ALBERTA MUNICIPAL BENCHMARKING INITIATIVE

Snow and Ice Control Service Area
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
- Identifies opportunities for change
- 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
SNOW AND ICE CONTROL (SNIC)

• Eighth of 9 service areas to be benchmarked
• Collaboration for performance comparisons

SNIC Service:
• **Clearing**: roads, parking lots, sidewalks and pathways
• **Control**: application of abrasives, salt or liquids to reduce snow and ice hazards
• **Disposal**: removal of snow and ice to a disposal site
SNIC benchmarks

- 9 efficiency measures
- 3 effectiveness measures

Trend, over years

Comparison, to others for most recent year
## Narrative factors (2014)

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Vehicles &gt; $10000 (#)</th>
<th>Days Snow &amp; Ice equipment sent out (# days)</th>
<th>Contracted Snow Removal, Standby full service (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banff</td>
<td>10</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Canmore</td>
<td>2</td>
<td>69</td>
<td>Y</td>
</tr>
<tr>
<td>Lethbridge</td>
<td>13</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Medicine Hat</td>
<td>15</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Red Deer</td>
<td>24</td>
<td>135</td>
<td></td>
</tr>
</tbody>
</table>
SNIC SUMMARY - MEDICINE HAT

Trend, 2012-2013-2014
• Increase in total cost/lane KM of about 22%.

Comparison (2014)
• Lowest SNIC total costs/lane KM for roads/parking lots
• Lowest SNIC total costs/KM for sidewalks/pathways
• Below average for use of contractors
• Below or near average for SNIC materials used
2.2 SNIC COSTS

SNIC Total Cost 1 ($/lane KM)

- Sidewalks and Pathways
- Roadway and Parking Lots

- Medicine Hat
- Lethbridge
- Canmore
- Red Deer
- Banff

$1,704

$3,459

$5,399

Move the black box to your municipality
2.3 SNIC COSTS
MEDICINE HAT STORY

TREND
Total Cost ($/lane KM)

2012: $1,464
2013: $1,867
2014: $1,780

Add your trend data from the database in Reports
1. Select the performance measure
2. Select all years
3. Select your municipality
4. Download to XLS
5. Copy Chart to PP
2.3 SNIC COSTS

MEDICINE HAT STORY

COMPARISON (2014)

Total Cost ($/lane KM)

Move the black box to your municipality

- Medicine Hat: $1,780
- Lethbridge: $2,115
- Canmore: $3,218
- Red Deer: $6,345
- Banff: $6,618

Total Cost ($/lane KM)
2.3 SNIC COSTS

MEDICINE HAT STORY

Comparison (2014)
Total Cost ($/lane KM)

- Medicine Hat: $1,780
- Lethbridge: $2,115
- Banff: $6,618
- Canmore: $4,115

Move the black box to your municipality
Comparison (2014)

Total Cost ($/capita)

Move the black box to your municipality
2.5 SNIC COSTS
ROADS/PARKING LOTS

Roads/Parking lots Costs ($/lane KM)

Move the black box to your municipality

$4,130

$1,478

$2,630
Sidewalks/Pathways Costs ($/KM)

- **$11,202**
- **$4,573**
- **$2,172**
2.9  CONTRACTED COSTS

Contracted Costs (% of total direct costs)
Abrasives Used (kg/lane KM)

<table>
<thead>
<tr>
<th>Year</th>
<th>Medicine Hat</th>
<th>Lethbridge</th>
<th>Red Deer Year</th>
<th>Banff</th>
<th>Canmore</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,618</td>
<td>5,270</td>
<td>8,846</td>
<td>14,636</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>7,029</td>
<td>5,530</td>
<td>8,618</td>
<td>10,399</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1,936</td>
<td>7,161</td>
<td>6,589</td>
<td>5,993</td>
<td></td>
</tr>
</tbody>
</table>

- Medicine Hat: 3,618 kg/lane KM in 2012, 7,029 kg/lane KM in 2013, 1,936 kg/lane KM in 2014
- Lethbridge: 5,270 kg/lane KM in 2012, 5,530 kg/lane KM in 2013, 7,161 kg/lane KM in 2014
- Red Deer: 8,846 kg/lane KM in 2012, 8,618 kg/lane KM in 2013, 6,589 kg/lane KM in 2014
- Banff: 14,636 kg/lane KM in 2012, 10,399 kg/lane KM in 2013, 5,993 kg/lane KM in 2014
- Canmore: 15,249 kg/lane KM in 2013, 15,299 kg/lane KM in 2014, 12,017 kg/lane KM in 2014
Salt Used (kg/lane KM)

2012: Medicine Hat - 184
2013: Medicine Hat - 263
2014: Medicine Hat - 365

2012: Banff - 436
2013: Banff - 362
2014: Banff - 202

2012: Lethbridge - 574
2013: Lethbridge - 664
2014: Lethbridge - 961

2012: Canmore - 726
2013: Canmore - 907
2014: Canmore - 881

2012: Red Deer - 1,540
2013: Red Deer - 1,357
2014: Red Deer - 1,196

Total Salt Used: 1,364 kg/lane KM
Liquids Used (litres/lane KM)

The chart shows the liquids used in litres per lane per kilometer for different years and municipalities. The values range from 0 to 150 litres per lane kilometer. Key data points include:
- Banff: 23 litres in 2014
- Red Deer: 9 litres in 2014
- Lethbridge: 139 litres in 2014
- Medicine Hat: 9 litres in 2014
- Canmore: 66 litres in 2014

The chart highlights an increase in usage for Lethbridge in 2014 compared to previous years.
Future

Determine the relationship of weather patterns to;
• Number of days SNIC equipment is sent out
• The amount and the type of SNIC materials used
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NEXT STEPS

• Review practices and seek efficiencies where possible