	\$80	\$77	\$80
<b><i>Cost per Tonne of Total Waste Diverted</i></b>			
Gross Cost per Tonne Diverted	\$142	\$171	\$175
Revenue per Tonne Diverted	\$58	\$89	\$90
<b>Net Cost per Tonne Diverted</b>	<b>\$85</b>	<b>\$82</b>	<b>\$86</b>

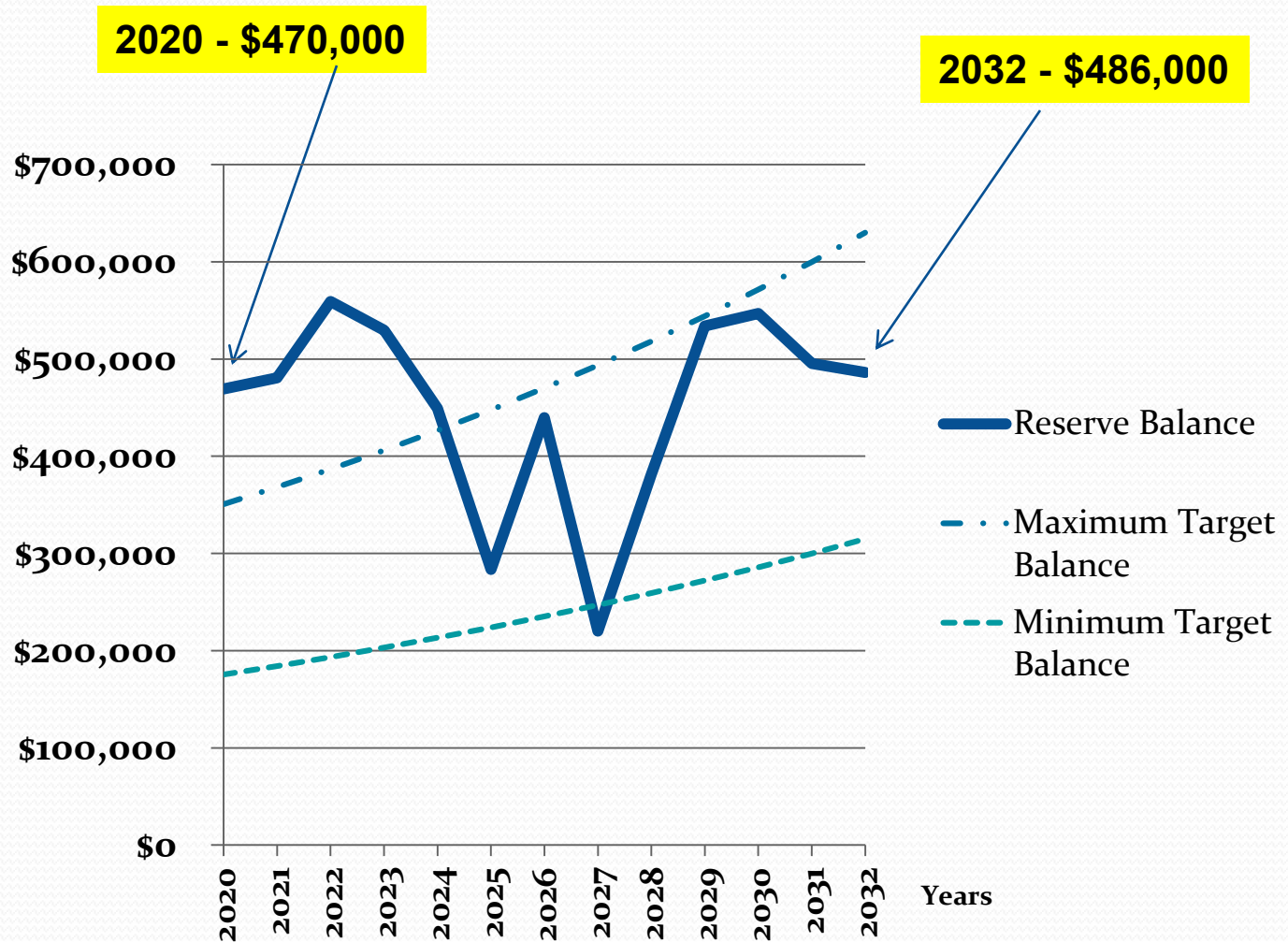
# Waste Disposal Capital Needs(2020-2032)



