

DUPAGE COUNTY ILLINOIS



SOLID WASTE MANAGEMENT PLAN FIVE YEAR UPDATE

2012

Third DuPage County Solid Waste Management Plan Update - February 2008
Second DuPage County Solid Waste Management Plan Update - April 2002
First DuPage County Solid Waste Management Plan Five Year Update - June 1996
DuPage County Solid Waste Management Plan - February 1991

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EXECUTIVE SUMMARY

The State of Illinois passed the Solid Waste Planning and Recycling Act in 1988 (“Act”). The Act mandated that counties must each submit to the Illinois Environmental Protection Agency an officially adopted plan for the management of municipal waste generated within its boundaries. Such plan shall conform with the waste management hierarchy established as State policy in subsection (b) of Section 2 of the Illinois Solid Waste Management Act (Appendix A).

The initial DuPage County Solid Waste Management Plan was adopted February 1991 with subsequent updates completed in 1996, 2001 and 2008. The 15-year update focused on providing status of the programs in the original plan and providing a snapshot of waste disposal in the County. It also highlighted an increased waste generation rate from the previous plan.

This Plan update reconsiders the current waste disposal capacity of the County and includes new recycling successes due to the landfill ban placed on electronics, the commercial recycling program and new food scrap collection and composting programs.

1.0 WASTE GENERATION

For purposes of this document, need has been derived from first calculating a waste generation rate per capita and then reviewing the capacity of existing pollution control facilities. This number can be impacted by waste hauling contracts with municipalities and between waste companies. The closest pollution control facility is not always economically feasible for all waste haulers. Due to confidentiality of these contracts, this report only takes into account information that is publicly available.

In recent years the waste generation rate has been 8.15 pounds per person per day (lbs/pp/day) in 2008 and most recently 2011 reported to be 5.3. These numbers are based solely on residential hauling reports submitted to the County from the municipalities and the waste haulers.

Some factors that have an impact on the rate include the economy and the success of recycling. Residential recycling has increased in the County from 36% in 2008 to 42% in 2011. This can likely be attributed to the countywide implementation of single stream recycling and the use of toter/cart systems for recycling. Commercial recycling data remains unavailable as there is no reporting requirement.

In 2009, the Illinois Department of Commerce and Economic Opportunity commissioned the Illinois Recycling Association to complete the *Illinois Commodity/Waste Generation Study*¹. The study concluded that the waste generation rate for the Chicago Metropolitan area was 8.3 lbs/pp/day. Their conclusion included sampling at landfills, modeling to account for moisture content and calculations for commercially generated waste.

The following data on the content of the waste stream was derived from the samples conducted at landfills throughout the State.

- Construction & Demolition Debris – 25.3%
- Paper – 23.4%
- Organics – 20.7%
- Plastic – 13.0%
- Textiles – 7.0%
- Metal – 4.8%
- Glass 2.8%
- Inorganics - 2.4%
- Household Hazardous Waste 0.4%
- Beverage

In 2010, the U.S. EPA published the Municipal Solid Waste Generation, Recycling, and Disposal in United States: Facts and Figures for 2010. The document reported a waste generation rate of 4.43 lbs/pp/day an increase from 3.66 lbs/pp/day and a 34.1% recycling rate up from less than 10% between 1980 and 2010.

Due to the actual samples and inclusion of commercial waste, the County is adopting the rate identified by the *Illinois Commodity/Waste Generation Study*¹ 9.19 lbs/pp/day for the Chicago Metropolitan Region.

2.0 COUNTY POPULATION

The 2010 DuPage County population was reported to be 916,924 in the County's 2011 Statistical Profile². Growth within the County has slowed with minor growth of 1.4% since 2000. Assuming a similar growth rate over the next five years, this plan needs to account for 929,760 residents generating 1,537,842 tons of waste per year.

3.0 EXISTING FACILITIES

Table 1 below provides a snapshot of existing pollution control facilities located in the County. The first ten facilities listed operate under permits from the Illinois Environmental Protection Agency. The last two facilities are construction and demolition debris recycling centers and are allowed to operate without IEPA permits under the conditions set forth 415 ILS 5/22.38. If the facilities cannot meet these criteria, they also must obtain a permit.

