Mother Earth Recycling

City of Winnipeg

Mattress Diversion

Program Update

July 2021

22,445

units diverted in 29 months

97%

of all materials recycled
and only 3% landfilled

1 : 2

Costs : Savings
Average yearly savings

$3,492,400

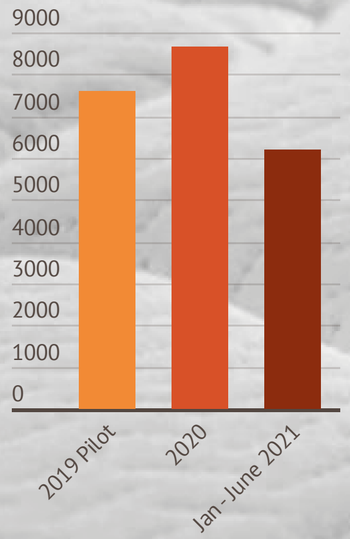
Other Government savings
over 29 months

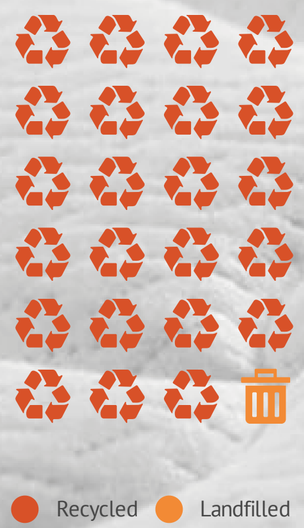
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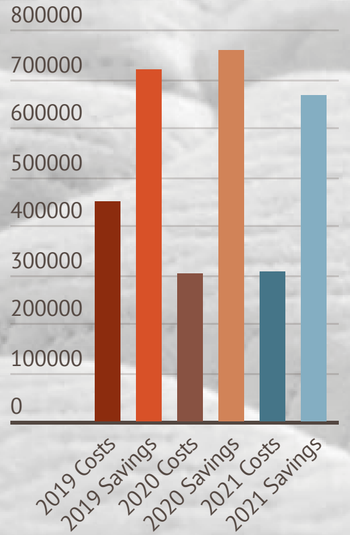
number of full time positions
created per year

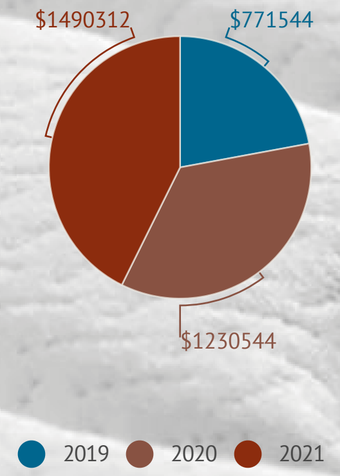
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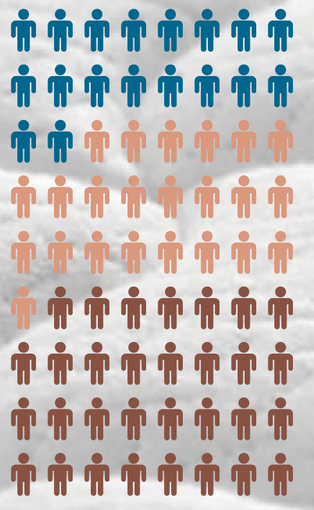
Indigenous Social Enterprise
supported and creating
change in our community











- Reconciliation
- Indigenous Accord
- Enhance Indigenous Business
- Improve Views of Ind. Peoples
- Indigenous Unemployment
- Skill Development
- Employability
- Quality of Life
- Stronger Community
- Social Service Allocation
- City Waste Diversion Goals
- GHG Emission Reductions

22,445

units diverted in 29 months

The City of Winnipeg started diverting mattresses and box springs to Mother Earth Recycling 29 months ago, in February of 2019.

Pilot Project (2019) = 7,587
Year 1 (2020) = 8,667
Year 2 (2021 so far) = 6,191
TOTAL = 22,445

We expect to collect 12,000 units in 2021

97%

of all materials recycled and only 3% landfilled

When mattresses get taken apart, they are separated into metal, wood, foam and fabric.

