



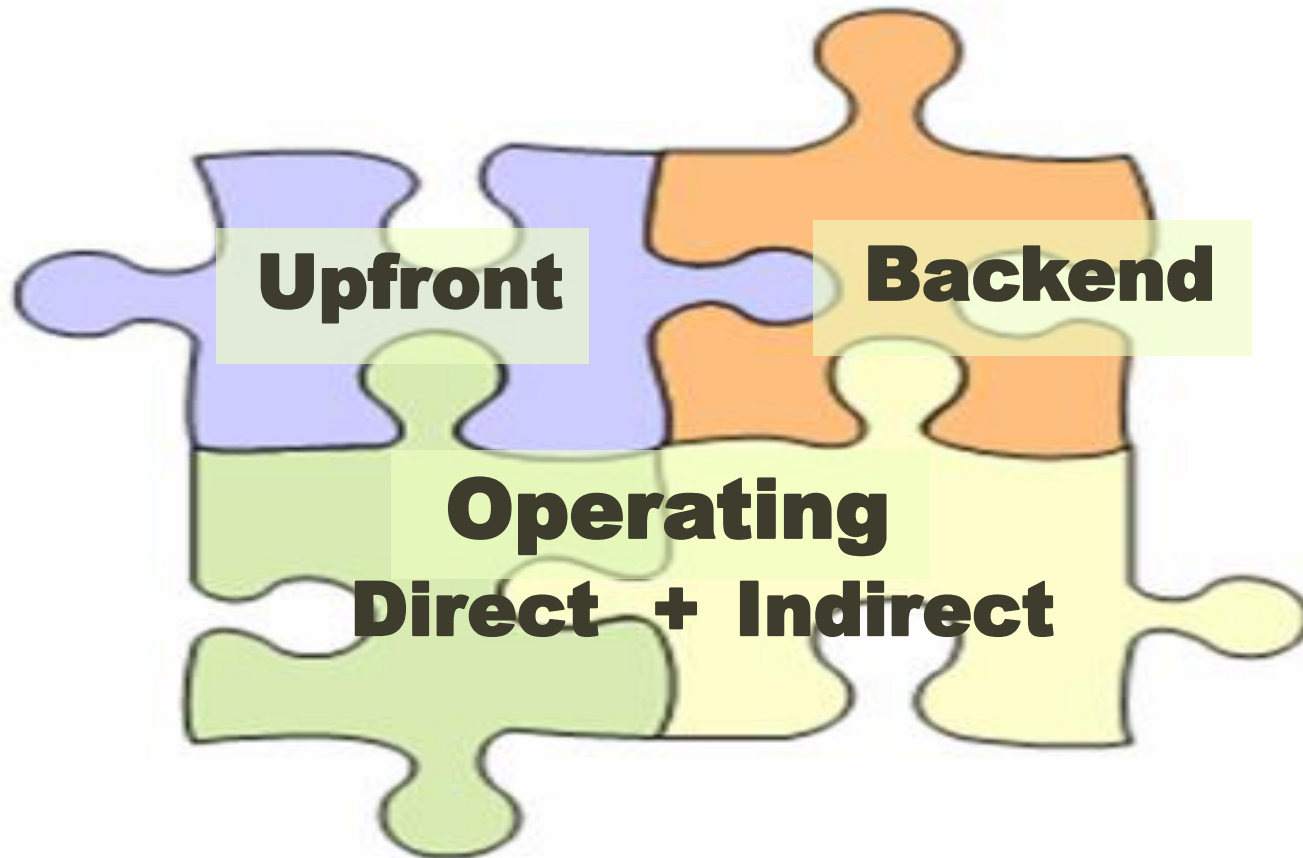
Full Cost Accounting for Solid Waste Management for the town of Lisbon

September 2015

What is Full Cost Accounting?