TABLE 1.0 EXISTING POLLUTION CONTROL FACILITIES IN DUPAGE COUNTY

FACILITY	LOCATION	WASTE STREAM	CAPACITY
DuKane Transfer Facility	West Chicago	Municipal Solid Waste	3,000 tons/day
DuPage Yard Waste	West Chicago	Landscape Waste	400 yd ³ /day
Anderson Landscape Supply, LLC	Elmhurst	Landscape Waste	260 yd ³ /day
A.K. Mulch	Villa Park	Landscape Waste	40 yd ³ /day
Advanced Environmental Systems	Itasca	Potentially Infectious Medical Waste	14,000 lbs/day
Recycle Technologies, Inc.	Wood Dale	Antifreeze	22,700 gal/day
St. Francis Crematory	Wood Dale	Animal Carcass	Based on storage capacity
Mallard Lake Landfill	Hanover Park	Municipal Solid Waste	Closed
Greene Valley Landfill	Naperville	Municipal Solid Waste	Closed
Bensenville Landfill	Bensenville	Construction & Demolition Debris	Closed
K. Hoving Recycling & Disposal	West Chicago	Construction & Demolition Debris	Not specified
Neil's Hauling	West Chicago	Construction & Demolition Debris	Not specified

4.0 RECYCLING AND DIVERSION

The *Illinois Commodity/Waste Generation and Characterization Study* concludes that a 19.1% recycling rate is more accurate when industrial/commercial/institutional and construction/demolition waste is included in the calculation. While the County's residential rate was calculated to be 41% for 2011 (Appendix C), commercial recycling is much lower. The study is statewide and does not specifically account for the County's two construction demolition debris recycling operations nor its proximity to many recycling centers including the intermediate processing facility in Carol Stream. It also does not consider the County's successful commercial recycling, electronics recycling and document shredding programs (see Section 6.0). Roughly one-third of the municipalities providing commercial recycling data yielded a 21% commercial recycling rate. This rate does not consider segregated recycling of items such as scrap metal, electronics and document shredding.

A more accurate combined recycling rate for DuPage is 30%, an average of the reported residential and commercial recycling rates.

5.0 NEEDS ASSESSMENT

This Plan's needs assessment is limited to municipal solid waste which is defined as "garbage, general household and commercial waste, industrial lunchroom or office waste, landscape waste, and construction or demolition debris." (415 ILCS 5/3.290). It does not include special waste, hazardous waste, potentially infectious medical waste, pollution control waste and clean construction and demolition debris. Because these wastes are not included in the assessment, facilities proposed to handle these materials should be considered on a case by case basis. Single-stream facilities accepting exclusively waste materials that are not classified as municipal solid waste as defined above, and which require local siting approval in accordance with the Illinois Environmental Protection Act, may be considered by the appropriate local authority.

In recent years, a number of waste-to-energy technologies have been contemplated in the solid waste industry, such as gasification, pyrolysis, and waste-to-fuel in addition to more traditional mass-burn incineration technology. The County continues its assertion that these types of technologies are inconsistent with the County's structure and are an inappropriate disposal method within the County for municipal solid waste. The status of development of these technologies and their appropriateness for development in the County will be considered in future Plan Updates.

The DuKane Transfer Facility accepts waste approximately 307 days per year (Monday – Saturday, excluding some holidays) Previous studies by Shaw Environmental⁴ have estimated that 50% of the waste brought to the facility is generated from within DuPage County. Therefore, the facility is capable of handling 460,500 tons/year (307 operating days x 1,500 tons/day). Using the U.S. EPA's conversion³ for volume-to-weight for landscape waste, the two facilities can accept another 63,319 tons of the waste stream (660 yd³ x 625 lbs/yd³/ 2,000 lbs/ton x 307 days). Taking into account a 30% recycling/diversion rate, which prevents 461,352 tons from being landfilled, approximately 552,671 tons remain.

Recent legislation which permits the collection and composting of food scraps/organics is having an impact on waste within the County as well. Several businesses are leading the effort to use composting as an alternative to disposal. At this time, all organics are composted outside of the County. This has impacted how quickly and economically this waste can be removed from the waste stream. Because it is an additional truck route, costs of this single stream collection are expensive and in some cases are prohibitive. The County would benefit from more local facilities that can meet the site location requirements. Existing facilities should be utilized to address this new waste stream.

In the information provided by the *Illinois Commodity/Waste Generation and Characterization Study*, construction and demolition debris is the largest portion of the waste stream. DuPage

County participated in efforts to make it easier to recycle this waste. The efforts resulted in Section 22.38 of the Environmental Protection Act which allows facilities to recycle construction and demolition debris without a permit in counties with a population of 700,000 or more. DuPage County is currently home to two construction and demolition debris recycling facilities which add to the diversion of waste from landfills.

