

Supporting Information

The role of management instruments in organic municipal solid waste diversion and phosphorus recycling

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GENERAL TERMINOLOGY

Organic fraction of municipal solid waste (OFMSW): includes biodegradable waste material such as food waste, and leaf and yard waste that is produced and disposed of by the public, and often managed centrally. It is sometimes referred to as bio-waste, green waste, biodegradable municipal waste (BMW), organic waste, and/or putrescible waste.

Organic waste diversion: management of organic waste so that instead of being buried in landfills or incinerated, it is sent to an alternative processing facility such as a composting plant or an anaerobic digester.

Reapplication: refers to the application of processed organic waste (e.g. compost or digestate) to arable land.

Recycling: the conversion of waste material into a reusable material.

Source Separated Organics (SSO): organic waste that has been separated at the source (e.g. family residence, restaurant, or business) from other waste streams by the generator/user prior to any pre-processing. It does not include human excreta.

LITERATURE ANALYSIS SEARCH STRING FOR PHOSPHORUS IN CENTRALIZED ORGANIC WASTE PROCESSING

Search string used in Web of Science: TS= (mass OR element OR nutrient) AND TS= (balance OR flow) AND TS= (organic OR green OR bio* OR food) AND TS= (waste) AND TS=(compost OR anaerobic* OR aerobic) AND TS= (manag* OR process* OR recyc* OR treat*) AND TS= (phosphorus OR nutrient OR element) AND TS= (municip* OR kerb* OR curb* OR solid OR "source separat*")

ADDITIONAL TABLES AND FIGURES

Table S1. EU Landfill Diversion Year Index.

Acronym	Title	Description
BY	Base Year	Before policy was announced
	(Year 1)	1995 in most cases
DY1	Diversion Year 1	First diversion target year
		Biodegradable municipal waste should be reduced to 75% by weight of base year 2006 for non-derogation countries
DY2	Diversion Year 2 (Year 2)	Second diversion target year
		Biodegradable municipal waste should be reduced to 50% by weight of base year Generally 3 years after DY1
DY3	Diversion Year 3	Third diversion target year
		Biodegradable municipal waste should be reduced to 35% by weight of base year Generally 10 years after DY1 2016 for non-derogation countries

Note: The EU Landfill Directive organic waste to landfill ban was phased in over three stages as the diversion restrictions increased from 0% to 65%. As many countries received varying derogation periods, the annual requirements varied across countries. An index was created in order to make comparisons across countries in relation to policy targets enforced in different years. The table below defines each of the Diversion Years.

Table S2. Univariate regression analysis of explanatory variables for Europe and Ontario; selected and analyzed socio-economic and waste management indicators, mean, and individual correlation with organic waste diversion (adjusted R² and significance).

Variable name	Variable label	Data type	Mean ^a	Min ^a	Max ^a	Normality/trans ^b	Correlation w/ organic waste diversion rate ^c	Standard Error	Confidence interval		
							(adjusted R ²)		2.50%	97.50%	
Europe (organic waste diversion)											
Income (Int'l \$/capita ^d)	IN	Continuous	20157	5060	36930	TB: R [√] , E [†]	0.506 ***	0.134	0.453	1.000	
Population Density (inhabitants/km ²)	PD	Continuous	155	2.9	1218	TB: R [√] , E [√]	0.011	0.009	-0.008	0.028	
Landfill Charge (€/tonne)	LF	Continuous	75	3.7	156	TB: R [√] , E [†]	0.435 ***	0.071	0.192	0.484	
Pay-as-you-throw	PAYT	Binary	N: 0.11 Y: 0.37	N: 0.01 Y: 0.07	N: 0.26 Y: 0.78	TR: R [√]	0.238 **	0.09	0.096	0.464	
Legislation	LEG	Categorical	0: 0.23 1: 0.37 2: 0.55	0: 0.01 1: 0.08 2: 0.23	0: 0.46 1: 0.75 2: 0.78	TR ^c : R [‡]	0.232 *	- 0.452 0.568	- -0.057 0.586	- 1.800 2.920	
Mandatory Separation	MS	Binary	N: 0.28 Y: 0.45	N: 0.01 Y: 0.23	N: 0.78 Y: 0.7	TR: R [‡]	0.097 .	0.491	-0.023	1.990	
Incineration Tax	IT	Binary	N: 0.26 Y: 0.49	N: 0.01 Y: 0.23	N: 0.78 Y: 0.75	TR: R [‡]	0.182 *	0.468	0.297	2.220	
Incineration Ban	IB	Binary	N: 0.32 Y: 0.38	N: 0.01 Y: 0.13	N: 0.75 Y: 0.78	TR: R [‡]	-0.028	0.769	-1.200	1.960	
Europe (Δ organic waste diversion)											
Income (Int'l \$/capita ^d)	IN	Continuous	20157	5060	36930	TB: R [√] , E [†]	0.132 *	0.159	0.038	0.690	
Population Density (inhabitants/km ²)	PD	Continuous	155	2.9	1218	TB: R [√] , E [√]	-0.008	0.008	-0.023	0.009	
Landfill Charge (€/tonne)	LF	Continuous	75	3.7	156	TB: R [‡] , E [†]	0.209 **	0.484	0.408	2.393	
Pay-as-you-throw	PAYT	Binary	N: 0.1 Y: 0.22	N: 0.01 Y: 0	N: 0.26 Y: 0.69	TR: R [‡]	0.09 .	0.562	-0.061	2.225	
Legislation	LEG	Categorical	0: 0.18 1: 0.21	0: 0 1: 0.07	0: 0.46 1: 0.45	TR: R [‡]	-0.038	- 0.491	- -0.573	- 1.441	

			2:	0.23	2:	0.01	2:	0.69			0.626	-1.196	1.373	
Mandatory Separation	MS	Binary	N:	0.18	N:	0	N:	0.69	TR: R [√]	-0.01	0.078	-0.095	0.227	
			Y:	0.23	Y:	0.01	Y:	0.45						
Incineration Tax	IT	Binary	N:	0.2	N:	0.01	N:	0.69	TR: R [√]	-0.036	0.079	-0.174	0.152	
			Y:	0.19	Y:	0	Y:	0.4						
Incineration Ban	IB	Binary	N:	0.18	N:	0	N:	0.46	TR ^d : R [√]	0.034	0.116	-0.075	0.403	
			Y:	0.34	Y:	0.11	Y:	0.69						
Ontario (organic waste diversion)														
Income (CAD \$/tonne)	IN	Continuous		30299		20628		43709	TR: R [‡]	0.006	3.99E-05	-2.67E-05	1.16E-04	
Population Density (inhabitants/km ²)	PD	Continuous		323		0.32		4149	TB: R [‡] , E [†]	0.236	***	0.153	0.547	1.152
Population (inhabitants)	POP	Continuous		121315		204		2615060	TB: R [‡] , E [√]	0.257	***	0.000	0.002	0.004
Landfill Charge (CAD \$/tonne)	LF	Continuous		94.9		11.1		200	TR: R [‡]	0.065	**	0.005	0.004	0.022
Pay-as-you-throw	PAYT	Binary	N:	0.12	N:	0.00	N:	0.57	TR: R [‡]	0.096	**	0.316	0.436	1.690
			Y:	0.27	Y:	0.00	Y:	0.82						
Bag Limit	BL	Binary	N:	0.2	N:	0.00	N:	0.82	TR: R [‡]	0.0145		0.309	-0.132	1.095
			Y:	0.26	Y:	0.00	Y:	0.69						
Leaf & Yard waste	LY	Binary	N:	0.06	N:	0.00	N:	0.3	TR: R [‡]	0.211	***	0.344	1.104	2.471
			Y:	0.26	Y:	0.00	Y:	0.82						
Green bin	GB	Binary	N:	0.14	N:	0.00	N:	0.62	TR: R [‡]	0.38	***	0.275	1.592	2.683
			Y:	0.48	Y:	0.22	Y:	0.82						
Infrastructure	INF	Categorical	0:	0.06	0:	0.00	0:	0.3				-	-	-
			1:	0.15	1:	0.00	1:	0.5	TR: R [‡]	0.461	***	0.318	0.587	1.852
			2:	0.19	2:	0.00	2:	0.62				0.399	0.534	2.119
			3:	0.48	3:	0.22	3:	0.82				0.352	2.414	3.812
Implementation	IMP	Continuous		2.00		0.00		19.00	TB: R [‡] , E ^{††}	0.358	***	0.295	1.600	2.769

^a Mean, minimum, and maximum for binary and categorical data represents the mean, minimum and maximum organic waste diversion rate at each interval; absence of factor (N), presence of factor (Y), scale of implementation (0-3)

^b Response variable only transformed (TR), Both response and explanatory transformed (TB); Response variable (R), Explanatory variable (E); transformations: square root ([√]), log₁₀ ([†]), log₁₀+1 (^{††}), logit ([‡])

^c Significance: '***' 0.001, '**' 0.01, '*' 0.05, '.' 0.1, ' ' 1

^d International Dollars (Int'l \$) was based on conversion from local currency using UN Purchasing Power Parties (PPP) conversion factors for 2011

^e Transformation resulted in moderate fulfillment of linear regression assumptions, considered adequate for the purpose of this analysis

Table S3. Phosphorus losses during biologic processing of organic waste.

System component	Recorded Loss	Min Loss	Max Loss	Source	Plant type ^a	Location of research	Feedstock ^b
Biological processing	67.2%	-	-	Banks et al. (2011) ²	AD	UK	SSO
Biological processing	13.7%	29.4% ^c	100% ^d	Zabaleta & Rodic (2015) ³	MBT	Spain	OFMSW
Biological processing	19.5% ^e	1.0%	38%	Zabaleta & Rodic (2015) ³	AC	Multiple	MSW
Biological processing	18.5%	13.6%	23.3%	Pognani et al. (2012) ⁴	MBT	Spain	MSW
Pre-treatment	16.5%	-	-	Pognani et al. (2012) ⁴	MBT	Spain	MSW
Leachate	1.0%	-	-	Pognani et al. (2012) ⁴	MBT	Spain	MSW
Refining	5.8%	-	-	Pognani et al. (2012) ⁴	MBT	Spain	MSW
Leachate	3.0%	-	-	Andersen et al. (2010) ¹	WC	Denmark	L&Y
Biological processing	1.0%	-6.0% ^f	6.0%	Field (1984) ⁵	AD	USA	Farm
Biological processing	7.5% ^e	6.0%	9.0%	Schievano et al. (2011) ⁶	AD	Italy	SSO, FC, FM, industry organic by-products
Biological processing	10.0%	-	-	Möller & Müller (2012) ⁷	AD	Germany	FC, FM
Biological processing	36.0%	-	-	Marcato et al. (2008) ⁸	AD	France	FM
Biological processing	16.5% ^e	12%	21%	Michel et al. (2004) ⁹	AC	USA	Farm (saw dust amended)
Biological processing	19.5% ^e	1%	38%	Michel et al. (2004) ⁹	AC	USA	Farm (straw amended)
Biological processing	25.5%	18%	33%	Massé & Massé (2007) ¹⁰	AD	Canada	FM
Biological processing	-	23%	29%	Tiquia et al. (2002) ¹¹	AC	USA	Farm
Median	18.5%	12%	29%	-	-	-	-
Average	21.4%	11%	33%	-	-	-	-