- A system developed by the US EPA
- Not a strict accounting system
- A systematic approach for identifying and characterizing the cost of providing solid waste services
- Includes operating costs, depreciation, amortization, and indirect costs.

Inputs



Data Sources

- Town accounting system
- Annual report
- Supervisor interview
- Facility tour
- Annual Facility Report

Outputs

Costs per Solid Waste Path

	Recycle	Compost	W-T-E	Landfill
Total Cost	\$\$\$	\$\$	\$	\$\$\$\$\$
Less Revenue	\$		\$	\$\$\$
Net cost	\$\$	\$\$	0	\$\$
Tons	X	Y	Z	W
Net \$/ton	\$/ton	\$/ton	\$/ton	\$/ton

GENERAL SUMMARY

Lisbon's overall net costs per ton are below average. (third lowest)

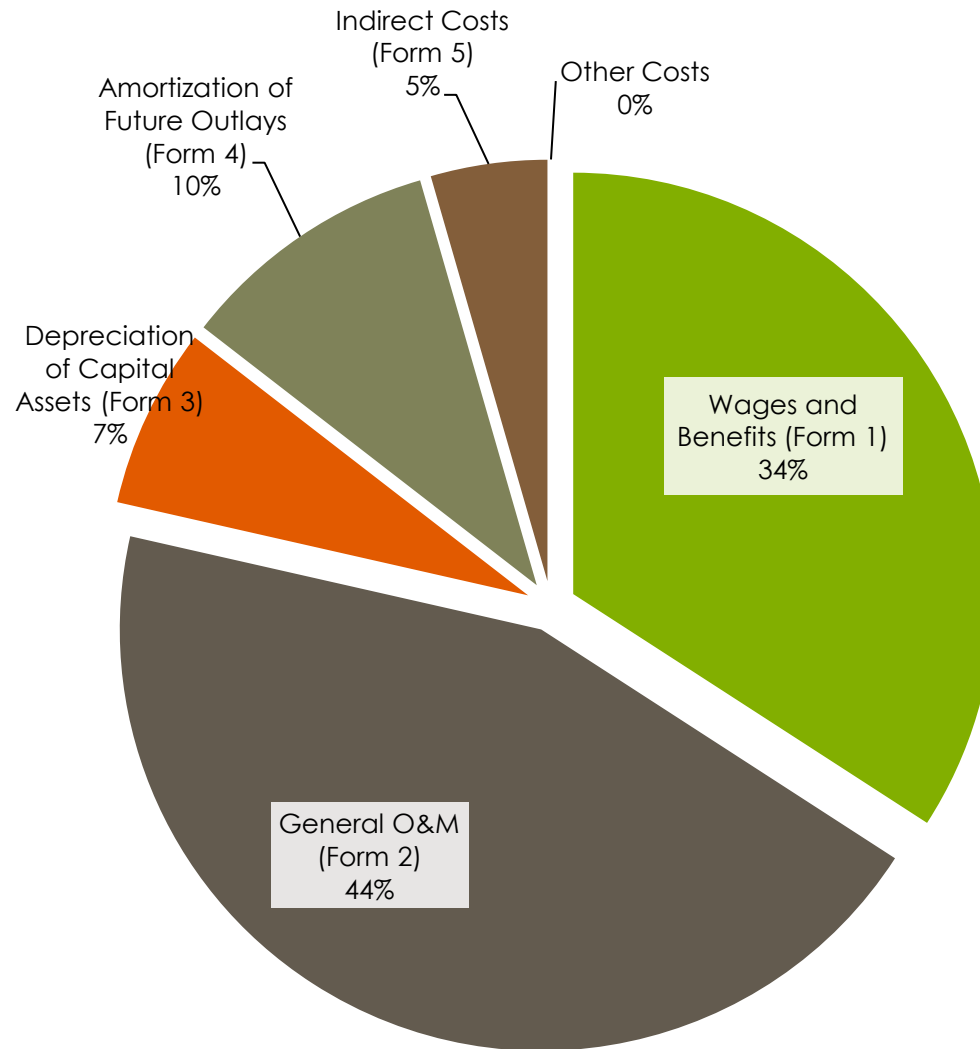
Landfilling net cost per ton is the lowest of towns studied to date.