Public Act 97-0287 - Electronic Products Recycling & Reuse Act also impacted the County's waste stream. Certain electronics products were banned from landfills as of January 1, 2012. Fortunately, the County had been working with governmental partners since 2008 to provide electronics recycling drop-off locations. The County has continued to provide a vendor for recycling and promotes events and locations. In 2011, the County met with municipalities and haulers to ensure that the framework was in place to handle the diversion of the electronics. As of 2012, the County through its partners has recycled more than 3 million pounds of electronics.

Appendices D and E are maps of permitted landfills and transfer stations in the region. Appendices F, G, H and I show transfer stations in adjacent counties which may provide service to residents and businesses within the County. Service areas were determined in a 2007 report completed by Shaw Environmental for DuPage County. They reflect actual services areas identified in siting documents or a 10-mile radius determined to be the maximum economical distance for a waste hauling company.

Disposal in landfills is not the preferred method of disposal but at this time, it is still preferred to incineration. The County currently has no operating landfills and this Plan concludes that new landfills are not possible or needed within the County. The preferred method for disposal continues to be waste transfer. The above mentioned maps indicate that while solid waste is currently being handled at existing facilities, they may not be a long term solution for the County's disposal needs. Factors that contribute to the need for new facilities are an increasing population; rising waste generation rate and fuel/operating costs. Future conditions may necessitate a new facility in the southern portion of the County. The maps and table indicate that this area is somewhat underserved and that some areas are out of range for existing facilities. These conditions can result in less competitive waste hauling and higher costs especially in unincorporated areas where homeowners contract directly with waste haulers. There is a direct correlation with cost and distance to waste disposal facility.

Under the aforementioned conditions, it is potentially foreseeable that the out-of-county facilities may cease serving all, or parts, of the current DuPage area. In the event that occurs, there would be a service gap in the affected areas thereby creating a potential need for a new facility.

6.0 RECOMMENDATIONS

Source reduction and recycling remain the first step in managing waste. The County will continue to promote the use of reusable items and support efforts to reduce waste generated. In 2010, the County implemented waste reduction at the campus by launching the use of reusable dishware at the Convalescent Center and the use of reusable mugs in the cafeterias. The project has netted measureable waste reduction as well as energy and cost savings.

Also in 2010, the County launched a Commercial Recycling program. The program was implemented to increase recycling efforts with commercial entities. It is ongoing and has resulted in more than 3,500 tons of waste being diverted from landfills. The program is also working with DuPage businesses to launch food scrap composting. The County has set a goal of bringing 100 business locations online with composting by June of 2013. The County is almost halfway to this goal at the publication of this document.

Recycling remains a priority for the County. As relayed in the USEPA Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010:

“Recycling has environmental benefits at every stage in the life cycle of a consumer product—from the raw material with which it’s made to its final method of disposal. Aside from reducing GHG emissions, which contribute to global warming, recycling also reduces air and water pollution associated with making new products from raw materials. By utilizing used, unwanted, or obsolete materials as industrial feedstocks or for new materials or products, we can each do our part to make recycling work.”

Solid waste industry groups have been working on disposal alternatives for latex paint, carpet, plastic bags and medicine. The County will continue to monitor and participate in these discussions. State legislation also created a Recycling Task Force. The County will monitor progress and provide input as requested to the Task Force to aid in increasing recycling. DuPage County residents are currently provided solutions for household hazardous waste and unwanted medications.

¹ Illinois Commodity/Waste Generation and Characterization Study- 2009
Illinois Recycling Association as commission by Illinois DCEO

² DuPage County 2011 Statistical Profile

³ U.S. E.P.A. Measuring Recycling: A Guide for State and Local Governments Appendix B Standard Volume-to-Weight Conversion

⁴ Application for Local Siting Approval for the West DuPage Recycling & Transfer Facility

APPENDIX A

SOLID WASTE PLANNING AND RECYCLING ACT EXCERPT (415 ILCS 15/1)

Sec. 1. This Act shall be known and may be cited as the Solid Waste Planning and Recycling Act.