^a Anaerobic digestion (AD), mechanical biological treatment (MBT), aerobic composting (AC), windrow composting (WC)

^b Source-separated organics (SSO), organic fraction of municipal solid waste (OFMSW), municipal solid waste (MSW), Leaf and yard waste (L&Y), farm crop (FC), farm manure (FM), farm unspecified (Farm)

^c Minimum loss and recorded loss do not match up due to data inconsistencies

^d Issues with plant operation

^e Average of minimum and maximum loss

^f Recorded range from 94-106% P recovery

Table S4. Reapplication of organic products to arable land

System Component	Mean^a	Min.^a	Max.^a	Source	End Product	Location
Distribution	59%	-	-	van der Werf (2013) ¹²	Compost	Ontario
agriculture	34%	-	-	van der Werf (2013) ¹²	Compost	Ontario
horticulture	25%	-	-	van der Werf (2013) ¹²	Compost	Ontario
Distribution	70%	0%	88%	Barth (2008) ¹³	Compost	Europe
agriculture	48%	0%	88%	Barth (2008) ¹³	Compost	Europe
horticulture	11%	0%	25%	Barth (2008) ¹³	Compost	Europe
hobby gardening	11%	0%	27%	Barth (2008) ¹³	Compost	Europe
Distribution	65%	34%	100%	Zhang et al. (2011) ¹⁴	Compost and Liquid Fertilizer	Various
Median	65%	17%	94%	-	-	-
Average	65%	17%	94%	-	-	-

^a Average, minimum and maximum end-product recycled to arable land

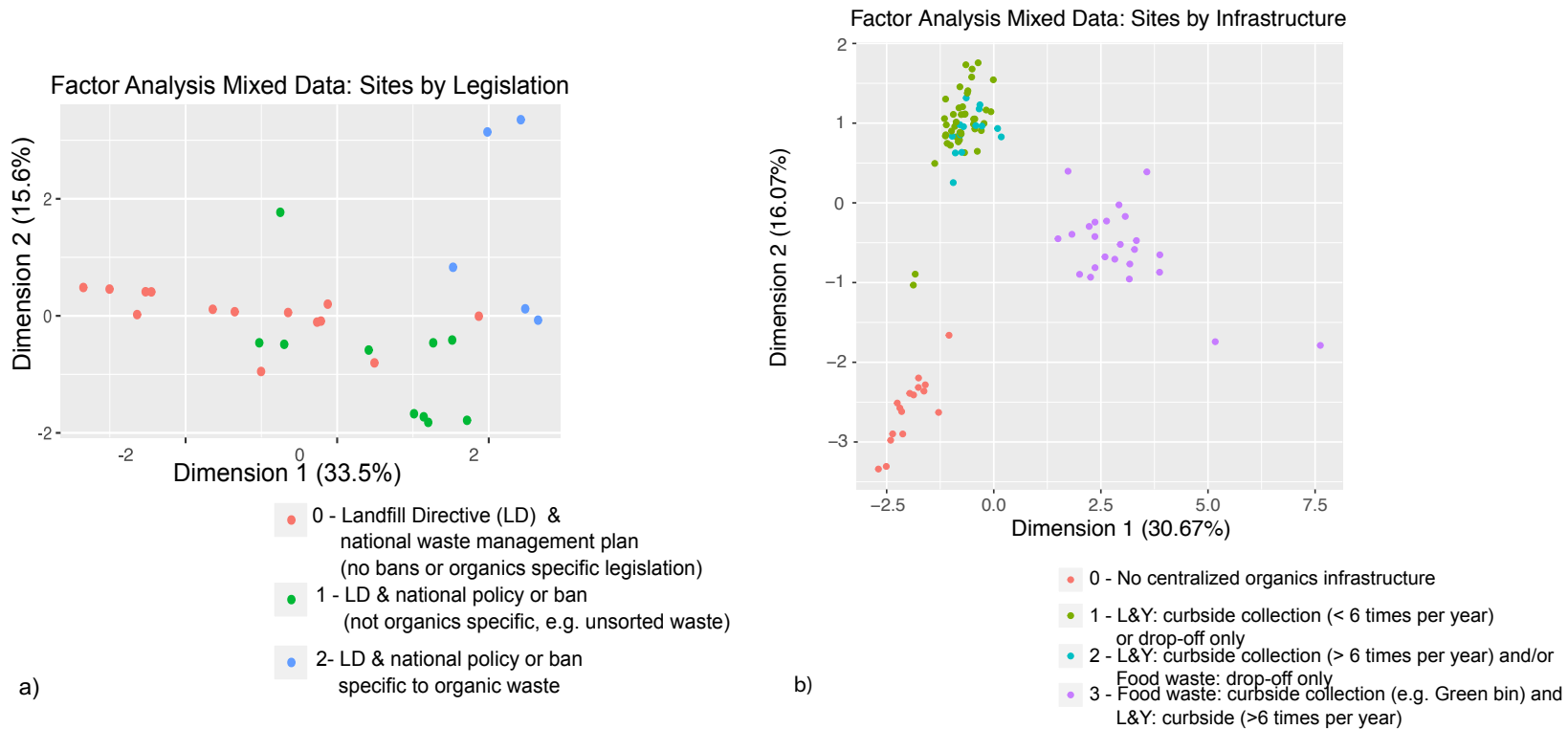


Figure S1. Categorical data factor analysis of mixed data (FAMD):
 (a) Detailed categorical data for Europe; sites (countries) are plotted and coded by legislation type implemented. (b) Detailed categorical data for Ontario; sites are plotted and coded by infrastructure implemented. The figures show (a) the clustering of countries based on legislative level and (b) the clustering of regions based on infrastructure level.

DATA AND SOURCES FOR ORGANIC WASTE DIVERSION AND KEY FACTORS

This appendix has been included to allow access to the data used in the analysis as well as provide insight into the data sources that were used. Comments within the Excel documents provide details on data sources.

Table S5: European summary of organic waste diversion and factor data.

EU Landfill Directive Information			Organic Waste Diversion*						Socio-Economic				Landfill Tax and Fee				Incineration Tax and Fee				Legislation National (or subnational)		Infrastructure	
Lanfill Bans	Base Year	Diversion Year 2	Organic Diversion of Total Waste (fractional %)			Organic Diversion of Organic Waste (fractional %)			GDP per Capita (€) 2011	Median Income (International \$) 2011	Median Income (International \$) 2004	Population Density (people/km ²) 2004	Typical landfill tax (€/tonne) 2012	Typical gate fee (€/tonne) 2012	Typical landfill charge (tax + fee) (€/tonne) 2012	Incineration tax(€/tonne) 2012	Typical incineration gate fee (€/tonne) 2012	Typical Incineration charge (€/tonne) 2012	Incineration tax (0=no, 1=yes)	Economic incentive (e.g. PAYT) (0=no, 1=yes)	Legislation - Organic Waste (scale 0-2)	Incineration Ban (0=n, 1=y)	Mandatory separate collection of biowastes (0=n, 1=y)	
			BY	DY2	Δ BY-DY2	BY	DY2	Δ BY-DY2																
Austria	1995	2009	0.27	0.32	0.05	0.60	0.70	0.10	29553	27899	20780	97	26	70	96.00	8 + 18 residue	125	151.00	1	1	2	0	1	
Belgium	1995	2009	0.08	0.21	0.14	0.17	0.48	0.30	28664	24493	18313	344	65	50	118.00	7.66	110	117.66	1	1	1	0	0	
Bulgaria	1995	2013	0.00	0.03	0.03	0.00	0.14	0.14	2727	8737	NA	70	3	12.5	15.50	0	NA	NA	0	0	0	0	0	
Croatia	1997	2016	0.00	NA	NA	0.00	NA	NA	7767	10595	NA	76	NA	NA	NA	0	0	NA	0	0	2	0	0	
Cyprus			0.00	NA	NA	0.00	NA	NA	19023	27615	NA	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Czech Republic	1995	2013	0.00	0.03	0.03	0.00	0.07	0.07	9403	14449	NA	132	20	16	36.00	0?	46	46.00	0	1	0	0	0	
Denmark	1995	2009	0.11	0.19	0.08	0.44	0.75	0.32	37435	24575	18799	125	63	44	107.00	44	36	80.00	1	1	1	0	0	
Estonia	1995	2013	0.01	0.05	0.05	0.01	0.12	0.10	7125	10505	5939	31	20.7	40	60.70	0	0	NA	0	1	1	0	0	
Finland	1995	2009	0.08	0.12	0.04	0.17	0.26	0.10	30312	24404	17317	17	30	59.4	89.40	0	?	NA	0	1	1	0	0	
France	1995	2009	0.09	0.17	0.08	0.26	0.48	0.22	27358	27180	18350	99	20	60.5	80.50	11.2	99	110.20	1	1	1	0	0	
Germany	1995	2009	0.13	0.17	0.04	0.37	0.49	0.12	27517	25812	NA	231	0	140	140.00	0	174	174.00	0	1	2	0	0	
Greece	1995	2013	0.00	0.04	0.04	0.00	0.07	0.07	17683	16862	13433	84	0	23.5	23.50	0	0	NA	0	0	0	0	0	
Hungary	1995	2009	0.00	0.02	0.02	0.01	0.08	0.07	8261	9926	NA	109	0	35	35.00	na	na	na	0	1	1	0	0	
Iceland	1995	2013	0.02	0.07	0.05	0.05	0.20	0.15	37795	23477	20379	3	0	50	50.00	0	0	na	0	1	0	0	0	
Ireland	1995	2013	0.00	0.06	0.06	0.00	0.23	0.23	38370	24059	19043	60	50?	70	120.00	0	87.5	87.50	0	1	2	1	1	
Italy	2003	2011	0.04	0.13	0.08	0.17	0.36	0.19	25119	21773	17481	196	30	90	120.00	0	125	125.00	0	1	1	0	1	
Latvia	1995	2013	0.00	0.06	0.06	0.00	0.26	0.26	5153	12642	NA	36	8	30	38.00	na	na	NA	0	0	0	0	0	
Lithuania	2000	2013	0.00	0.07	0.07	0.00	0.37	0.37	5400	8669	NA	54	22	16.25	38.25	0	0	NA	0	1	0	0	0	
Luxembourg	1995	2009	0.07	0.20	0.13	0.16	0.44	0.28	60382	36930	34082	177	0	149	149.00	0	96.68	96.68	0	1	0	0	1	
Malta	1995	2013	0.23	0.05	NA	0.32	0.07	NA	12130	19118	NA	1218	0	20	20.00	na	na	NA	0	0	0	0	0	
Netherlands	1995	2009	0.24	0.25	0.00	0.54	0.55	0.01	32179	25779	NA	482	107	25	132.00	0	95	95.00	1	1	2	0	1	
Norway	1995	2009	0.02	0.16	0.14	0.09	0.78	0.69	46366	32395	23709	15	60	?	100.00	11.5	40	51.50	0	1	2	1	0	
Poland	1995	2013	0.02	0.11	0.09	0.04	0.24	0.20	5365	12036	NA	122	26.6	69.5	96.10	0	130	130.00	0	1	0	0	1	
Portugal	1995	2013	0.13	0.13	0.00	0.23	0.23	0.00	14534	14900	11711	114	3.5	10.5	14.00	1.33	25	26.33	1	1	0	0	0	
Romania	1995	2013	0.00	0.00	0.00	0.00	0.01	0.01	2862	5060	NA	94	0	3.7	3.70	na	na	NA	0	0	0	0	0	
Slovakia	1995	2013	0.00	0.07	0.07	0.02	0.13	0.11	6460	12193	NA	110	0	6.8	6.80	0	na	NA	0	1	1	1	0	
Slovenia	1995	2009	0.00	0.02	0.02	0.01	0.09	0.08	13889	19106	NA	99	11	105	116.00	NA	NA	113.00	0	1	0	0	0	
Spain	1995	2009	0.00	0.18	0.18	0.00	0.40	0.40	20069	20793	14749	85	21	33	54.00	16.5	57	73.50	1	1	0	0	1	
Sweden	1995	2009	0.06	0.13	0.07	0.18	0.36	0.19	34184	25003	17480	22	49	106.5	155.50	8.6	20	28.60	1	1	1	0	0	
Switzerland	1985	2009	0.06	0.17	0.11	0.23	0.68	0.45	42897	34398	NA	185	12	NA	NA	NA	115.00	0	1	1	0	1		
Turkey	1995	2017	0.01	NA	NA	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
United Kingdom	1995	2013	0.00	0.16	0.16	0.00	0.46	0.46	30829	23488	NA	247	64.4	26.8	91.20	0	87.5	87.50	0	1	0	0	0	

