WHAT IS AMBI?

Collaboration to build a framework and allow comparison moving forward

• 9 Alberta municipalities
• Grant from Alberta Municipal Affairs
• Develop an ongoing benchmarking process
WHY BENCHMARKING

A *benchmark is an established point of reference against which things can be measured and compared*

- Helps to tell the municipal “performance story”
- Sound business practice
- Share knowledge and best practices
- Encourages continuous improvement
- Demonstrates transparency and value for money
- Supports results-based accountability
TWO DIMENSIONS

Efficiency
- a measure of productivity: quantity
- often expressed in cost per unit

Effectiveness
- a measure of value or benefit of service: quality
- often expressed as percentage or rate
Solid Waste Collection and Disposal

- the collection, processing, and disposal of residential garbage, organics, and recyclables.
- Landfill Operations out of scope
- Composting Operations out of scope
- Commercial Collections out of scope
16 benchmarks measured

• 13 efficiency measures
• 3 effectiveness measures
## SOLID WASTE

### Influencing factors

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Municipal Waste Limits</th>
<th>Subscription Based Collection</th>
<th>Collection System Automated</th>
<th>Collection System Manual</th>
<th>Contract All Solid Waste Services</th>
<th>Collection from Rear Lanes (%)</th>
<th>Diversion Goal Set</th>
<th>Tipping Fees ($/tonne)</th>
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</thead>
<tbody>
<tr>
<td>Airdrie</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>20%</td>
<td></td>
<td>$113</td>
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<tr>
<td>Banff</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>0%</td>
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<td>$35</td>
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<tr>
<td>Canmore</td>
<td></td>
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<td></td>
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<td>0%</td>
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<td>$35</td>
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<td>Lethbridge</td>
<td></td>
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<td>Y</td>
<td></td>
<td></td>
<td>50%</td>
<td></td>
<td>$21</td>
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<tr>
<td>Medicine Hat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
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<td>59%</td>
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<td>$52</td>
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<td>Okotoks</td>
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<td>Y</td>
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<td>28%</td>
<td>Y</td>
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<tr>
<td>Red Deer</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>70%</td>
<td>Y</td>
<td>$65</td>
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</table>
2.2 TOTAL SOLID WASTE COSTS 1 ($/TONNE)

Residential Solid Waste Total Costs 1 ($/tonne collected) – Efficiency

This chart shows the total cost of collecting residential waste, diversion of recyclables for further processing into useful products, and disposal of garbage to a landfill per tonne of residential waste collected.

Median $212
2.3 TOTAL SOLID WASTE COSTS 2 ($/TONNE)

Residential Solid Waste Total Costs 2 ($/tonne collected) – Efficiency
This chart shows the total cost of collecting residential waste, diversion of recyclables from the waste stream for further processing into useful products, and disposal of garbage to a landfill per tonne; direct costs are those for day-to-day operation of the service, indirect are for management of the service, overhead is a calculated allocation of total overhead to this service, amortization is the depreciation cost of all assets used to deliver the service.

Median $212
2.2 TOTAL SOLID WASTE COSTS ($/TONNE)

Medicine Hat’s Story

• Average Total Costs below median of $212/tonne

• Highly variable accounting structure between municipalities—opportunity for collaboration

• Varying level of services impact costs.

• Comparable communities:
  • Lethbridge and Red Deer comparable in several areas.
  • Ownership of landfill impacts reported waste.
  • Red Deer contract includes all collection up to 6 yd$^3$
2.4 Collection Costs ($/tonne collected) – Efficiency

This chart shows the total cost of collecting recyclables and garbage per tonne collected by cost type; direct, indirect, overhead and amortization. Curbside collection at the residence is used in all municipalities except Banff and Canmore. Collection of recyclables varies from curbside single stream (co-mingled with garbage) to curbside separated by customers to separated by customers then dropped off at recycling bins.

Median $146
Medicine Hat’s Story

• Average Collection Costs below median of $146/tonne

• Collection costs influenced by service levels and consumer behavior
  • Curbside automated vs manual
  • Communal bins vs curbside pick-up
  • Per capita waste generation.

• Note– cost per tonne is lower if residents generate more waste.
2.5 SOLID WASTE RECYCLING

2.5 Recyclables Handling and Marketing Cost ($/tonne recycled) – Efficiency

This chart shows the cost of diverting recyclables from the waste stream per tonne recycled by cost type; direct, indirect, overhead and amortization. Diversion can be started at curbside by having residents separate their recyclables from the garbage or leaving them co-mingled for separation in a waste processing facility.

Median
$316
Medicine Hat’s Story

• Average Recycling Costs below median of $316/tonne

• Higher levels of recycling increases costs to Collection Operations but reduce costs to Landfill Operations.

• Note– commodity rates influence total costs
2.6 SOLID WASTE HANDLING AND DISPOSAL

2.6 Garbage Handling and Disposal Cost ($/tonne garbage collected) - Efficiency

This chart shows the cost of handling garbage (end-of-life waste) and disposal by transportation to a landfill plus tipping fees per tonne of garbage collected by cost type; direct, indirect, overhead and amortization.

Median $48
2.6 SOLID WASTE HANDLING AND DISPOSAL

**Medicine Hat’s Story**

- Average Disposal Costs below median of $48/tonne
  - landfill tipping fees for Collection Operations
- Increased fees will increase cost.
  - Offset through savings in Landfill airspace.
- Proximity to the landfill reduces hauling costs.
- Future curbside recycling will reduce this cost.
  - Increased disposal costs will increase diversion rates.
2.15 This chart shows what portion of the total solid waste collected is recycled and what portion is garbage disposed to a landfill in kilograms per capita. The diversion rate is the ratio (percentage) of weight recycled to total weight collected.

Median
393
Medicine Hat’s Story

• Broad diversity within the small sample group.
• 2013 flood impacted the 2013 and 2014 tonnage.
• Variances in how waste data is collected and reported.
  • Sourced from StatsCan

• Airdrie has lowest kg/capita:
  • 3 Bag Limit and $3 per extra bag.

• Report states more research needed.
CONCLUSIONS AND NEXT STEPS

• Medicine Hat provides high quality services while maintaining a **total cost structure below median**.

• Review practices and seek efficiencies where possible - **continuous improvement**

• Highly variable accounting structure between municipalities - **opportunity for collaboration**

• Continues to have total combined utility bill **cost competitive** to other municipalities within Alberta
CONCLUSIONS AND NEXT STEPS

• 2012 – 2022 Waste Management Strategy
  • Metrics evolving

• New curbside recycling in 2018
  • increased diversion.

• Contracting processing and collection of recyclables
  • manages costs
  • reduces debt (>12M on Capital)
  • reduces fleet (>600K)