Sec. 2. (a) The General Assembly finds:

(1) that parts of this State have inadequate and rapidly diminishing disposal capacity for municipal waste;

(2) that counties should have the primary responsibility to plan for the management of municipal waste within their boundaries to insure the timely development of needed waste management facilities and programs;

(3) that waste reduction and recycling are preferable to the disposal of municipal waste;

(4) that removing certain materials from the municipal waste stream will decrease the flow of waste to sanitary landfills, aid in the conservation and recovery of valuable resources, conserve energy in the manufacturing process, increase the supply of reusable materials for the State's industries, and reduce substantially the need for municipal waste incineration facilities and contribute to their overall combustion efficiency, thereby resulting in a significant cost savings in the planning, construction and operation of these facilities; and

(5) that solid waste planning should be encouraged to take place on a multi-county, regional basis and through inter-governmental cooperation agreements whereby various units of local government within a region determine the best methods and locations for disposal of solid waste. This amendatory Act of 1992 shall not be construed to impact the authority of units of local government in the siting of solid waste disposal facilities.

(b) It is the purpose of this Act to provide incentives for decreased generation of municipal waste, to require certain counties to develop comprehensive waste management plans that place substantial emphasis on recycling and other alternatives to landfills, to encourage municipal recycling and source reduction, and to promote composting of yard waste.

APPENDIX B

Illinois Commodity/Waste Generation and Characterization Study- 2009

DuPage County Municipal Solid Waste (MSW) Generation

	County Generation (lb/yr)	Total Generation (tons)		County Generation (lb/yr)	Total Generation (tons)
Paper	1,104,8	513,290	Metal		
Newsprint	173.9	80,780	Other Ferrous	55.2	26,660
High Grade Office Paper	67.3	31,270	Other Non-Ferrous	5.1	2,390
Magazines/Catalogs	70.9	32,930	Other Metal	21.5	9,980
Uncoated OCC/Kraft	584.9	271,730			
Boxboard	40.6	18,860	Organics	584.8	271,690
Mixed Paper - Recyclable	71.2	33,100	Yard Waste - Compostable	73.3	34,070
Compostable Paper	73.9	34,330	Yard Waste - Woody	67.3	31,270
Other Paper	22.2	10,300	Food Scraps	316.8	147,200
			Bottom Fines & Dirt	20.0	9,310
Beverage Containers	5.4	2,490	Diapers	46.8	21,720
Milk & Juice Cartons/Boxes - Coated	5.4	2,490	Other Organic	60.5	28,120
Plastic	373.6	173,520	Inorganics	136.6	63,440
#1 PET Bottles/Jars	25.6	11,900	Televisions	6.5	3,020
#1 Other PET Containers	2.2	1,000	Computer Monitors	4.6	2,130
#2 HDPE Bottles/Jars - Clear	10.0	4,660	Computer Equipment/Peripherals	5.3	2,440
#2 HDPE Bottles/Jars - Color	14.6	6,770	Electronic Equipment	24.2	11,260
#2 Other HDPE Containers	2.0	950	White Goods - Refrigerated	8.6	4,010
#5 Exp. Polystyrene Packaging	24.3	11,290	White Goods - Not refrigerated	19.0	8,820
#3-#7 Other - All	24.6	11,430	Lead-acid Batteries	16.0	7,430
Other Rigid Plastic Products	91.2	42,370	Other Household Batteries	1.1	500
Grocery & Merchandise Bags	17.3	8,060	Tires	29.0	13,460
Trash Bags	25.8	12,000	Household Bulky Items	22.2	10,330
Commercial & Industrial Film	46.4	21,570	Fluorescent Lights/Ballasts	0.1	40
Other Film	30.3	14,060			
Other Plastic	59.1	27,470	Textiles	214.6	99,720
			Carpet	38.8	18,010
Glass	86.2	40,060	Carpet Padding	5.7	2,650
Recyclable Glass Bottles & Jars	80.9	37,590	Clothing	71.5	33,230
Flat Glass	3.8	1,770	Other Textiles	98.6	45,930
Other Glass	1.5	700			
			Household Hazardous Waste	28.8	13,370
Metal	138.2	64,200			
Aluminum Beverage Containers	15.7	7,290	Construction and Demolition Debris (C&D)	682.6	317,110
Other Aluminum	13.0	6,040			
HVAC Ducting	0.6	300	Total MSW (tons)		1,558,890
Ferrous Containers (Tin Cans)	27.0	12,540	Total MSW (pounds/person/day)		9.19

2007 population 929,192

County generation based on 2007 data.