*Eurostat data was extracted in 2015 and early 2016, meaning some values might not match with current web values as some historical values were subsequently updated in May of 2016

Table S6: European waste composition data. Percent of municipal solid waste stream composed of organics.

	<u>Municipal Waste Stream Composition: Fractional</u>			
	<u>Percentage of Organic Waste</u>			
	Source: EEA	Source: Eunomia		Average
		<i>Table 5: Barth</i>	<i>Table 5: Amlinger</i>	
European Union (28 countries)	0.35	NA	NA	0.35
European Union (27 countries)	0.35	0.32	NA	0.34
Austria	0.45	NA	NA	0.45
Belgium	0.45	0.46	0.46	0.46
Bulgaria	0.25	NA	NA	0.25
Croatia	0.42	NA	NA	0.42
Cyprus	0.35	NA	NA	0.35
Czech Republic	0.45	NA	NA	0.45
Denmark	0.25	0.37	0.37	0.33
Estonia	0.45	NA	NA	0.45
Finland	0.45	0.35	0.35	0.38
France	0.35	0.29	0.29	0.31
Germany	0.35	0.32	0.32	0.33
Greece	0.55	0.49	0.49	0.51
Hungary	0.25	NA	NA	0.25
Iceland	0.35	NA	NA	0.35
Ireland	0.25	0.29	0.29	0.28
Italy	0.35	0.33	0.33	0.34
Latvia	0.25	NA	NA	0.25
Lithuania	0.20	NA	NA	0.20
Luxembourg	0.45	0.44	0.44	0.44
Malta	0.70	NA	NA	0.70
Netherlands	0.45	0.46	0.38	0.43
Norway	0.20	NA	NA	0.20
Poland	0.45	NA	NA	0.45
Portugal	0.55	0.35	0.44	0.45
Romania	0.45	NA	NA	0.45
Slovakia	0.55	NA	NA	0.55
Slovenia	0.20	NA	NA	0.20
Spain	0.45	0.44	0.44	0.44
Sweden	0.35	0.40	0.25	0.33
Switzerland	0.25	NA	NA	0.25
Turkey	0.35	NA	NA	0.35
United Kingdom	0.35	0.22	0.21	0.26

Table S7: European per capita waste diversion and generation.

Country	Organic Waste Diversion (of total organic waste) (fractional %)		Per capita organic waste diverted (kg)		Per capita total waste generated (kg)	
	BY	DY2	BY	DY2	BY	DY2
Austria	0.60	0.70	118	186	437	590
Belgium	0.17	0.48	36	100	455	467
Bulgaria	0.00	0.14	0	15	694	432
Czech Republic	0.00	0.07	0	9	302	307
Denmark	0.44	0.75	57	130	521	693
Estonia	0.01	0.12	2	15	371	293
Finland	0.17	0.26	31	57	413	480
France	0.26	0.48	43	89	475	535
Germany	0.37	0.49	82	102	623	592
Greece	0.00	0.07	3	19	339	509
Hungary	0.01	0.08	2	9	460	430
Iceland	0.05	0.20	7	26	426	345
Ireland	0.00	0.23	0	34	512	586
Italy	0.17	0.36	31	67	524	529
Latvia	0.00	0.26	0	20	264	312
Lithuania	0.00	0.37	0	32	365	433
Luxembourg	0.16	0.44	41	135	587	679
Malta	0.32	0.07	53	29	395	582
Netherlands	0.54	0.55	130	145	539	589
Norway	0.09	0.78	12	74	624	470
Poland	0.04	0.24	5	32	285	297
Portugal	0.23	0.23	30	57	352	440
Romania	0.00	0.01	0	23	342	254
Slovakia	0.02	0.13	4	13	295	304
Slovenia	0.01	0.09	2	10	596	524
Spain	0.00	0.40	0	97	510	542
Sweden	0.18	0.36	24	60	386	470
Switzerland	0.23	0.68	31	120	528	702
United Kingdom	0.00	0.46	0	76	498	482

Table S8: European waste diversion data by EU Landfill Directive target year.

	Organics diverted of total waste						Organic diversion of total organics					
	Base Year	DY1	DY2	DY3	Δ BY-DY2	Δ BY-DY3	Base Year	DY1	DY2	DY3	Δ BY-DY2	Δ BY-DY3
	(fractional %)						(fractional %)					
Austria	0.27	0.38	0.32	0.34	0.05	0.07	0.60	0.85	0.70	0.75	0.10	0.15
Belgium	0.08	0.23	0.21	0.21	0.14	0.13	0.17	0.51	0.48	0.46	0.30	0.29
Bulgaria	0.00	0.00	0.03	NA	0.03	NA	0.00	0.00	0.14	NA	0.14	NA
Croatia	0.00	0.02	NA	NA	NA	NA	0.00	0.04	NA	NA	NA	NA
Cyprus?	0.00	NA	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA
Czech Republic	0.00	0.02	0.03	NA	0.03	NA	0.00	0.05	0.07	NA	0.07	NA
Denmark	0.11	0.19	0.19	0.15	0.08	0.04	0.44	0.76	0.75	0.61	0.32	0.17
Estonia	0.01	0.08	0.05	NA	0.05	NA	0.01	0.18	0.12	NA	0.10	NA
Finland	0.08	0.08	0.12	0.12	0.04	0.04	0.17	0.17	0.26	0.26	0.10	0.09
France	0.09	0.14	0.17	0.17	0.08	0.08	0.26	0.40	0.48	0.47	0.22	0.22
Germany	0.13	0.16	0.17	0.18	0.04	0.05	0.37	0.47	0.49	0.51	0.12	0.13
Greece	0.00	0.02	0.04	NA	0.04	NA	0.00	0.04	0.07	NA	0.07	NA
Hungary	0.00	0.01	0.02	0.05	0.02	0.05	0.01	0.05	0.08	0.18	0.07	0.17
Iceland	0.02	0.08	0.07	NA	0.05	NA	0.05	0.24	0.20	NA	0.15	NA
Ireland	0.00	0.04	0.06	NA	0.06	NA	0.00	0.15	0.23	NA	0.23	NA
Italy	0.04	0.10	0.13	NA	0.08	NA	0.17	0.27	0.36	NA	0.19	NA
Latvia	0.00	0.01	0.06	NA	0.06	NA	0.00	0.02	0.26	NA	0.26	NA
Lithuania	0.00	0.02	0.07	NA	0.07	NA	0.00	0.08	0.37	NA	0.37	NA
Luxembourg	0.07	0.18	0.20	0.20	0.13	0.13	0.16	0.39	0.44	0.44	0.28	0.28
Malta	0.23	0.00	0.05	NA	NA	NA	0.32	0.00	0.07	NA	NA	NA
Netherlands	0.24	0.24	0.25	0.26	0.00	0.01	0.54	0.53	0.55	0.57	0.01	0.03
Norway	0.02	0.14	0.16	0.14	0.14	0.12	0.09	0.68	0.78	0.70	0.69	0.60
Poland	0.02	0.07	0.11	NA	0.09	NA	0.04	0.15	0.24	NA	0.20	NA
Portugal	0.13	0.06	0.13	NA	0.00	NA	0.23	0.11	0.23	NA	0.00	NA
Romania	0.00	0.00	0.00	NA	0.00	NA	0.00	0.00	0.01	NA	0.01	NA
Slovakia	0.00	0.05	0.07	NA	0.07	NA	0.02	0.10	0.13	NA	0.11	NA
Slovenia	0.00	0.01	0.02	0.06	0.02	0.05	0.01	0.07	0.09	0.28	0.08	0.27
Spain	0.00	0.17	0.18	0.10	0.18	0.10	0.00	0.38	0.40	0.23	0.40	0.23
Sweden	0.06	0.12	0.13	0.14	0.07	0.08	0.18	0.34	0.36	0.41	0.19	0.24
Switzerland	0.06	0.06	0.17	0.15	0.11	0.09	0.23	0.25	0.68	0.61	0.45	0.38
Turkey?	0.01	NA	NA	NA	NA	NA	0.02	NA	NA	NA	NA	NA
United Kingdom	0.00	0.15	0.16	NA	0.16	NA	0.00	0.43	0.46	NA	0.46	NA

Insufficient data

Table S9: European rate of organic waste diversion as a proportion of organic waste generation by calendar year.

