

How Did We Get The Numbers?

Important Values:

Population of Lethbridge, April 2016:	96,828
Population of Lethbridge over 18, April 2016:	77,552
Number of households, April 2016:	40,064

If everyone in Lethbridge threw away 5 apples a week, in one year there would be enough apple cores to fill 16 two-car garages.

5 Apples	x	52 Weeks/year	=	260 Apples/person/year
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Translate to total population

5 Apples/person/year	x	96,808 Lethbridge Population	=	25,175,280 Apples/Lethbridge/year
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Measured dimensions of apple core: 7cm tall with 2cm radius

Volume = $\pi r^2 h = \pi(2^2)(7) = 88\text{cm}^3 = 0.000088\text{m}^3$ per apple

0.000088 m ³ Apple volume	x	25,175,280 Apples/Leth/year	=	2215.42464 m ³ Total volume/year
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The average car garage is around 22' x 22' x 10'. The volume is 4840 ft³.

Converting to metres: 137.0535 m³

2215.42464 m ³ Total volume	/	137.0535 m ³ Volume/garage	=	16.1647 Garages
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If everyone over the age of 18 in Lethbridge had 2 cups of coffee per day in reusable mugs instead of paper cups, we would save 11,672 trees/year.

2 Cups/ Day X 365 days = 730 cups/person/year

730 Cups/person/year	x	77,552 Population over 18	=	56,612,960 Cups/year
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The average disposable cup weighs 11 grams, so let's see the impact of how much paper would be saved by not using these cups:

56,612,960 Cups/year	x	11 g Weight per cup	=	622,742,560 g = 622,742.56 kg
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Every 2000 lbs (907 kg) of recycled paper can save 17 trees ([link](#)), to expand:

907 kg	=	622,742.56 kg		x = 11,672 trees/year
17 trees		x trees		

If every household in Lethbridge recycled 1 toilet paper tube and 1 plastic bottle from the bathroom/week, in one year there would be enough cardboard & plastic to make 20,000 12" cube boxes and 6,000 curbside bins.

This is based on weight.

One cardboard toilet paper tube weighs: 4 g

One 12" cube cardboard box weighs: 400 g

The average plastic bottle weighs: 50 g

A curbside bin weighs: 18.7 kg

If each household used one tube and bottle per week:

4 g Per tube	x	52 Weeks/year	x	40,064 Households	=	8,333,312 g Cardboard/year
50 g Per bottle		52 Weeks/year		40,064 Households		104,166,400 g Plastic/year

Toilet Paper Rolls:

8,333,312 g Cardboard/year	/	400 g Weight of 12" cube box	=	20,833.28 Cardboard boxes/year
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Plastic Bottles:

104,166,400 g Total plastic/year	/	18,700 g Weight of curbside bin	=	5,570.4 Curbside bins/year
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If every household in Lethbridge left their grass clippings to decompose rather than collecting them, the amount of landfill space saved in one year would be the same as filling 4463 garbage trucks.

How much grass waste does the average lawn create in a year? The average lawn is 2,000 square feet, which produces about 400 pounds of grass/year ([link](#)). This is approximately 15 60-gallon garbage bags/year. Based on volume:

15 Bags/year	X	227.125 Litres per 60- Gallon bag	x	40,064 Households	=	136,439,040 L
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The volume of a garbage truck is 40 cubic yards, which converts to 30.5822 cubic meters

136,493.04 L ³ Volume of grass	/	30.5822 m ³ Volume of truck	=	4463.15 Garbage trucks
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If everyone over the age of 18 in Lethbridge threw away 5 plastic shopping bags a week, in one year there would be enough petroleum in those bags to drive a car across Canada almost 300 times!

According to Greener Footprint, 8.7 plastic shopping bags contain enough embodied petroleum to drive a car 1km ([link](#)).

5 Plastic bags/person	X	77,552 Population over 18	x	52 Weeks/year	=	20,163,520 Plastic bags/year
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How many km does this translate to?

20,163,520 Plastic Bags	/	8.7 Bags/km	=	2,317,646 km
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Length of the TransCanada Highway: 7821km

2,317,646 km	/	7821 km TransCanada	=	296.34 Cross-Canada Trips
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