

Clay County--Detailed Projections & Calculations

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
County Population	58,999	59,943	60,902	61,876	62,866	63,872	64,894	65,932	66,987	68,059	69,148
Number of Households (2010)	22,279	24,171	24,557	24,950	25,349	25,755	26,167	26,585	27,011	27,443	27,882
Average Number of People in Household (2010 State Dem. Est.)	2.48										
Average Annual Pop. Change % (from 1980 to 2025)	1.60%										
Per Capita MSW generation for on-site disposal	2.3	lbs/person/day (after recycling)									
MSW Coefficient for Clay	1.20%										

Recycling (in tons)

Residential	2,219.64	2,257.37	2,307.04	2,369.33	2,445.14	2,535.61	2,642.11	2,766.29	2,910.14	3,076.01	3,266.73
Commercial/Industrial/Institutional (documented)	9,396.87	9,556.62	9,766.86	10,030.57	10,351.55	10,734.55	11,185.40	11,711.12	12,320.10	13,022.34	13,829.73
Commercial/Industrial/Institutional (estimated)	-	-	-	-	-	-	-	-	-	-	-
Mechanical/Hand Sorted @ Resource Recovery Facility	-	-	-	-	-	-	-	-	-	-	-
Textiles	258.56	262.96	268.74	276.00	284.83	295.37	307.77	322.24	338.99	358.32	380.53
Carpet	-	-	-	-	-	-	-	-	-	-	-
Pallets	25.55	25.98	26.56	27.27	28.15	29.19	30.41	31.84	33.50	35.41	37.60
Unspecified/Other	3.59	3.65	3.73	3.83	3.95	4.10	4.27	4.47	4.71	4.98	5.28
Organics-Food (livestock/food-to-people)	5,871.60	5,942.06	6,013.36	6,085.52	6,158.55	6,232.45	6,307.24	6,382.93	6,459.52	6,537.04	6,615.48
Appliances	386.44	392.62	398.91	405.29	411.77	418.36	425.05	431.86	438.76	445.78	452.92
Electronic Appliances	130.72	132.94	135.87	139.54	144.00	149.33	155.60	162.91	171.39	181.15	192.39
Latex Paint	15.68	15.95	16.30	16.74	17.27	17.91	18.66	19.54	20.56	21.73	23.08
Household Hazardous Waste	7.43	7.56	7.72	7.93	8.18	8.49	8.84	9.26	9.74	10.30	10.94
Vehicle Batteries	348.40	353.97	359.64	365.39	371.24	377.18	383.21	389.34	395.57	401.90	408.33
Tires	328.00	333.25	338.58	344.00	349.50	355.09	360.77	366.55	372.41	378.37	384.42
Used Oil	263.52	267.74	272.02	276.37	280.79	285.29	289.85	294.49	299.20	303.99	308.85
Oil Filters	33.25	33.78	34.32	34.87	35.43	36.00	36.57	37.16	37.75	38.36	38.97
Fluorescent & HID Lamps	15.57	15.82	16.07	16.33	16.59	16.86	17.13	17.40	17.68	17.96	18.25
Antifreeze	24.19	24.58	24.97	25.37	25.78	26.19	26.61	27.03	27.47	27.90	28.35
TOTAL MATERIALS RECYCLED (includes Problem Materials):	19,329	19,627	19,991	20,424	20,933	21,522	22,200	22,974	23,857	24,862	26,002
TOTAL MATERIALS RECYCLED (excludes Problem Materials):	17,776	18,049	18,386	18,793	19,272	19,831	20,477	21,219	22,067	23,034	24,135
TOTAL PROBLEM MATERIALS RECYCLED (only):	1,553	1,578	1,604	1,632	1,661	1,691	1,722	1,756	1,791	1,827	1,866

Problem Materials NOT Recycled (tons)

Appliances	56.05	56.95	57.86	58.78	59.72	60.68	61.65	62.63	63.64	64.66	65.69
Vehicle Batteries	40.99	41.65	42.32	42.99	43.68	44.38	45.09	45.81	46.54	47.29	48.04
Tires	261.99	266.18	270.44	274.76	279.16	283.63	288.17	292.77	297.46	302.22	307.06
Used Oil	680.46	691.35	702.41	713.64	725.06	736.66	748.45	760.42	772.59	784.96	797.52
Oil Filters	-	-	-	-	-	-	-	-	-	-	-
Fluorescent & HID Lamps	28.68	29.14	29.60	30.08	30.56	31.05	31.54	32.05	32.56	33.08	33.61
Antifreeze	-	-	-	-	-	-	-	-	-	-	-
TOTAL PROBLEM MATERIALS NOT RECYCLED:	1,068	1,085	1,103	1,120	1,138	1,156	1,175	1,194	1,213	1,232	1,252

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NOTE: If tons of a particular problem material recycled is greater than state estimates for TOTAL generation of that problem material, the actual tons recycled is used as the figure for total generated.