	Comp%Organic	1985	1990	1993	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	45%	NA	NA	NA	0.60	0.91	0.92	0.91	0.89	0.87	0.89	0.88	0.93	0.84	0.84	0.85	0.75	0.75	0.70	0.72	0.73	0.75	0.74
Belgium	45%	NA	NA	NA	0.17	0.24	0.36	0.40	0.44	0.50	0.47	0.48	0.51	0.53	0.51	0.51	0.52	0.48	0.48	0.48	0.46	0.46	0.46
Bulgaria	25%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.11	0.14
Croatia	42%	NA	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02	0.02	0.02	0.02	0.02	0.04	0.04
Cyprus	35%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.24	0.29	0.26
Czech Republic	45%	NA	NA	NA	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07
Denmark	25%	NA	NA	NA	0.44	0.50	0.57	0.54	0.58	0.64	0.55	0.64	0.66	0.71	0.72	0.76	0.77	0.60	0.75	0.77	0.58	0.61	0.66
Estonia	45%	NA	NA	NA	0.01	0.00	0.00	0.00	0.00	0.01	0.05	0.02	0.03	0.03	0.04	0.10	0.06	0.12	0.21	0.18	0.19	0.11	0.12
Finland	45%	NA	NA	NA	NA	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.21	0.19	0.26	0.29	0.29	0.26	0.30
France	35%	NA	NA	NA	0.26	0.27	0.28	0.29	0.30	0.33	0.35	0.37	0.37	0.39	0.39	0.40	0.42	0.46	0.48	0.49	0.47	0.47	0.48
Germany (until 1994)	35%	NA	NA	NA	0.37	0.39	0.39	0.41	0.38	0.41	0.42	0.41	0.42	0.46	0.47	0.47	0.46	0.48	0.49	0.48	0.48	0.51	0.50
Greece	55%	NA	NA	NA	NA	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.03	0.04	0.04	0.01	0.04	0.06	0.07	0.07
Hungary	25%	NA	NA	NA	NA	0.01	0.02	0.01	0.01	0.01	0.01	0.04	0.04	0.03	0.04	0.05	0.06	0.07	0.08	0.15	0.19	0.18	0.20
Iceland	35%	NA	NA	NA	0.05	0.05	0.05	0.05	0.05	0.07	0.06	0.06	0.06	NA	NA	NA	NA	0.07	0.15	0.24	0.22	0.19	0.20
Ireland	25%	NA	NA	NA	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.05	0.05	0.07	0.06	0.06	0.09	0.13	0.12	0.15	0.22	0.23	0.23
Italy	35%	NA	NA	NA	0.03	0.05	0.06	0.08	0.08	0.12	0.17	0.16	0.17	0.18	0.20	0.21	0.23	0.27	0.31	0.35	0.36	0.41	0.42
Latvia	25%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.04	0.01	0.02	0.02	0.03	0.01	0.02	0.04	0.08	0.26
Lithuania	20%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.08	0.05	0.07	0.08	0.09	0.19	0.37
Luxembourg	45%	NA	NA	NA	0.16	0.11	0.19	0.25	0.26	0.32	0.31	0.34	0.43	0.41	0.40	0.39	0.43	0.44	0.44	0.43	0.40	0.44	0.44
Malta	70%	NA	NA	NA	0.32	0.29	0.26	0.23	0.19	0.20	0.21	0.11	0.14	0.17	0.18	0.21	0.03	0.00	0.00	0.00	0.05	0.06	0.07
Netherlands	45%	NA	NA	NA	0.54	0.55	0.57	0.56	0.53	0.54	0.53	0.54	0.54	0.54	0.55	0.53	0.54	0.52	0.55	0.54	0.55	0.57	0.58
Norway	20%	NA	NA	NA	0.09	0.15	0.23	0.28	0.38	0.43	0.69	0.70	0.72	0.58	0.65	0.68	0.74	0.74	0.78	0.78	0.75	0.70	0.79
Poland	45%	NA	NA	NA	0.04	0.04	0.07	0.04	0.04	0.05	0.06	0.05	0.03	0.05	0.06	0.07	0.07	0.07	0.12	0.15	0.17	0.21	0.24
Portugal	55%	NA	NA	NA	0.23	0.29	0.16	0.15	0.15	0.13	0.14	0.05	0.11	0.12	0.12	0.11	0.12	0.13	0.14	0.13	0.16	0.26	0.23
Romania	45%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Slovakia	55%	NA	NA	NA	NA	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.05	0.05	0.02	0.06	0.09	0.09	0.10	0.10	0.11	0.13	0.13
Slovenia	20%	NA	NA	NA	0.01	0.03	0.07	0.09	0.09	0.07	0.06	0.07	0.08	0.08	0.08	0.07	0.07	0.08	0.09	0.11	0.26	0.28	0.23
Spain	45%	NA	NA	NA	0.00	0.00	0.00	0.00	0.14	0.26	0.23	0.33	0.33	0.36	0.38	0.38	0.38	0.54	0.40	0.26	0.22	0.23	0.23
Sweden	35%	NA	NA	NA	0.18	0.20	0.21	0.23	0.25	0.27	0.28	0.24	0.26	0.29	0.32	0.34	0.32	0.33	0.36	0.39	0.40	0.41	0.44
Switzerland	25%	0.23	0.25	0.34	0.38	0.42	0.44	0.46	0.45	0.54	0.54	0.59	0.60	0.61	0.62	0.66	0.68	0.66	0.68	0.67	0.62	0.61	0.69
Turkey	35%	NA	NA	NA	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.04	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.01	0.01
United Kingdom	35%	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.08	0.09	0.11	0.14	0.20	0.24	0.29	0.33	0.38	0.40	0.43	0.45	0.45	0.46

Insufficient data

Table S10: Ontario summary of organic waste diversion and factor data.

Notes	Type	Municipality	CODE	Organic Diversion			Socio-Economic			Infrastructure			Landfill Fee		Legislation	Economic Incentive	
				Organic Waste Diverted			Median income	Population	Population density	Years since GB implementation	Infrastructure (0-3)	Centralized green bin	Centralized L&Y	Landfill Fee	Landfill Fee Source	Bag Limit	PAYT
				(fractional % of organic waste generated)			(CDN \$)	(Inhabitants/km2)			(scale 0-3)	(0=no, 1=yes)	(0=no, 1=yes)			(0=no, 1=yes)	(0=no, 1=yes)
				2006	2009	2013	2011	2011	2011	as of 2013	as of 2013	as of 2013	as of 2013	as of 2016	as of 2013	as of 2013	as of 2013
	TP	ALFRED AND PLANTAGENET, TOWNSHIP OF	AP	0.01	0.06	0.00	28708	9196	23.4323	0	0	0	0	90	http://www.ru	1	1
	TP	AMARANTH, TOWNSHIP OF	AMA	0.09	0.30	0.36	33038	3963	14.9833	6	3	1	1	95	https://www.a	1	1
	T	ARNPRIOR, TOWN OF	ARN	0.26	0.16	0.11	28099	8114	622.182	0	1	0	1	120	http://arnprior	0	1
	TP	ATHENS, TOWNSHIP OF	ATH	0.16	0.21	0.17	28852	3118	24.4033	0	0	0	0	110	http://www.lei	0	1
	TP	AUGUSTA, TOWNSHIP OF	AUG	0.02	0.09	0.00	29499	7430	23.6074	0	1	0	1	110	http://www.au	0	0
	T	AYLMER, TOWN OF	AYL	0.33	0.19	0.30	24019	7151	1148.8658	0	0	0	0	108	http://www.m	0	1
	CY	BARRIE, CITY OF	BAR	0.30	0.42	0.35	30838	135711	1753.61	5	3	1	1	145	http://www.ba	0	1
	MU	BAYHAM, MUNICIPALITY OF	BAY	0.00	0.00	0.02	24411	6989	28.5	0	2	0	1	85	http://www.ridgelan	0	1
	TP	BONNECHERE VALLEY, TOWNSHIP OF	BON	0.07	0.01	0.25	29814	3763	6.3437	11	3	1	1	55	http://www.bc	0	1
	CDR	BRANT, COUNTY OF	BRC	0.05	0.08	0.13	29093	136035	124.4	0	1	0	1	87.5	http://www.br	1	0
	CY	BRANTFORD, CITY OF	BRA	0.13	0.20	0.28	28916	93650	1292.3231	0	1	0	1	69	http://www.br	1	0
	CY	BROCKVILLE, CITY OF	BROCK	0.25	0.39	0.27	26885	21870	1046.1862	0	1	0	1	110	http://www.lei	0	1
	T	CARLETON PLACE, TOWN OF	CAR	0.18	0.18	0.27	35287	9809	1110.3188	0	1	0	1	140	http://www.m	0	1
	MU	CENTRAL ELGIN, MUNICIPALITY OF	CELG	0.00	0.01	0.03	31941	12743	45.4735	0	1	0	1	108	http://www.m	0	1
	MU	CHATHAM-KENT, MUNICIPALITY OF	CHK	0.27	0.33	0.35	26221	103671	42.1755	0	1	0	1	102	http://www.ch	1	1
		CHIPPEWAS OF RAMA FIRST NATION	CHI	0.00	0.00	0.25	20628	870	81.3	1	3	1	1	155	http://www.sir	1	0
	CY	CLARENCE-ROCKLAND, CITY OF	CLA	0.03	0.21	0.16	40242	23185	77.839	0	1	0	1	90	http://www.ru	1	0
	TP	CONMEE, TOWNSHIP OF	CON	0.00	0.07	0.07	26301	764	4.5257	0	0	0	0	63.93	http://www.th	0	0
	CY	CORNWALL, CITY OF	COR	0.06	0.08	0.13	24555	46340	753.2093	0	2	0	1	70	http://www.sir	0	0
	T	DEEP RIVER, TOWN OF	DRIV	0.00	0.02	0.05	41949	4193	82.3772	0	1	0	1	75	http://www.nc	0	0
	CY	DRYDEN, CITY OF	DRY	0.03	0.02	0.02	33359	7617	115.6834	0	0	0	0	90	http://www.dr	0	1
	CTY	DUFFERIN, COUNTY OF	DUF	NA	NA	0.51	33038	56881	38.3	14	3	1	1	85	519.941.2816 €	0	1
	RM	DURHAM, REGIONAL MUNICIPALITY OF	DUR	0.34	0.56	0.54	34966	608124	241	10	3	1	1	120	http://www.du	0	1
		DUTTON-DUNWICH, MUNICIPALITY OF		0.00	0.00	0.02	32121	3876	13.2	0	1	0	1	109.27	http://www.du	0	0
	TP	EAST GARAFRAXA, TOWNSHIP OF	EGAR	0.00	0.18	0.20	40645	2595	15.6284	6	3	1	1	90	Based on Muln	1	1
	TP	EAST LUTHER GRAND VALLEY, TOWNSHIP OF	ELU	0.31	0.49	0.59	26923	2726	17.2278	14	3	1	1	90	Based on Muln	0	1
	T	ESPANOLA, TOWN OF	ESP	0.00	0.00	0.02	32552	5364	65.0625	0	0	0	0	41	http://www.es	1	0
	CTY	ESSEX-WINDSOR SOLID WASTE AUTHORITY	EW	0.22	0.29	0.32	28,924	388782	210.1	0	2	0	1	64	http://www.ev	1	0
		GANANOQUE, TOWN OF	GAN	0.41	0.00	0.32	28319	5194	740.8	0	1	0	1	110	http://www.lei	1	1
	TP	GREATER MADAWASKA, TOWNSHIP OF	GMAD	0.00	0.00	0.01	29814	2485	2.4	NA	NA	NA	NA	80	https://www.ti	0	0
	T	GREATER NAPANEE, TOWNSHIP OF	GNAP	0.04	0.05	0.04	28217	15511	33.6241	0	1	0	1	60	http://napanee	1	1
	CV	GREATER SUDBURY, CITY OF	GSUD	0.22	0.30	0.35	32941	160274	49.6607	4	3	1	1	73	https://www.g	0	1
		GREY HIGHLANDS, MUNICIPALITY OF	GHIGH	0.00	0.00	0.02	27999	9520	10.8	0	0	0	0	200	http://www.gr	1	1
	CY	GUELPH, CITY OF	GUE	0.39	0.40	0.82	33357	121688	1395.4374	2	3	1	1	75	http://guelph.c	0	1
	CY	HALDIMAND, COUNTY OF	HALD	0.03	0.06	0.06	30734	44876	35.8558	0	1	0	1	119	http://www.ha	1	0
	RM	HALTON, REGIONAL MUNICIPALITY OF	HALT	0.26	0.66	0.63	39662	501669	520.4	7	3	1	1	165	http://www.ha	1	1
	C	HAMILTON, CITY OF	HAM	0.37	0.50	0.51	29399	519949	465.3918	7	3	1	1	117.5	https://www.h	1	0
	T	HANOVER, TOWN OF	HAN	0.00	0.00	0.10	26973	7490	763.8103	0	1	0	1	110	http://www.ha	0	1
	TP	HEAD, CLARA AND MARIA, TOWNSHIPS OF	HCM	0.17	0.02	0.12	29814	235	0.3227	0	1	0	1	85	http://www.to	0	1
	MU	HIGHLANDS EAST, MUNICIPALITY OF	HIE	0.00	0.01	0.01	21058	3249	4.6058	0	0	0	0	56.61	http://www.hij	0	0
	TP	HILLIARD, TOWNSHIP OF	HIL	0.00	0.01	0.00	25476	204	2.2372	0	0	0	0	11.1	https://icreate	0	0
	MU	HURON EAST, MUNICIPALITY OF	HUEA	NA	NA	NA	30055	9264	13.8422	0	1	0	1	90	http://www.hu	NA	NA
	CY	KAWARTHA LAKES, CITY OF	KAW	0.01	0.03	0.23	27903	73214	23.7472	0	1	0	1	95	https://www.c	0	1
		KILLALOE, HAGARTY, AND RICHARDS, TOWNSHIP OF	KIL	0.00	0.01	0.07	29814	2402	6.066	0	2	0	1	95	http://www.kil	0	1
	CY	KINGSTON, CITY OF	KING	0.35	0.50	0.55	31370	123363	273.4284	7	3	1	1	104.5	http://www.sti	0	1
	TP	LANARK HIGHLANDS, TOWNSHIP OF	LAN	0.00	0.00	0.00	31960	5128	4.8922	0	0	0	0	140	http://www.m	1	0
	T	LAURENTIAN HILLS, TOWN OF	LAUR	0.10	0.03	0.18	33711	2811	4.3889	0	0	0	0	75	http://www.nc	0	0