Capital Project	2020-2032
<u>City's Capital Program</u>	
Landfill Leachate and Gas Collection Systems Upgrades	\$1,752,122
Landfill Site - Service Area Infrastructure Upgrades	\$402,212
Landfill Expansion / Alternative Disposal ECA	\$1,286,669
New Landfill Gas Control System	\$1,674,000
Flare Decommissioning	\$90,000
Maintenance Building Repairs	\$88,200
Landfill Site Paving Project	\$85,575
Inbound Scale Replacement	\$77,175
<i>Subtotal</i>	\$5,455,953
<u>Asset Management Needs</u>	
Weigh Scales & Building	\$282,100
Yard Improvements	\$88,913
Storage Containers	\$9,352
<i>Subtotal</i>	\$380,365
<b>Total</b>	<b>\$5,836,318</b>

**Requires Annual Reserve Contribution = \$420,000: 2021 to 2029**

# Waste Disposal Capital Reserve



# Waste Disposal Costs (2019-2021)



Cost Description	2019	2020	2021
Gross Operating Costs	\$2,328,313	\$2,429,154	\$2,484,732
Transfers to Capital Reserve	\$290,000	\$270,000	\$420,000
Debt Servicing	\$0	\$0	\$140,225
Transfers to Landfill Closure & Post Closure Care Reserve	\$0	\$2,458,096	\$2,458,096
<b>COST OF SERVICE (GROSS)</b>	<b>\$2,618,313</b>	<b>\$5,157,249</b>	<b>\$5,503,053</b>
Total Program Revenues	\$1,626,150	\$1,494,750	\$1,524,645
<b>COST OF SERVICE (NET) TO BE RECOVERED</b>	<b>\$992,163</b>	<b>\$3,662,499</b>	<b>\$3,978,408</b>
Annual Percent Change		<b>269%</b>	<b>9%</b>

**2022-2044 = 0.7% to 2030, 2% after closure**

# Waste Disposal Costs (2019-2021)



Cost Description	2019	2020	2021
<b>Gross Collection Cost per Capita</b>			
Gross Collection Cost per Capita	\$19	\$20	\$20
<b>Gross Collection Cost per Household</b>			
Gross Collection Cost per Household	\$43	\$45	\$46
<b>Disposal Cost per Tonne (excluding Waste Collection)</b>			
Gross Cost per Tonne of Total Waste Disposed			
Operations	\$51	\$53	\$54
Capital Related	\$10	\$10	\$20
Subtotal - Gross Cost per Tonne Operations & Capital	\$61	\$62	\$74
Closure & Post Closure Care	\$0	\$88	\$88
<b>Total Gross Cost per Tonne</b>	\$61	\$151	\$162
<b>Revenue per Tonne Disposed Based on Current Tipping Fee</b>	\$59	\$54	\$55
<b>Net Cost per Tonne</b>	\$3	\$97	\$107

# IC&I to Residential Subsidy (2020)



Cost Description	Residential Sector		IC&I Sector		2020 Total Cost	
	\$	%	\$	%	\$	% of Total Cost
Gross Operating Costs	\$1,624,093	66.9%	\$805,061	33.1%	\$2,429,154	47%
Gross Capital Related Costs	\$138,034	51%	\$131,966	49%	\$270,000	5%
Gross Landfill Post Closure Care Costs	\$1,256,667	51%	\$1,201,429	49%	\$2,458,096	48%
COST OF SERVICE (GROSS)	\$3,018,793	59%	\$2,138,456	41%	\$5,157,249	100%
Total Program Revenues	\$83,873	6%	\$1,410,877	94%	\$1,494,750	
COST OF SERVICE (NET) TO BE RECOVERED	\$2,934,921	80%	\$727,579	20%	\$3,662,499	