Total Problem Materials Generated (tons)

Appliances	442.49	449.57	456.77	464.07	471.50	479.04	486.71	494.49	502.40	510.44	518.61
Vehicle Batteries	389.39	395.62	401.95	408.38	414.92	421.56	428.30	435.15	442.11	449.19	456.38
Tires	589.99	599.43	609.02	618.76	628.66	638.72	648.94	659.32	669.87	680.59	691.48
Used Oil	943.98	959.09	974.43	990.02	1,005.86	1,021.95	1,038.30	1,054.91	1,071.79	1,088.94	1,106.37
Oil Filters	33.25	33.78	34.32	34.87	35.43	36.00	36.57	37.16	37.75	38.36	38.97
Fluorescent & HID Lamps	44.25	44.96	45.68	46.41	47.15	47.90	48.67	49.45	50.24	51.04	51.86
Antifreeze	24.19	24.58	24.97	25.37	25.78	26.19	26.61	27.03	27.47	27.90	28.35
GRAND TOTAL PROBLEM MATERIALS GENERATED	2,468	2,507	2,547	2,588	2,629	2,671	2,714	2,758	2,802	2,846	2,892

On-Site Disposal Estimates

Population disposing of MSW on-site	590	599	609	619	629	639	649	659	670	681	691
Tons per year estimated MSW disposed on-site	248	252	256	260	264	268	272	277	281	286	290

MSW Generation Estimates (tons)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals	
Clay County Sanitary Landfill	27,011.00	27,335.13	27,663.15	27,995.11	28,331.05	28,671.03	29,015.08	29,363.26	29,715.62	30,072.21	30,433.07	30,798.27
City of Fargo Landfill, Fargo, ND	810.00	819.72	829.56	839.51	849.59	859.78	870.10	880.54	891.11	901.80	912.62	923.57
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
ESTIMATE OF TOTAL MSW DELIVERED TO FACILITY(S)	27,821.00	28,154.85	28,492.71	28,834.62	29,180.64	29,530.81	29,885.18	30,243.80	30,606.72	30,974.00	31,345.69	31,721.84

TOTAL WASTE GENERATED (tons)	48,466	49,119	49,842	50,639	51,515	52,477	53,532	54,689	55,958	57,353	58,890
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Percentages (of total waste generated)

Recycling

Residential	4.6%	4.6%	4.6%	4.7%	4.7%	4.8%	4.9%	5.1%	5.2%	5.4%	5.5%
Commercial/Industrial/Institutional (documented)	19.4%	19.5%	19.6%	19.8%	20.1%	20.5%	20.9%	21.4%	22.0%	22.7%	23.5%
Commercial/Industrial/Institutional (estimated)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mechanical/Hand Sorted @ Resource Recovery Facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Electronic Appliances	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Textiles	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Carpet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pallets	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Latex Paint	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Household Hazardous Waste	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unspecified/Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Appliances	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Vehicle Batteries	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Tires	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%

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Used Oil	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Oil Filters	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluorescent & HID Lamps	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
Antifreeze	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL MATERIALS RECYCLED (includes problem materials):	39.9%	40.0%	40.1%	40.3%	40.6%	41.0%	41.5%	42.0%	42.6%	43.3%	44.2%
TOTAL MATERIALS RECYCLED (excludes problem materials):	36.7%	36.7%	36.9%	37.1%	37.4%	37.8%	38.3%	38.8%	39.4%	40.2%	41.0%
TOTAL PROBLEM MATERIALS RECYCLED:	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%

Problem Materials NOT Recycled

Appliances	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Vehicle Batteries	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Tires	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Used Oil	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
Oil Filters	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluorescent & HID Lamps	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%
Antifreeze	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL MATERIALS NOT RECYCLED:	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%

Total Problem Materials Generated

Appliances	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Vehicle Batteries	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Tires	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Used Oil	1.9%	2.0%	2.0%	2.0%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
Oil Filters	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluorescent & HID Lamps	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%
Antifreeze	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
GRAND TOTAL PROBLEM MATERIAL GENERATED	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.0%	5.0%	5.0%	4.9%

On-Site Disposal Estimates

Percentage per year estimated MSW disposed on-site	0.511%	0.512%	0.513%	0.513%	0.512%	0.511%	0.509%	0.506%	0.502%	0.498%	0.493%
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Municipal Solid Waste Estimates

												<i>Facility Type</i>
Clay County Sanitary Landfill	55.7%	55.7%	55.5%	55.3%	55.0%	54.6%	54.2%	53.7%	53.1%	52.4%	51.7%	Sanitary Landfill
City of Fargo Landfill, Fargo, ND	1.7%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	Sanitary Landfill
No facility listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
No facility listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
No facility listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
No facility listed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
TOTAL % MSW DELIVERED TO FACILITY(S)	57.4%	57.3%	57.2%	56.9%	56.6%	56.3%	55.8%	55.3%	54.7%	54.0%	53.2%	