CY	ST. THOMAS, CITY OF	STT	0.47	0.55	0.55	28770	37905	1067.2625	12	3	1	1	108	http://www.m	0	1
CY	STRATFORD, CITY OF	STRA	0.22	0.30	0.23	32523	30886	1146.0142	0	2	0	1	76	https://www.s	0	1
MU	STRONG, TOWNSHIP OF	STRO	0.02	0.04	0.00	30326	1341	8.4	0	0	0	0	95	Average	0	0
MU	THAMES CENTRE, MUNICIPALITY OF	THA	0.18	0.32	0.50	33205	13000	30	0	1	0	1	130	http://www.th	0	1
T	THE BLUE MOUNTAINS, TOWN OF	TBM	0.24	0.25	0.22	34694	6453	22.4663	0	3	1	1	120	http://www.th	1	1
CY	THUNDER BAY, CITY OF	THU	0.03	0.06	0.04	31182	108359	330.121	0	1	0	1	63.93	http://www.th	1	0
C	TIMMINS, CITY OF	TIM	0.00	0.00	0.01	31778	43165	14.5	0	1	0	1	75	http://www.tir	1	0
C	TORONTO, CITY OF	TOR	0.46	0.50	0.63	27371	2615060	4149.4748	11	3	1	1	109.27	http://www1.t	1	1
RM	WATERLOO, REGIONAL MUNICIPALITY OF	WAT	0.37	0.54	0.61	32780	507096	370	7	3	1	1	75	http://www.re	1	1
CTY	WELLINGTON, COUNTY OF	WEL	0.01	0.03	0.08	33475	208360	78.3	0	0	0	0	75	http://www.wi	0	1
MU	WEST ELGIN, MUNICIPALITY OF	WELG	0.08	0.08	0.07	23359	5157	15.9899	0	1	0	0	108	http://www.m	0	0
MU	WEST GREY, MUNICIPALITY OF	WGR	0.06	0.06	0.31	27723	12286	14.0248	0	1	0	1	130	http://www.wi	0	1
RM	YORK, REGIONAL MUNICIPALITY OF	YOR	0.34	0.68	0.69	31341	1032524	585.9	9	3	1	1	82.5	http://www.yc	1	1

Unreliable data (do not have at least 3 consecutive years of data collection, are lacking at least 1 non-zero diversion value, or are missing factorial data)
Region unclear
Diversion data (other than 2013) adjusted due to infeasibility
2013 data not available
Not included in final FAMD and regression models
Estimated from regional information

Estimated from regional information

Table S11: Ontario municipal contact data collection. Provides contact information by census division (larger regional area) and census subdivision (generally the jurisdiction of interest), along with information gathered through municipal contacts on various explanatory variables.

Notes	Type	Municipality	Census Division	Census Division Contact	Census Subdivision Contact	Infrastructure scale (0-3)	Centralized Food Waste (Greenbin) Program (0/1)	Greenbin Start Date (year)	Greenbin full rollout (year)	Centralized L&Y Waste Program (0/1)	L&Y Waste Start Date (year)	Census Division Policy (Notes)	Census Subdivision Policy (Notes)
	TP	ALFRED AND PLANTAGENET, TOWNSHIP OF		Public works: mclermont@prescott-russell.on.ca	publicworks-travauxpublics@alfred-plantagenet.com	0	0	NA	NA	0	NA		It is noted the Township does not accept organic materials for the purpose of composting at either of the landfill sites. Implementation of a composting program was considered by the Township, but the anticipated quantity of organic materials to be diverted from the landfill were determined inadequate at this time to justify the fees to amend the site Certificate of Approval and establish a composting facility - 2011
	TP	AMARANTH, TOWNSHIP OF	Prescott and Russell	dufferinwaste@dufferincounty.ca	NA	3	1	2007	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	Accept L&Y waste ~6 times per year @ landfill -
	T	ARNPRIOR, TOWN OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com http://www.leedsgrenville.com/en/govern/contactus/PublicWorksCont	Director of public works: gbougon@arnprior.ca	1	0	NA	NA	1	NA	The OVWRC began operation in January 2002 and is a partnership between the Town of Petawawa, City of Pembroke, Township of Laurentian Valley, Township of North Algona Wilberforce, and Sebastopol Ward of Bonnechere Valley, all located within Renfrew County. - http://www.petawawa.ca/residents/public-works/waste-management/	L&Y waste 2x per year.
	TP	ATHENS, TOWNSHIP OF	Leeds and Grenville	act.asp http://www.leedsgrenville.com/en/govern/contactus/PublicWorksCont	Public works: 613.924.2044	0	0	NA	NA	0	NA		
	TP	AUGUSTA, TOWNSHIP OF	Leeds and Grenville	act.asp	NA	1	0	NA	NA	1	NA		
	T	AYLMER, TOWN OF	Elgin	http://www.elgincounty.ca/contact	NA	0	0	NA	NA	0	NA		
	CY	BARRIE, CITY OF	Simcoe	info@simcoe.ca	NA	3	1	2008	2008	1	NA	greenbin program	
	MU	BAYHAM, MUNICIPALITY OF	Elgin	http://www.elgincounty.ca/contact	NA	2	0	NA	NA	1	NA		
	TP	BONNECHERE VALLEY, TOWNSHIP OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com http://www.brant.ca/en/contacts/search.aspx?s=gH6Z2KJdn9kLW97B0syweQuAleQuAl&keyword=Public%20Works	NA	3	1	2002	2016	1	2002		The OVWRC began operation in January 2002 and is a partnership between the Town of Petawawa, City of Pembroke, Township of Laurentian Valley, Township of North Algona Wilberforce, and Sebastopol Ward of Bonnechere Valley, all located within Renfrew County. - http://www.petawawa.ca/residents/public-works/waste-management/
	CDR	BRANT, COUNTY OF	Brant	http://www.brant.ca/en/contacts/search.aspx?s=gH6Z2KJdn9kLW97B0syweQuAleQuAl&keyword=Public%20Works	NA	1	0	NA	NA	1	1999	no evident policy or infrastructure. L&Y waste three times per year in urban areas, christmas tree collection	
	CY	BRANTFORD, CITY OF	Brant	http://www.brant.ca/en/contacts/search.aspx?s=gH6Z2KJdn9kLW97B0syweQuAleQuAl&keyword=Public%20Works	NA	1	0	NA	NA	1	1999	no evident policy or infrastructure. L&Y waste three times per year in urban areas, christmas tree collection	L&Y plus Xmas trees
	CY	BROCKVILLE, CITY OF	Leeds and Grenville	act.asp	NA	1	0	NA	NA	1	1992		
	T	CARLETON PLACE, TOWN OF	Lanark	responsibility of municipality	dyoung@carletonplace.ca	1	0	NA	NA	1	NA		
	MU	CENTRAL ELGIN, MUNICIPALITY OF	Elgin	http://www.elgincounty.ca/contact	NA	1	0	NA	NA	1	NA		drop off, 1x per week, May-Nov, incl. food scraps
	MU	CHATHAM-KENT, MUNICIPALITY OF	Chatham-Kent	ckwaste@chatham-kent.ca	NA	1	0	NA	NA	1	1990	No evident policy or infrastructure	l&y waste
	FN	CHIPPEWAS OF RAMA FIRST NATION	Simcoe	info@simcoe.ca	NA	3	1	2012	NA	1	NA	http://www.orilliapacket.com/2011/12/13/rama-ready-to-roll-out-compost-program	
	CY	CLARENCE-ROCKLAND, CITY OF	Prescott and Russell	Public works: mclermont@prescott-russell.on.ca	waste rockland.com/index.php/en/waste	1	0	NA	NA	1	2016	no evident policy, no evident infrastructure	
	TP	CONMEE, TOWNSHIP OF	Thunder Bay	NA	conmeeroads@tbaytel.net http://survey2.esolutionsgroup.ca/TakeSurvey.aspx?SurveyID=n211n94	0	0	NA	NA	0	NA	NA	
	CY	CORNWALL, CITY OF	Stormont, Dundas and Glengarry	NA	NA	2	0	NA	NA	1	NA	NA	L&Y and backyard
	T	DEEP RIVER, TOWN OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com http://www.kenora.ca/cityhall/city-services/waste-recycling/transfer-facility.aspx	NA	1	0	NA	NA	1	NA		
	CY	DRYDEN, CITY OF	Kenora	facility.aspx	publicworks@dryden.ca	0	0	NA	NA	0	NA	None	None
	CY	DUFFERIN, COUNTY OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	1999	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
	RM	DURHAM, REGIONAL MUNICIPALITY OF	Durham	works@durham.ca	NA	3	1	2003	2006	1	1997	have greenbin program	
	MU	DUTTON-DUNWICH, MUNICIPALITY OF	Elgin	http://www.elgincounty.ca/contact	NA	1	0	NA	NA	1	NA		
	TP	EAST GARAFRAXA, TOWNSHIP OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	2007	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
	TP	EAST LUTHER GRAND VALLEY, TOWNSHIP OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	1999	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
	T	ESPANOLA, TOWN OF	Sudbury	NA	pubworks@espanola.ca	0	0	NA	NA	0	NA	NA	L&Y
	CY	ESSEX-WINDSOR SOLID WASTE AUTHORITY	Essex	Essex-Windsor solid waste authority: http://www.ewswa.org/contact-us/ http://www.leedsgrenville.com/en/govern/contactus/PublicWorksCont	NA	2	0	NA	NA	1	NA	yard waste	
	T	GANANOQUE, TOWN OF	Leeds and Grenville	act.asp	NA	1	0	NA	NA	1	NA		
	TP	GREATER MADAWASKA, TOWNSHIP OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com	NA http://www.greaternapanee.com/en/livinghere/leavesbrushandyardwaste.asp	NA	NA	NA	NA	NA	NA		
	T	GREATER NAPANEE, TOWNSHIP OF	Lennox and Addington	NA	NA	1	0	NA	NA	1	NA		L&Y plus backyard composting
	CV	GREATER SUDBURY, CITY OF	Greater Sudbury / Grand Sudbury	705-671-2489 or 311@greatersudbury.ca	NA	3	1	2009	2009	1	1997/2008		have green cart program
	MU	GREY HIGHLANDS, MUNICIPALITY OF	Grey	http://www.grey.ca/services/local-municipalities/?i=7365	http://www.greyhighlands.ca/gov.php?pgid=190	0	0	NA	NA	0	NA		backyard composting
	CY	GUELPH, CITY OF	Wellington	wasteinfo@wellington.ca	waste@guelph.ca	3	1	2011	2013	1	NA	NA	green cart
	CY	HALDIMAND, COUNTY OF	Haldimand-Norfolk	/emailus.aspx	NA	1	0	NA	NA	1	Pre 2011		l&y only
	RM	HALTON, REGIONAL MUNICIPALITY OF	Halton	NA	accesshalton@halton.ca wastemanagement@hamilton.ca	3	1	2006	2018	1	1996	na	green cart program
	C	HAMILTON, CITY OF	Hamilton	NA	NA	3	1	2006	2010	1	NA	na	green bin program
	T	HANOVER, TOWN OF	Grey	http://www.grey.ca/services/local-municipalities/?i=7365	rcooper@hanover.ca	1	0	NA	NA	1	1995		leaf collection
	TP	HEAD, CLARA AND MARIA, TOWNSHIPS OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com	NA	1	0	NA	NA	1	NA		
	MU	HIGHLANDS EAST, MUNICIPALITY OF	Haliburton	NA	info@highlandseast.ca	0	0	NA	NA	0	NA	na	?
	TP	HILLIARD, TOWNSHIP OF	Timiskaming	http://www.temiskamingshores.ca/en/city-hall/Contact-Us.asp	NA	0	0	NA	NA	0	NA	NA	
	MU	HURON EAST, MUNICIPALITY OF	Huron	waste@huroncounty.ca - likely not helpful https://www.city.kawarthalakes.on.ca/contact-info	http://www.huroneast.com/index.php?slb=cnt	1	0	NA	NA	1	NA		
	CY	KAWARTHA LAKES, CITY OF	Kawartha Lakes	ca/contact-info	NA	1	0	NA	NA	1	NA		
	TP	KILLALOE, HAGARTY, AND RICHARDS, TOWNSHIP OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com	NA	2	0	NA	NA	1	NA		
	CY	KINGSTON, CITY OF	Frontenac	NA	contactus@cityofkingston.ca	3	1	2006	2006	1	2006		organics collection