Recycling net costs per ton were the highest of towns studied to date.

Overall results

		Overall Costs (\$)	Costs by Waste Path			
			Landfilling \$	Waste-to-Energy \$	Recycling \$	Composting \$
1	Total Costs	\$ 278,494	140,265	-	138,229	-
2	Revenues	133,893	107,350	-	26,543	-
3	NET COSTS	\$ 144,601	\$ 32,915	\$ -	\$ 111,686	\$ -
4	Tons Processed	1,162	984	-	177	-
5	Net Cost, \$/Ton	\$ 124.48	\$ 33.44	\$ -	\$ 629.57	\$ -
6	Household Units Served	1,143	1,143	1,143	1,143	1,143
7	Net Cost Per Household	\$ 126.51	\$ 28.80	\$ -	\$ 97.71	\$ -

Full Costs by Category



Contributing Cost Factors

- Significant labor effort in recycling path.
- Low tonnage of recyclable, and corresponding low revenue.
- Charges for MSW and C&D generated excellent revenues.
- Indirect Costs contributing 4.5% of total at \$12,437.

How does Lisbon compare?

Town	Pop-ulation	Annual Tonnage	Net Cost per Ton for MSW Paths				
			Recycling	Compost**	W-t-E	Landfill	Overall
Berlin	10,051	5,555	\$ 316.20	-	-	\$ 173.04	\$ 186.35
Carroll	763	685	\$ 228	\$ 363	-	\$ 319	\$ 269
Gorham	2,848	2,332	\$ 565.19	\$ 239.91	-	\$ 135.96	\$ 209.86
LISBON	2,629	1,165	\$ 629.57	-	-	\$ 33.44	\$ 124.16
Littleton	5,828	1,807	\$ 61.93	\$ 207.90	-	\$ 123.88	\$ 112.58
Plymouth	6,990	1,628	\$ 147.29	\$ 148.13	-	\$ 222.49	\$ 199.21
Warren	904	749	\$ 53.85	-	-	\$ 39.79	\$ 48.67
AVERAGE COSTS			\$ 285.85	\$ 239.81	n/a	\$ 149.67	\$ 164.90

Recycling Operations

- 61 man-hours per week involved with recycling effort (77%) of labor time
- More “offline” labor time than other towns studied – 2 full days.
- This equates to \$ 526/ton !
- Revenues were only \$8,032 at transfer station (approx.. \$5,062 for C&D)

Recycling Picture

TOWN	TONS RECYCLED	Recycling Rate	SALE OF RECYCLEABLES REVENUE	\$/TON
CARROLL	375	55%	11,990	\$ 32
Lisbon	177	18%	24,420	\$ 138
Littleton	850	48%	102,969	\$ 132
Plymouth	625	39%	88,070	\$ 140

Recommendations

- ◉ Increase detail in revenue reporting
- ◉ Work to increase recycling rate AND efficiency in processing
- ◉ Consider change in operations.
- ◉ Consider single-stream/dual-stream recycling

Strategy Ideas

- Reduce operator load



- Check weights



Alternative Scenarios

Scenario		Overall	Landfill	W-T-E	Recycling	Composting
Current program						
		\$ 124.15	\$ 33.44	\$ -	\$ 629.57	\$ -
1 - Reduce 2nd operator to P/T @ 32hr/wk						
		\$ 107.60	\$ 33.44	\$ -	\$ 520.81	\$ -
2 - Switch to dual-stream recycling						
		\$ 122.63	\$ 33.44	\$ -	\$ 619.48	\$ -
3- Double recycling rate						
		\$ 85.74	\$ 40.78	\$ -	\$ 189.08	\$ -