APPENDIX C

2011 MUNICIPAL RECYCLING RATES

Municipality	Tons of Refuse Collected (1)	Tons of Recycled Collected (1)(2)	Landscape Waste Tons (1)(2)	Total Recycled	Total Waste	Recycling Rate
Addison	35,683.00	2,119.81	9,912.00	12,031.81	47,714.81	25%
Aurora	34,750.55	15,930.96	8,346.77	24,277.73	59,028.28	41%
Bartlett*	12,995.00	4,736.00	2,552.00	7,288.00	20,283.00	36%
Bloomingtondale	4,690.20	1,326.00	0.00	1,326.00	6,016.20	22%
Carol Stream	10,654.80	4,178.67	4,621.00	8,799.67	19,454.47	45%
Darien	3,185.81	1,828.89	991.49	2,820.38	6,006.19	47%
Downers Grove	9,926.00	6,368.00	3,152.00	9,520.00	19,446.00	49%
Glen Ellyn	7,273.00	4,210.00	2,761.00	6,971.00	14,244.00	49%
Hanover Park	10,722.00	2,412.00	952.00	3,364.00	14,086.00	24%
Lisle	3,454.73	2,167.56	605.51	2,773.07	6,227.80	45%
Lombard	16,250.00	10,145.00	3,003.00	13,148.00	29,398.00	45%
Naperville*	38,487.00	16,629.49	9,453.00	26,082.49	64,569.49	40%
Oak Brook	2,910.00	1,169.00	183.00	1,352.00	4,262.00	32%
Roselle	7,899.20	2,938.77	906.29	3,845.06	11,744.26	33%
St. Charles	9,960.00	6,403.00	3,893.00	10,296.00	20,256.00	51%
Villa Park	6,857.99	1,643.99	1,403.57	3,047.56	9,905.55	31%
Warrenville	1,959.10	1,139.50	355.10	1,494.60	3,453.70	43%
West Chicago	5,767.09	2,713.52	2,275.00	4,988.52	10755.61	46%
Westmont	4,078.00	1,739.00	885.00	2,624.00	6,702.00	39%
Wheaton	9,354.51	7,099.25	12,046.00	19,145.25	28,499.76	67%
Willowbrook	1,113.45	589.45	118.77	708.22	1,821.67	39%
Winfield	1,888.30	1,040.70	536.10	1,576.80	3,465.10	46%
Wood Dale	4,111.00	1,158.00	1,249.00	2,407.00	6,518.00	37%
Woodridge	4,893.60	3,525.00	1,068.00	4,593.00	9,486.60	48%
TOTAL/AVERAGE	248,864.33	103,211.56	71,268.60	173,154.16	417,328.29	41%

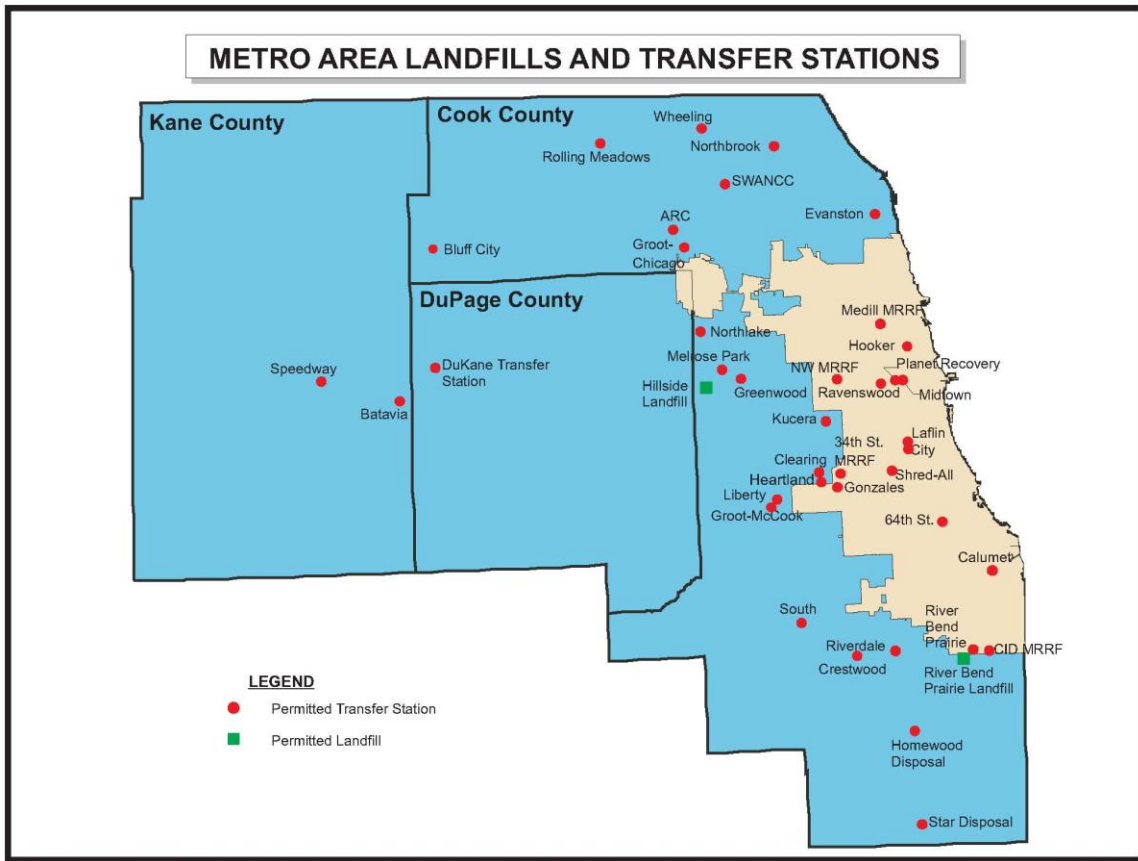
KEY:

(1) Data as provided by the municipality or waste hauler.

(2) Standard Volume-to-Weight Conversion Factors "Measuring Recycling - A Guide For State and Local Governments U.S. Environmental Protection Agency Sept. 1997

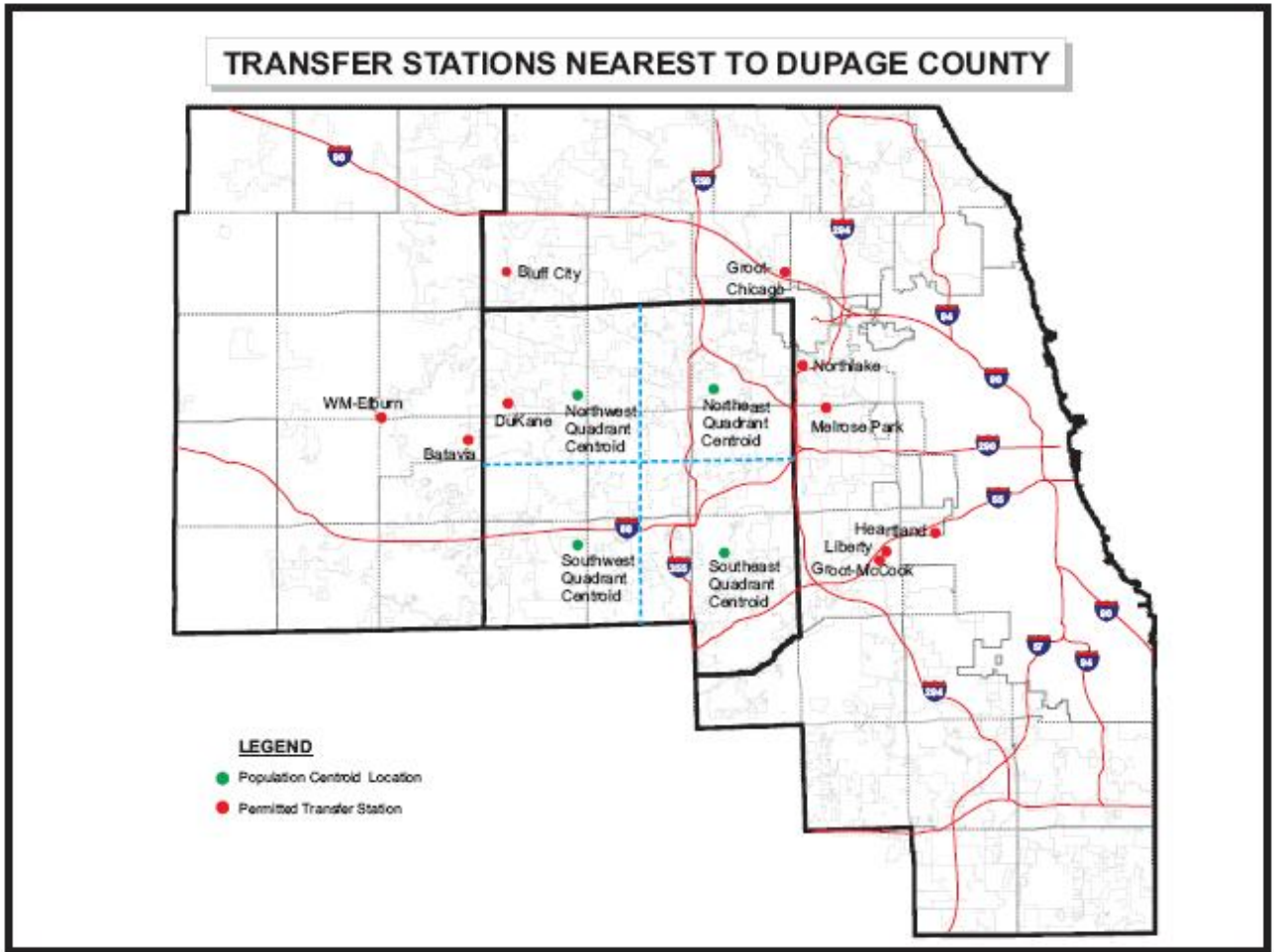
MSW (compacted in truck) (cubic yards x 750 lbs/2000) LSW (loose) cubic yard x 625 lbs/2000