TP	LANARK HIGHLANDS, TOWNSHIP OF	Lanark	responsibility of municipality Ottawa valley waste recovery centre: info@ovwrc.com http://www.leedsgrenville.com/en/ govern/contactus/PublicWorksCont act.asp	lhreception@lanarkhighlands. ca	0	0	NA	NA	0	NA		none, should be implementing L&Y
T	LAURENTIAN HILLS, TOWN OF	Renfrew	http://www.leedsgrenville.com/en/ govern/contactus/PublicWorksCont act.asp	NA	0	0	NA	NA	0	NA		
TP	LEEDS AND THE THOUSAND ISLANDS, TOWNSHIP OF	Leeds and Grenville	https://www.middlesex.ca/contact	NA	2	0	NA	NA	1	NA		
CY	LONDON, CITY OF	Middlesex	https://www.middlesex.ca/contact	es@london.ca	2	0	NA	NA	1	NA		L&Y plus backyard composting
TP	LOYALIST, TOWNSHIP OF	Lennox and Addington	NA	info@loyalist.ca http://www.machartownship .net/guide.html	1	0	NA	NA	1	NA		L&Y plus backyard composting
TP	MACHAR, TOWNSHIP OF	Parry Sound	responsibility of municipality Ottawa valley waste recovery centre: info@ovwrc.com	NA	1	0	NA	NA	1	NA		
TP	MADAWASKA VALLEY, TOWNSHIP OF	Renfrew	http://www.elgincounty.ca/contact	NA	3	1	2002	2002	1	NA		
TP	MALAHIDE, TOWNSHIP OF	Elgin	http://www.elgincounty.ca/contact	NA	1	0	NA	NA	1	NA		
T	MARATHON, TOWN OF	Thunder Bay	NA	http://township.mckellar.on.c a/municipal- services/municiple- departments/waste- management/	1	0	NA	NA	1	NA		
TP	MCKELLAR, TOWNSHIP OF	Parry Sound	responsibility of municipality Ottawa valley waste recovery centre: info@ovwrc.com	NA	1	0	NA	NA	1	NA		
TP	MCNAB-BRAESIDE, TOWNSHIP OF	Renfrew	by municipality: http://www.grey.ca/services/local- municipalities/?i=7365	waste@meaford.ca	3	1	1998	2011	1	2009		green bin
MU	MEAFORD, MUNICIPALITY OF	Grey	http://www.grey.ca/services/local- municipalities/?i=7365	NA	3	1	2007	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
TP	MELANCTHON, TOWNSHIP OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	2007	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
T	MISSISSIPPI MILLS, TOWN OF	Lanark	responsibility of municipality	sp	1	0	NA	NA	1	NA		L&Y and backyard comp
T	MONO, TOWN OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	2002	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
TP	MULMUR, TOWNSHIP OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	2007	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
DM	MUSKOKA, DISTRICT MUNICIPALITY OF	Muskoka	publicworks@muskoka.on.ca	NA	3	1	2007	2012	1	2004	Sydney, Port Carling, Bala, MacTier, Port Severn and Honey Harbour	
MU	NEEBING, MUNICIPALITY OF	Thunder Bay	NA	neebing@neebing.org	0	0	NA	NA	0	NA	NA	organics materials can be dropped at landfill - not sure of the details here.
RM	NIAGARA, REGIONAL MUNICIPALITY OF	Niagara	www.niagararegion.ca/government /contact/default.aspx	NA	3	1	2001	2011	1	1996	have greenbin program	
CY	NORFOLK, COUNTY OF	Haldimand-Norfolk	http://www.haldimandcounty.on.ca /emailus.aspx	NA	2	0	NA	NA	1	Pre 2011		
CY	NORTH BAY, CITY OF	Nipissing	NA	customerservice@cityofnorth bay.ca	1	0	NA	NA	1	NA	na	L&Y plus backyard composting
MU	NORTH GRENVILLE, MUNICIPALITY OF	Leeds and Grenville	http://www.leedsgrenville.com/en/ govern/contactus/PublicWorksCont act.asp	NA	1	0	NA	NA	1	2007?		
TP	NORTH HURON, TOWNSHIP OF	Huron	waste@huroncounty.ca - likely not helpful	http://www.northhuron.ca/c ontact.php	0	0	NA	NA	0	NA		None
TP	NORTH STORMONT, TOWNSHIP OF	Stormont, Dundas and Glengarry	NA	admin@northstormont.ca	1	0	NA	NA	1	NA	NA	L&Y and backyard
MU	NORTHEASTERN MANITOULIN & ISLANDS, TOWN OF	Bruce	http://www.brucecounty.on.ca/ho me/contact.php	NA	1	0	NA	NA	1	NA	No evident policy or infrastructure	
MU	NORTHERN BRUCE PENINSULA, MUNICIPALITY OF	Bruce	http://www.brucecounty.on.ca/ho me/contact.php	http://www.northbrucepenin sula.ca/content/waste	1	0	NA	NA	1	NA		
CTY	NORTHUMBERLAND, COUNTY OF	Northumberland	nemech@northumberlandcounty.c a	NA	2	0	NA	NA	1	NA	L&Y plus backyard composting	http://www.northumberlandcounty.ca/en/departments_publicworks/resources/waste_master_plan/LTWMM P.pdf
T	ORANGEVILLE, TOWN OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	1999	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
CY	ORILLIA, CITY OF	Simcoe	info@simcoe.ca	NA	3	1	2008	2008	1	NA	greenbin program	
NA	OTTAWA VALLEY WASTE RECOVERY CENTRE	Ottawa	NA	NA	3	1	2001	2002	1	NA		
CV	OTTAWA, CITY OF	Ottawa	NA	NA	3	1	2000	2010	1	1994	na	green bin + L&Y
CY	OWEN SOUND, CITY OF	Grey	by municipality: http://www.grey.ca/services/local- municipalities/?i=7365	cityadmin@owensound.ca	1	0	NA	NA	1	NA		no food waste, but have l&y for drop off
CTY	OXFORD, RESTRUCTURED COUNTY OF	Oxford	http://www.oxfordcounty.ca/Conta ct-Us	http://peelregion.ca/contact/waste. htm	2	0	NA	NA	1	2004	none	na
RM	PEEL, REGIONAL MUNICIPALITY OF	Peel	http://www.oxfordcounty.ca/Conta ct-Us	NA	3	1	1994	2016	1	NA	green bin	
TP	PERRY, TOWNSHIP OF	Parry Sound	responsibility of municipality	info@townshipofperry.ca	1	0	NA	NA	1	NA	na	none
T	PERTH, TOWN OF	Lanark	responsibility of municipality	hlundberg@perth.ca	3	1	2006	2008	1	2005		have green bin program!
CY	PETERBOROUGH, CITY OF	Peterborough	waste@county.peterborough.on.ca	pubworks@peterborough.ca	2	0	NA	NA	1	1990	Some level of organics program.	Green waste program - drop off
CTY	PETERBOROUGH, COUNTY OF	Peterborough	waste@county.peterborough.on.ca	NA	1	0	NA	NA	1	NA	Some level of organics program.	NA
T	PETROLIA, TOWN OF	Lambton	responsibility of municipality	http://www.siouxlookout.ca/ en/your-local- government/contact-us.asp	1	0	NA	NA	1			
T	PLYMPTON-WYOMING, TOWN OF	Lambton	responsibility of municipality	http://plympton- wyoming.com/contact	1	0	NA	NA	0	NA	None	None
T	PRESCOTT, TOWN OF	Prescott and Russell	russell.on.ca	admin@prescott.ca	2	0	NA	NA	1	NA	no evident policy, no evident infrastructure	no evident policy, no evident infrastructure
NA	QUINTE WASTE SOLUTIONS	Hastings	NA	NA	NA	NA	NA	NA	1	NA		http://www.prescott.ca/en/our-town-hall/Garbage-and-Recycling.asp
T	RENFREW, TOWN OF	Renfrew	Ottawa valley waste recovery centre: info@ovwrc.com	NA	1	0	NA	NA	1	NA		
TP	RUSSELL, TOWNSHIP OF	Prescott and Russell	Public works: mclermont@prescott- russell.on.ca	publicworks.voirie@russell.ca	1	0	NA	NA	1	NA	no evident policy, no evident infrastructure	
CY	SARNIA, CITY OF	Lambton	responsibility of municipality	http://www.sarnia.ca/contact	2	0	NA	NA	1	2009	None	Drop off leaf and yard waste
CY	SAULT STE. MARIE, CITY OF	Algoma	info@algomacountry.com	NA	2	0	NA	NA	1	2002	L&Y plus backyard composting	
TP	SEGUIN, TOWNSHIP OF	Parry Sound	responsibility of municipality	/wasterecycling.asp	0	0	NA	NA	0	NA	na	none
T	SHELBURNE, TOWN OF	Dufferin	dufferinwaste@dufferincounty.ca	NA	3	1	1999	2007	1	1993	Dufferin county, has a green bin program that has been in full operation since 2007.	
CTY	SIMCOE, COUNTY OF	Simcoe	info@simcoe.ca	NA	3	1	2008	2008	1	NA	greenbin program	
MU	SIoux LOOKOUT, TOWN OF	Kenora	http://www.kenora.ca/cityhall/city- services/waste-recycling/transfer- facility.aspx	NA	1	0	NA	NA	1	NA	None	None
T	SMITHS FALLS, TOWN OF	Lanark	responsibility of municipality	vbernicky@smithsfalls.ca http://www.southstormont.c a/?lid=4B6GP-353HC- FMH9R&comaction=message &pkContact=31	1	0	NA	NA	1	NA		drop off L&Y and backyard composting
TP	SOUTH STORMONT, TOWNSHIP OF	Stormont, Dundas and Glengarry	NA	http://www.southstormont.c a/?lid=4B6GP-353HC- FMH9R&comaction=message &pkContact=31	2	0	NA	NA	1	2006	NA	L&Y and backyard
TP	SOUTHGATE, TOWNSHIP OF	Grey	by municipality: http://www.grey.ca/services/local- municipalities/?i=7365	tdupuis@southgate.ca	3	1	2003	2003	1	NA		Green cart