Recycling Rates

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Percent Recycled of Total Waste Generated	39.9%	40.0%	40.1%	40.3%	40.6%	41.0%	41.5%	42.0%	42.6%	43.3%	44.2%
Source Reduction Credit	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Yard Waste Credit	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Total Recycling Rate	47.9%	48.0%	48.1%	48.3%	48.6%	49.0%	49.5%	50.0%	50.6%	51.3%	52.2%

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MSW Cubic Yardage Calculations

	Density Assumption= 1,000 lbs/cubic yard											Facility Type
Clay County Sanitary Landfill	54,022	54,670	55,326	55,990	56,662	57,342	58,030	58,727	59,431	60,144	60,866	Sanitary Landfill
City of Fargo Landfill, Fargo, ND	1,620	1,639	1,659	1,679	1,699	1,720	1,740	1,761	1,782	1,804	1,825	Sanitary Landfill
No facility listed	-	-	-	-	-	-	-	-	-	-	-	0
No facility listed	-	-	-	-	-	-	-	-	-	-	-	0
No facility listed	-	-	-	-	-	-	-	-	-	-	-	0
No facility listed	-	-	-	-	-	-	-	-	-	-	-	0
Total MSW Cubic Yardage Going To All Facilities	55,642	56,310	56,985	57,669	58,361	59,062	59,770	60,488	61,213	61,948	62,691	

Construction/Demolition Waste Estimates (tons) (informational use only--not used for CON or Total Waste Generated calculations)

Combined Demolition Waste Tonnages	-	-	-	-	-	-	-	-	-	-	-
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Industrial Waste Estimates (tons) (informational use only--not used for CON or Total Waste Generated calculations)

Combined tonnages of Industrial Waste delivered to all facilities	-	-	-	-	-	-	-	-	-	-	-
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Certificate of Need Calculation for In-State Facilities used by Clay County Alone

Note: CON is facility specific and limited to landfill facilities located in Minnesota

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10-Year Totals
Clay County Sanitary Landfill	27,011	27,335	27,663	27,995	28,331	28,671	29,015	29,363	29,716	30,072	30,433	315,606
City of Fargo Landfill, Fargo, ND	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
No facility listed	-	-	-	-	-	-	-	-	-	-	-	-
Total tons:	27,011	27,335	27,663	27,995	28,331	28,671	29,015	29,363	29,716	30,072	30,433	315,606
Total cubic yards:	54,022	54,670	55,326	55,990	56,662	57,342	58,030	58,727	59,431	60,144	60,866	631,211
Total acre-feet needed:	33.49	33.89	34.30	34.71	35.13	35.55	35.97	36.41	36.84	37.28	37.73	391.30

MSW From Other Counties (tons)

County 1	-	-	-	-	-	-	-	-	-	-	-	-
County 2	-	-	-	-	-	-	-	-	-	-	-	-
County 3	-	-	-	-	-	-	-	-	-	-	-	-
County 4	-	-	-	-	-	-	-	-	-	-	-	-
County 5	-	-	-	-	-	-	-	-	-	-	-	-
County 6	-	-	-	-	-	-	-	-	-	-	-	-
County 7	-	-	-	-	-	-	-	-	-	-	-	-
County 8	-	-	-	-	-	-	-	-	-	-	-	-
County 9	-	-	-	-	-	-	-	-	-	-	-	-
County 10	-	-	-	-	-	-	-	-	-	-	-	-
Total Tons	0	0	0	0	0	0	0	0	0	0	0	0

Equivalent Cubic Yards From Other Counties

County 1	-	-	-	-	-	-	-	-	-	-	-	-
County 2	-	-	-	-	-	-	-	-	-	-	-	-
County 3	-	-	-	-	-	-	-	-	-	-	-	-

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County 4	-	-	-	-	-	-	-	-	-	-	-	-	-
County 5	-	-	-	-	-	-	-	-	-	-	-	-	-
County 6	-	-	-	-	-	-	-	-	-	-	-	-	-
County 7	-	-	-	-	-	-	-	-	-	-	-	-	-
County 8	-	-	-	-	-	-	-	-	-	-	-	-	-
County 9	-	-	-	-	-	-	-	-	-	-	-	-	-
County 10	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Total Cubic Yards</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
												<i>10-Year Totals</i>	
Grand Total CON Tons		27,335	27,663	27,995	28,331	28,671	29,015	29,363	29,716	30,072	30,433		315,606
Grand Total CON Cubic Yards		54,670	55,326	55,990	56,662	57,342	58,030	58,727	59,431	60,144	60,866		577,189
Grand Total CON Acre-Feet		33.89	34.30	34.71	35.13	35.55	35.97	36.41	36.84	37.28	37.73		357.81