APPENDIX D



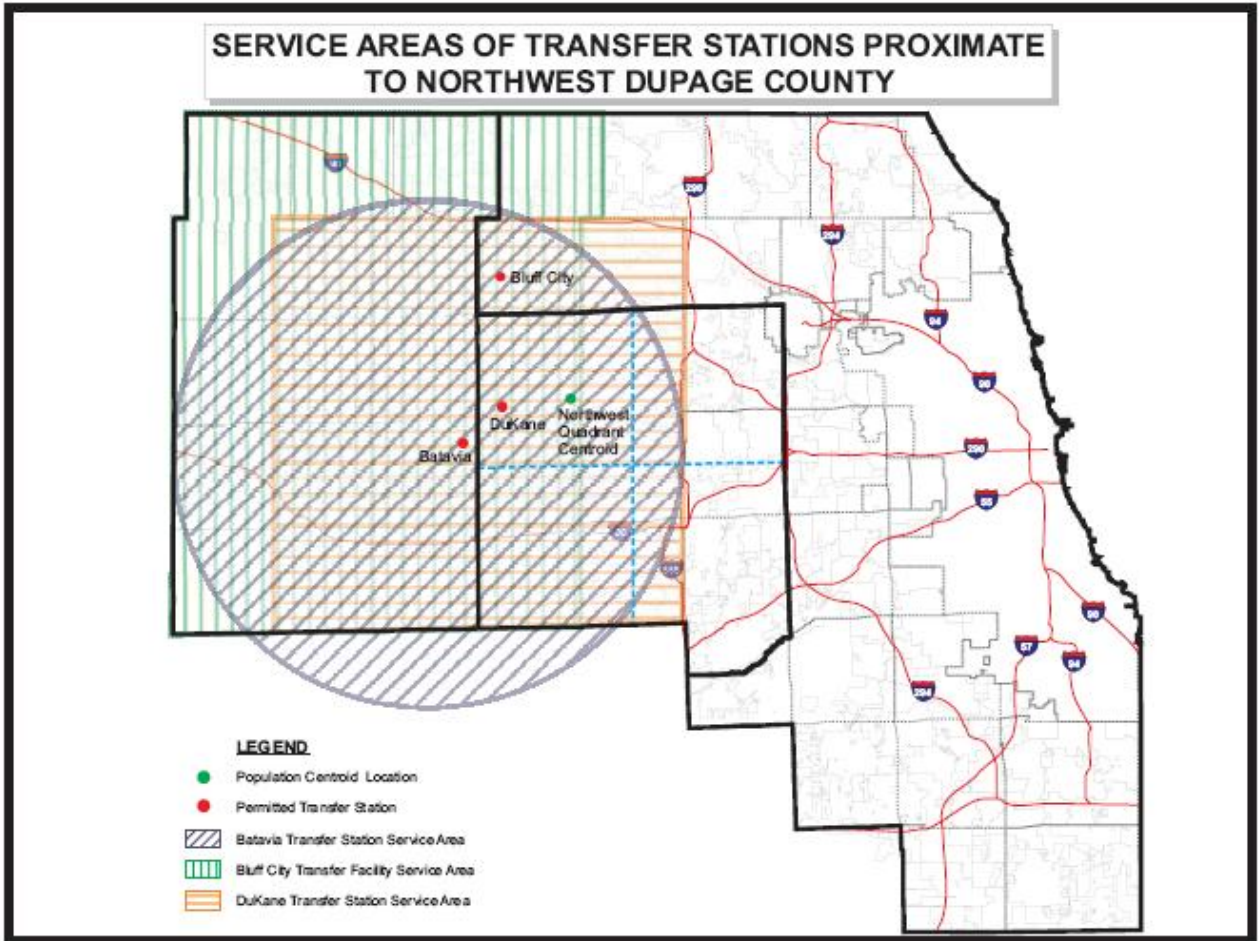
2007 Shaw Environmental Report completed for the County of DuPage