MU	SOUTHWEST MIDDLESEX, MUNICIPALITY OF	Middlesex	https://www.middlesex.ca/contact	NA	0	0	NA	NA	0	NA	
MU	ST. CHARLES, MUNICIPALITY OF	Sudbury	NA	pw@stcharlesontario.ca	1	0	NA	NA	1	NA	
TP	ST. CLAIR, TOWNSHIP OF	Lambton	responsibility of municipality	a	1	0	NA	NA	1	NA	None
CY	ST. THOMAS, CITY OF	Elgin	http://www.elgincounty.ca/contact	NA	3	1	2001	2001	1	2001	green bin program
CY	STRATFORD, CITY OF	Perth	NA	https://www.stratfordcanada.ca/en/livehere/leafandyardwaste.asp	2	0	NA	NA	1	NA	N/A
MU	STRONG, TOWNSHIP OF	Parry Sound	responsibility of municipality	http://www.strongtownship.com/content/community-information/waste-management#contact	0	0	NA	NA	0	NA	
MU	THAMES CENTRE, MUNICIPALITY OF	Middlesex	https://www.middlesex.ca/contact	NA	1	0	NA	NA	1	NA	
T	THE BLUE MOUNTAINS, TOWN OF	Grey	http://www.grey.ca/services/local-municipalities/?i=7365	ipwinfo@thebluemountains.ca	3	1	2015	NA	1	2015	Green bin
CY	THUNDER BAY, CITY OF	Thunder Bay	NA	mjsmith@thunderbay.ca	1	0	NA	NA	1	NA	NA
C	TIMMINS, CITY OF	Cochrane	NA	http://www.timmins.ca/residents/waste-management	1	0	NA	NA	1	NA	
C	TORONTO, CITY OF	Toronto	NA	311@toronto.ca	3	1	2002	2009	1	Pre 1990	NA
RM	WATERLOO, REGIONAL MUNICIPALITY OF	Waterloo	Greenbin@regionofwaterloo.ca	NA	3	1	2006	2010	1	80's or 90's	green bin program
CTY	WELLINGTON, COUNTY OF	Wellington	wasteinfo@wellington.ca	NA	0	0	NA	NA	0	NA	maybe L&Y? hard to say
MU	WEST ELGIN, MUNICIPALITY OF	Elgin	http://www.elgincounty.ca/contact	NA	1	0	NA	NA	0	NA	
MU	WEST GREY, MUNICIPALITY OF	Grey	http://www.grey.ca/services/local-municipalities/?i=7365	jnuhn@westgrey.com	1	0	NA	NA	1	NA	
RM	YORK, REGIONAL MUNICIPALITY OF	York	info@york.ca	NA	3	1	2004	2007	1	Pre 1990	green bin within local municipalities

- Unreliable data (do not have at least 3 consecutive years of data collection, are lacking at least 1 non-zero diversion value, or are missing factorial data)
- Region unclear
- Diversion data (other than 2013) adjusted due to infeasibility
- 2013 data not available
- Not included in final FAMD and regression models
- Unknown (although program does exist)

ELLIOT LAKE, CITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3726	3065	2801	3791	3636	2709	2439	2423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EMO, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	687	329	368	375	350	358	420	350	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ENNISKILLEN, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	821	917	976	1144	854	958	912	807	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ESPAÑOLA, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	1	1	1	1	1	3	3	23	2923	2849	1824	2085	2058	1757	2234	2539	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
ESSEX-WINDSOR SOLID WASTE AUTHORITY	0.22	0.26	0.24	0.29	0.36	0.31	0.34	0.32	13565	16425	14505	15992	21974	19670	21015	19693	156692	157077	154270	136160	153203	157057	155223	155099	0.09	0.10	0.09	0.12	0.14	0.13	0.14	0.13	
FARADAY, TOWNSHIP OF	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	NA	NA	NA	0	0	0	0	0	NA	NA	NA	604	606	508	808	628	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	
FORT FRANCES, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3574	3169	3066	2604	3006	3061	3126	3187	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FRENCH RIVER, MUNICIPALITY OF	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	NA	NA	NA	0	0	0	0	0	NA	NA	NA	962	901	869	911	834	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	
FRONT OF YONGE, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1112	932	904	942	982	914	853	841	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FRONTENAC ISLANDS, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1034	1216	740	815	823	671	681	737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GANANOQUE, TOWN OF	0.41	0.00	0.00	0.00	0.32	0.29	0.30	0.32	314	0	0	0	213	213	213	223	1903	1415	1451	1435	1653	1831	1761	1725	0.17	0.00	0.00	0.00	0.13	0.12	0.12	0.13	
GEORGIAN BLUFFS, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	2810	2921	2658	2485	2186	1953	2028	2232	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GILLIES, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	110	109	172	192	178	148	157	132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GREATER MADAWASKA, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0	0	0	0	1	0	0	3	1316	1478	1034	1242	1210	1037	1022	1295	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
GREATER NAPANEE, TOWNSHIP OF	0.04	0.05	0.04	0.05	0.23	0.21	0.01	0.04	60	65	65	77	370	374	18	62	3661	3448	3674	3499	4089	4362	3586	4021	0.02	0.02	0.02	0.02	0.09	0.09	0.01	0.02	
GREATER SUDBURY, CITY OF	0.22	0.28	0.22	0.30	0.33	0.35	0.36	0.35	5506	8407	6982	8777	10613	10718	10914	11262	62055	76102	80431	74344	78593	76698	76652	80004	0.09	0.11	0.09	0.12	0.14	0.14	0.14	0.14	
GREY HIGHLANDS, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0	0	0	0	0	0	40	31	13929	12120	3961	4232	5626	6103	5135	4181	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	
GUELPH, CITY OF	0.39	0.63	0.37	0.40	0.35	0.45	0.79	0.82	7157	13767	6843	7215	6028	7932	13834	16385	45956	54254	46160	45308	42903	44189	43735	50108	0.16	0.25	0.15	0.16	0.14	0.18	0.32	0.33	
HALDIMAND, COUNTY OF	0.03	0.05	0.05	0.06	0.05	0.05	0.06	0.06	210	340	390	433	362	361	387	388	19146	18053	17857	16769	16561	17315	16216	16607	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.02	
HALTON, REGIONAL MUNICIPALITY OF	0.26	0.25	0.58	0.66	0.66	0.62	0.60	0.63	21296	18740	46962	52087	51388	50143	49188	52501	207621	187172	201103	197537	194787	203302	205538	207764	0.10	0.10	0.23	0.26	0.26	0.25	0.24	0.25	
HAMILTON, CITY OF	0.37	0.37	0.48	0.50	0.52	0.52	0.50	0.51	34734	33926	43267	43583	44849	44507	43890	45561	231936	228229	227210	218014	214897	215712	217683	222233	0.15	0.15	0.19	0.20	0.21	0.21	0.20	0.21	
HANOVER, TOWN OF	0.00	0.00	0.00	0.00	0.05	0.05	0.12	0.10	0	0	0	3	44	36	89	84	3839	2081	2170	2673	2106	1923	1913	2007	0.00	0.00	0.00	0.00	0.02	0.02	0.05	0.04	
HARLEY, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	406	218	301	239	231	216	232	217	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HASTINGS HIGHLANDS, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1362	1313	1702	1438	1569	1702	1431	2145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HAWKESBURY JOINT RECYCLING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	10849	11483	10268	7073	7163	7101	9955	9944	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HEAD, CLARA AND MARIA, TOWNSHIPS OF	NA	0.17	0.35	0.02	0.40	0.26	0.32	0.12	NA	16	19	1	30	23	20	16	NA	236	136	121	187	219	156	327	NA	0.07	0.14	0.01	0.16	0.10	0.13	0.05	
HIGHLANDS EAST, MUNICIPALITY OF	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	4	4	5	5	6	9	12	12	2090	1839	1745	2155	2150	2255	2293	2542	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
HILLIARD, TOWNSHIP OF	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0	0	0	0	0	0	0	0	41	41	102	113	88	91	88	84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HILTON BEACH, VILLAGE OF	NA	NA	NA	NA	NA	NA	0.01	0.00	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA	153	139	NA	NA	NA	NA	NA	NA	0.00	0.00	
HORTON, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1796	1625	716	933	928	894	1418	1209	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HOWICK, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1105	1539	1047	1239	1300	1201	828	986	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HUDSON, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	341	171	165	200	182	189	187	177	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HURON SHORES, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1159	737	656	689	705	605	628	767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
JAMES, TOWNSHIP OF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	251	NA	NA	NA	NA	NA	NA	NA	0.00	0.00
JOHNSON, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	662	666	351	279	360	285	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KAWARTHA LAKES, CITY OF	0.01	0.03	0.03	0.03	0.08	0.18	0.21	0.23	156	308	271	264	764	2302	2707	2968	31007	25515	23902	24702	25102	31386	32734	32878	0.01	0.01	0.01	0.01	0.03	0.07	0.08	0.09	
KEARNEY, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1115	510	477	410	530	479	469	565	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KENORA, CITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	4919	4553	4330	4397	4152	3972	4194	4988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KERNS, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	244	130	115	127	116	111	145	146	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KILLALOE, HAGARTY, AND RICHARDS, TOWNSHIP OF	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.07	0	0	3	3	4	6	10	29	1226	1031	913	1024	1028	918	740	985	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	
KILLARNEY, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	865	198	328	345	328	298	298	571	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KINGSTON, CITY OF	0.35	0.32	0.38	0.50	0.65	0.47	0.49	0.55	6471	5846	7095	9195	11215	7826	7766	8914	46554	45420	46568	46340	43056	41871	39766	40784	0.14	0.13	0.15	0.20	0.26	0.19	0.20	0.22	
KIRKLAND LAKE, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3176	3038	3059	3062	3143	2910	3345	3034	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
LANARK HIGHLANDS, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	3	3	3	3	3	3	4	2598	2552															