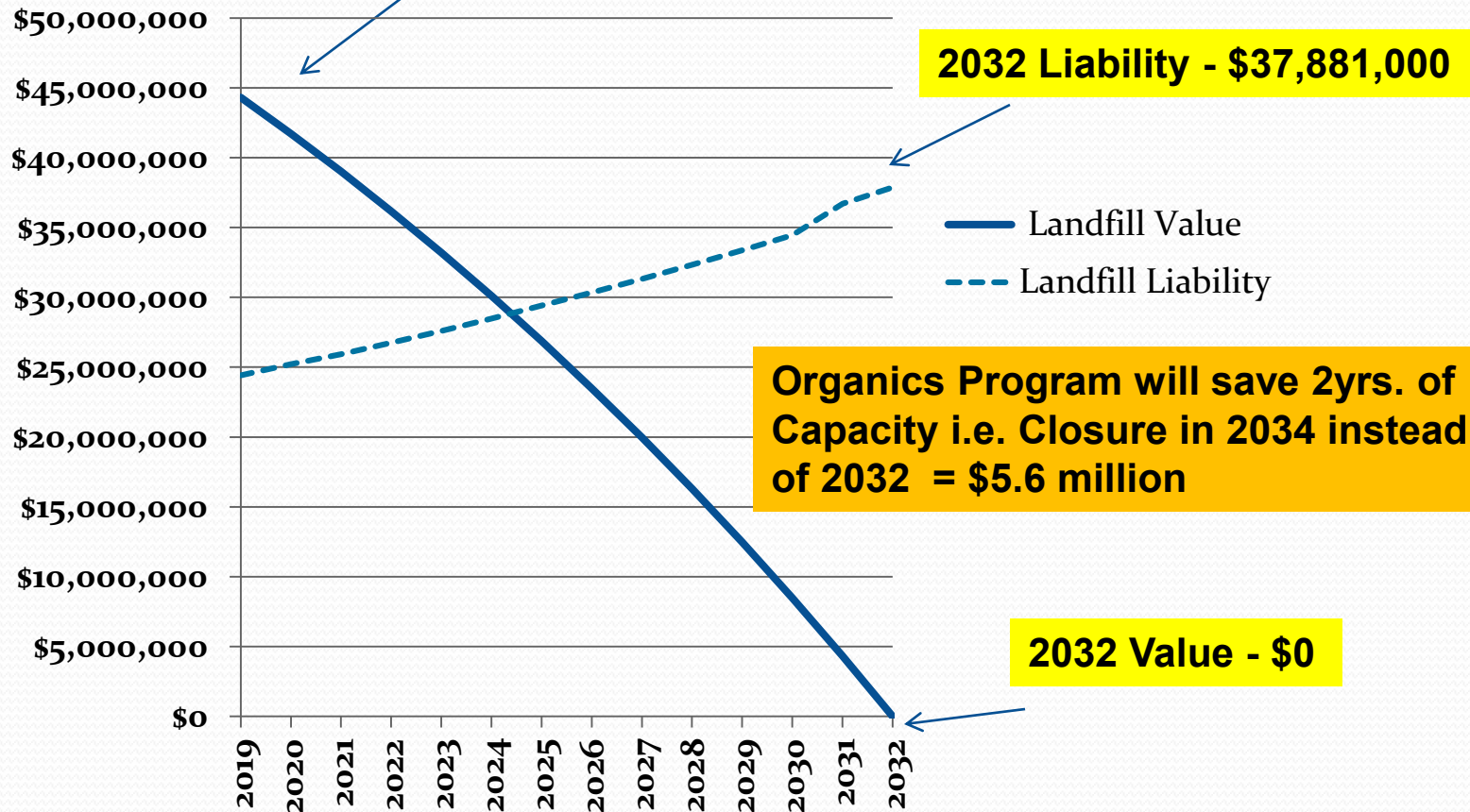
**IC&I Subsidizes Residential = \$792,000**



# Landfill Capacity Value (2019-2032)



**2020 Value - \$41,720,000**



# Recommendations

- Use the study projections to inform the implementation of changes to current financial and operational practices with regards to disposal and diversion
- Some of the noted recommendations on the following slides may include increases to the tipping fee and/or taxes to ensure full cost recovery

# Recommendations

- Establish three designated reserves for Waste Management:
  - Waste Disposal Capital Reserve
    - 2020 contribution of \$270,000 and \$420,000 from 2021 to 2029.
  - Waste Diversion Capital Reserve
    - 2020 contribution of \$87,833 and \$100,000 thereafter.
    - Reassess the need for contributions after 2029
  - Restricted Landfill Closure and Post Closure Care Reserve Fund
    - Target balance of \$37.8 million by 2032
    - Annual contributions of \$250,000 in 2020 increase by \$250,000 per year to a maximum of \$2.5 million
    - Continue contributions beyond 2032 until target is achieved

# Recommendations

- Monitor Provincial discussions on Waste Diversion to determine the City's future role, responsibilities and related costs, if any
- Investigate the implementation of an organics diversion program by 2025 including related costs
- Review the City's current landfill tipping fee of \$79 per tonne and amounts currently funded from taxes to ensure recovery of the full cost of waste disposal estimated to be \$151 per tonne
- Review the City's recovery mechanisms of net costs from taxes to eliminate subsidization – fairness and equity

# Recommendations

- Review the City's operational practice and financial policy of exempting waste disposed from City projects from landfill tipping fees
  - to maximize annual waste disposal revenues and reduce the amounts to be recovered from taxes.
  - user pay principle
- Review the operational and financial policy of exempting the curbside waste from the landfill tipping fees
  - to facilitate fairness and equity between the residential and IC&I sectors
- Reassess the operational practice of accepting Septage at the landfill site
  - to reduce operating and capital costs associated with the Leachate Collection System.

# Recommendations

- Review and update this cost of service study as required to account for new information regarding:
  - Transferring recycling collection and processing and HHW to producers of packaging
  - Implementing an organics program
  - Future waste disposal after closure of the existing landfill site:
    - Extending the use of the existing landfill site
    - Acquiring a new landfill site
    - Disposal at a private landfill site



# QUESTIONS?