22,445 units equates to:

- 1,262,531 lbs of metal (75%)
- 202,005 lbs of wood (12%)
- 168,338 lbs of foam (10%)
- 50,501 lbs of fabric (3%)

Metal is recycled via the foundry in Selkirk.
Wood is made into biofuel locally.
Foam is shipped to Wisconsin and made into a base form of plastic for re-use.
Fabric is sent to the landfill.

1 : 2

Costs : Savings
Average yearly savings

Costs include:

- Upfront purchasing of bins at the Brady 4R Depot and advertising costs as set out in the Pilot Project budget.
- Recycling Levy charged by MER at $15 per unit.
- Loss of landfill revenue from disposal, using a high rate of $20 per unit.

Savings include:

- Landfill space / compaction rates
- Equipment and labour costs
- Fire / Arson costs for the city

	2019	2020	2021 (Jan-Jun)
COSTS			
Bins	$ 180,000	$ -	$ -
Advertising	$ 6,000	$ -	$ -
Recycling levy	$ 110,000	$ 130,000	$ 180,000
Lost landfill revenue	$ 151,740	$ 173,340	$ 123,820
Total	**$ 447,740**	**$ 303,340**	**$ 303,820**
SAVINGS			
Landfill Space	$ 112,054	$ 128,004	$ 91,436
Equipment and Labour	$ 173,363	$ 198,041	$ 141,464
Fire / Arson Costs	$ 433,540	$ 433,540	$ 433,540
Total	**$ 718,957**	**$ 759,585**	**$ 666,441**

Research on compaction rates in landfills found that the MAXIMUM compaction in the landfill for mattresses and box springs is 66% by volume. At this maximum compression, each mattress is generating revenue of $9.38 per cubic yard, compared to general waste, which is $56.00 per yard (approximately, every landfill is slightly different). Giving us a loss of $46.62 per cubic yard of landfill space.

Data gathered from similarly sized landfills in the United States shows that on average, one discarded mattress costs the landfill $22.85 (assuming a $60/ton fee for waste). Costs include drainage damage, extra labour time to cover bulky materials, overall reduced compaction, and damage to equipment.

According to information provided by the office of the fire commissioner, in 2014 through 2018, there was a total of 72 arson cases in Winnipeg where discarded mattresses were the ignited materials, costing the city on average $433,540 per year.

$3,492,400

Other Government savings over 29 months

- Reduced reliance on food banks and meal programs (average cost of $2,400 per year, per person)
- Children and families in a stable household (average cost per year per child in care is estimated at $41,000)
- Reduced health care costs (example: high risk individuals cost $2,600 more annually)
- Average annual cost of providing services to a homeless person in Winnipeg is $45,500
- More employed people spending money and paying taxes in the community (75% of net wages for low-income employees is spent locally - approximately $131,634 spent by MER trainee staff per year)
- Reduced criminal activity and decreased recidivism making communities safer (it costs approximately $90,000 per person per year to keep a person incarcerated in Manitoba) - MER currently employs 5 individuals who have come out of incarceration and were at high risk to re-offend, none have
- Average monthly social assistance cost of $8,000 to $24,000 per year for individuals and families (half of MER trainees have been on assistance)
- Employee benefits paid to the government by employer/employees throughout the fiscal year (approximately $9,000 per MER trainee per year is returned to government in tax revenue)

	2019		2020		2021	
	# Staff	Cost	# Staff	Cost	# Staff	Cost
Food Bank	6	$ 14,256.00	6	$ 14,256.00	5	$ 11,088.00
Child Care	2	$ 82,000.00	2	$451,000.00	14	$574,000.00
Health Care	5	$ 11,700.00	5	$ 11,700.00	4	$ 9,100.00
Homelessness	3	$135,954.00	3	$135,954.00	2	$105,742.00
Spending and taxes	18	$131,634.00	18	$131,634.00	14	$102,382.00
Decreased Recidivism	1	$ 90,000.00	1	$180,000.00	5	$450,000.00
Social Assistance	9	$144,000.00	9	$144,000.00	7	$112,000.00
Employee Benefits Paid	18	$162,000.00	18	$162,000.00	14	$126,000.00
Total	**$**	**771,544.00**	**$**	**1,230,544.00**	**$**	**1,490,312.00**