NORTH STORMONT, TOWNSHIP OF	0.00	0.05	0.06	0.06	0.07	0.07	0.06	0.05	0	42	45	39	52	51	45	37	1831	1962	1926	1767	1770	1838	1777	1759	0.00	0.02	0.02	0.02	0.03	0.03	0.03	0.02	
NORTHEASTERN MANITOULIN & ISLANDS, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	1454	1249	1073	1307	1249	1117	1120	955	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NORTHERN BRUCE PENINSULA, MUNICIPALITY OF	0.00	0.00	0.00	0.14	0.22	0.33	0.27	0.21	0	0	0	134	192	264	237	229	3982	1732	1788	2317	2170	1990	2157	2742	0.00	0.00	0.00	0.06	0.09	0.13	0.11	0.08	
NORTHUMBERLAND, COUNTY OF	0.09	0.11	0.18	0.16	0.16	0.17	0.18	0.19	1082	1308	2049	1727	1736	1894	2023	2072	30783	28516	28655	26587	27300	27403	27628	27783	0.04	0.05	0.07	0.06	0.06	0.07	0.07	0.07	
OCONNOR, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	343	197	275	237	218	202	191	201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
OLIVER PAIPOONGE, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	4683	1824	1876	1888	1805	1742	1774	1685	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ONEIDA NATION OF THE THAMES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	534	541	613	NA	NA	NA	NA	NA	0.00	0.00	
ORANGEVILLE, TOWN OF	0.15	0.30	0.40	0.39	0.39	0.39	0.43	NA	710	1264	1804	1665	1710	1833	2028	NA	11469	10589	11379	10623	10918	11761	11684	NA	0.06	0.12	0.16	0.16	0.16	0.16	0.17	0.20	
ORILLIA, CITY OF	0.47	0.43	0.49	0.60	0.62	0.66	0.40	0.66	2872	2473	2851	3542	3572	3778	2147	3616	15433	14281	14544	14840	14411	14335	13506	13743	0.19	0.17	0.20	0.24	0.25	0.26	0.16	0.26	
OTTAWA VALLEY WASTE RECOVERY CENTRE	0.51	0.56	0.52	0.61	0.60	0.60	0.60	0.58	3509	3666	3975	4852	4548	4642	4432	4600	17161	16264	18972	19994	18818	19365	18417	19979	0.20	0.23	0.21	0.24	0.24	0.24	0.24	0.23	
OTTAWA, CITY OF	0.22	0.22	0.25	0.27	0.40	0.44	0.47	0.57	29429	29798	34500	35991	53723	63233	64589	79790	339307	331571	341629	337706	337894	361755	342612	350657	0.09	0.09	0.10	0.11	0.16	0.17	0.19	0.23	
OWEN SOUND, CITY OF	0.36	0.35	0.23	0.15	0.29	0.37	0.47	0.44	1247	1096	878	602	1258	1309	1309	1275	8754	7745	9415	10027	10995	8775	7014	7202	0.14	0.14	0.09	0.06	0.11	0.15	0.19	0.18	
OXFORD, RESTRUCTURED COUNTY OF	0.28	0.42	0.39	0.48	0.52	0.51	0.52	0.62	3170	5128	4728	5953	8193	8637	9672	10626	27887	30350	29973	31058	39131	42570	46938	42714	0.11	0.17	0.16	0.19	0.21	0.20	0.21	0.25	
PAPINEAU-CAMERON, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	236	378	293	341	356	261	181	328	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PARRY SOUND, TOWN OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	2875	2627	2545	2518	2460	2507	2408	2291	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PEEL, REGIONAL MUNICIPALITY OF	0.25	0.35	0.43	0.44	0.36	0.37	0.40	0.39	45710	68093	87400	87000	69759	74101	78544	78086	460815	489304	503126	492586	482555	494973	486255	497226	0.10	0.14	0.17	0.18	0.14	0.15	0.16	0.16	
PERRY, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.04	0	0	0	0	15	17	19	16	1897	648	800	906	732	790	1007	1015	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	
PERTH, TOWN OF	0.10	0.18	0.17	0.60	0.52	0.51	0.48	0.28	203	198	233	674	569	572	546	258	5000	2816	3410	2804	2761	2790	2841	2271	0.04	0.07	0.07	0.24	0.21	0.20	0.19	0.11	
PETERBOROUGH, CITY OF	0.34	0.29	0.33	0.33	0.37	0.36	0.35	0.37	4587	3842	5012	4914	5129	5220	5151	5155	33867	33361	38038	37236	34501	35986	36949	34710	0.14	0.12	0.13	0.13	0.15	0.15	0.14	0.15	
PETERBOROUGH, COUNTY OF	0.00	0.01	0.03	0.07	0.08	0.14	0.10	0.11	43	85	97	687	714	1423	929	1103	25011	20453	22128	23568	23684	24671	24105	24688	0.00	0.00	0.00	0.03	0.03	0.06	0.04	0.04	
PETROLIA, TOWN OF	NA	0.00	0.00	0.00	0.24	0.96	0.39	0.49	NA	0	0	0	174	1284	294	429	NA	1893	1799	1851	1805	3340	1867	2185	NA	0.00	0.00	0.00	0.10	0.38	0.16	0.20	
PLYMPTON-WYOMING, TOWN OF	0.03	0.03	0.00	0.04	0.04	0.03	0.02	0.03	38	39	32	56	51	43	31	40	2823	2897	3120	3243	3145	3285	3163	3233	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	
POWASSAN, MUNICIPALITY OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3800	1323	1070	1148	1152	1021	1196	1303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRESCOTT, TOWN OF	0.27	0.32	0.38	0.22	0.32	0.30	0.30	0.00	150	166	176	114	185	196	199	0	1409	1310	1170	1300	1446	1611	1643	1475	0.11	0.13	0.15	0.09	0.13	0.12	0.12	0.00	
PRINCE, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	437	274	356	367	304	344	281	232	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
QUINTE WASTE SOLUTIONS	0.00	0.10	0.12	0.18	0.13	0.18	0.15	0.19	0	2078	2041	3176	2355	3091	2598	3225	38315	54412	44008	45064	46552	44015	42217	42436	0.00	0.00	0.05	0.07	0.00	0.00	0.00	0.00	
RAINY RIVER FIRST NATIONS	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	0	0	0	0	0	0	NA	NA	83	97	115	249	120	120	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	
RAINY RIVER, TOWN OF	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	0	0	0	0	0	0	NA	NA	247	295	276	2597	252	392	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	
RED LAKE, MUNICIPALITY OF	NA	NA	NA	NA	NA	NA	0.00	0.14	NA	NA	NA	NA	NA	NA	NA	71	NA	NA	NA	NA	NA	NA	2627	1245	NA	NA	NA	NA	NA	NA	0.00	0.06	
RENFREW, TOWN OF	0.03	0.02	0.05	0.04	0.03	0.06	0.07	0.03	44	29	48	47	33	69	74	29	4340	4775	2611	2821	2611	2816	2852	2531	0.01	0.01	0.02	0.02	0.01	0.02	0.03	0.01	
RIDEAU LAKES, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3225	2337	3414	2039	3167	4916	3802	2963	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
RUSSELL, TOWNSHIP OF	0.05	0.08	0.18	0.00	0.42	0.35	0.27	0.29	200	213	478	0	1224	936	601	775	9353	6899	6467	5543	7332	6692	5465	6674	0.02	0.03	0.07	0.00	0.17	0.14	0.11	0.12	
SABLES-SPANISH RIVERS, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	3349	418	799	905	992	836	1377	2580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SAGAMOK ANISHNAWBEK FIRST NATION	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	0	0	0	0	0	0	NA	NA	806	757	753	580	929	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SARNIA, CITY OF	0.45	0.45	0.48	0.44	0.42	0.43	0.39	0.37	5043	4608	4995	5301	4810	5030	5026	4226	27867	25782	26041	30068	28824	29589	32600	28590	0.18	0.18	0.19	0.18	0.17	0.17	0.15	0.15	
SAULT NORTH WASTE MANAGEMENT COUNCIL	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA	0	0	0	0	0	0	0	1824	1599	1688	1722	1357	1602	1563	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAULT STE. MARIE, CITY OF	0.06	0.07	0.06	0.09	0.09	0.12	0.09	0.10	807	871	840	1151	1153	1545	1339	1272	31402	30352	32600	33066	33887	32009	35456	32376	0.03	0.03	0.03	0.03	0.03	0.05	0.04	0.04	
SEGUIN, TOWNSHIP OF	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0	0	0	0	0	18	8	3301	3159	1807	3221	3160	3366	3178	3617	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
SERPENT RIVER FIRST NATIONS	NA	NA	0.00	NA	0.00	0.00	0.00	0.00	NA	NA	0	NA	0	0	0	0	NA	NA	133	NA	158	138	184	177	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHELburne, TOWN OF	0.27	0.32	0.36	0.40	0.39	0.44	0.38	NA	232	281	343	374	367	453	385	NA	2133	2170	2415	2321	2351	2553	2542	NA	0.11	0.13	0.14	0.16	0.16	0.18	0.15	0.00	
SHUNIAH, MUNICIPALITY OF	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA	0	0	0	0	0	0	0	895	1018	984	917	894	900	1020	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SIMCOE, COUNTY OF	0.15	0.17	0.23	0.46	0.49	0.51	0.54	0.40	7001	8455	11005	22676	21931	23584	28761	22209	115249	122470	119971	121942	112808	116551	132229	137279	0.06	0.07	0.09	0.19	0.19	0.20	0.22	0.16	
SIoux LOOKOUT, TOWN OF	0.00	0.00	0.00	0.00	0.20	0.29	0.19	0.16	0	0	0	0	105	141	88	87	1959	1735	1528	129													

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