APPENDIX E



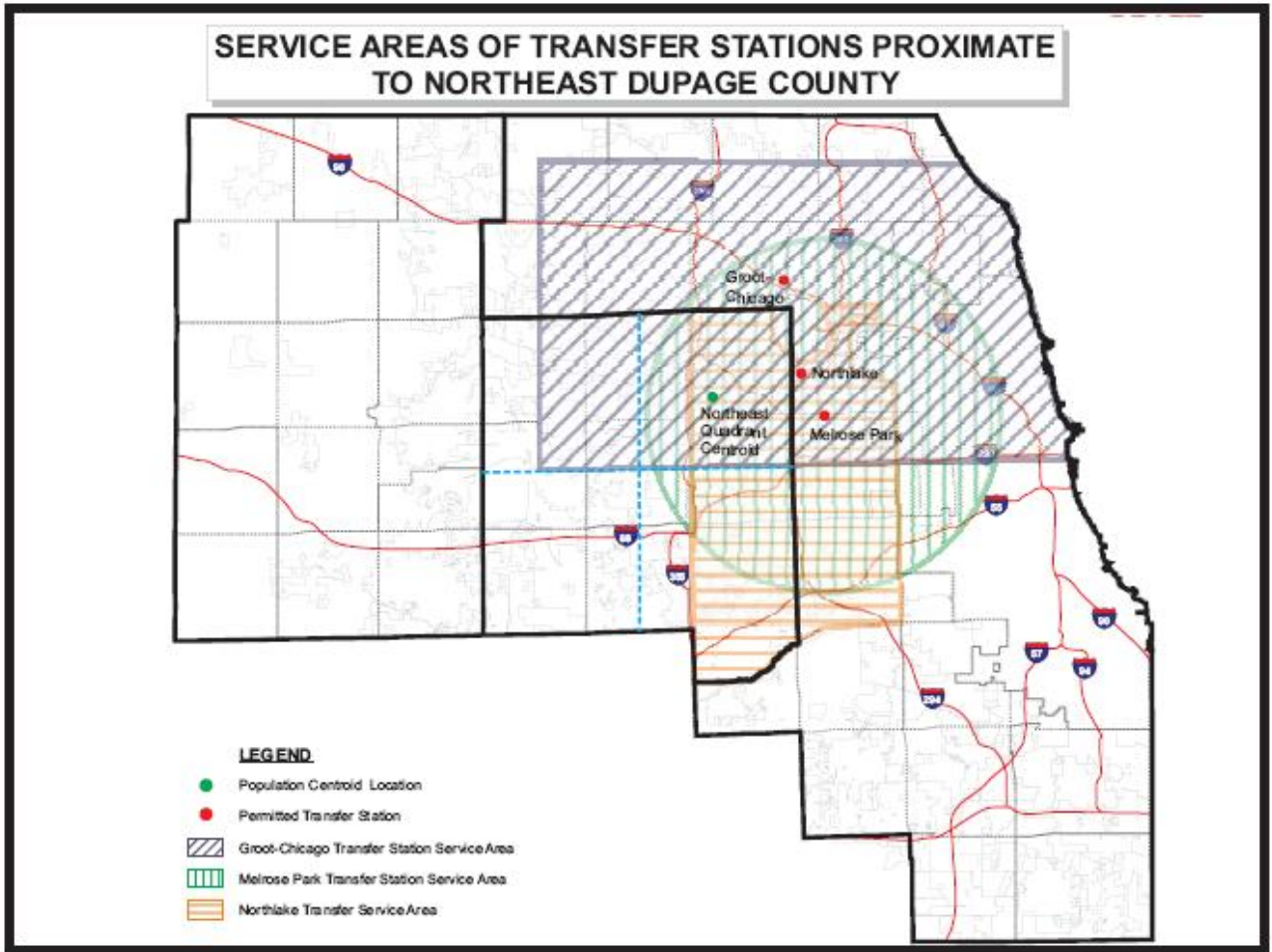
2007 Shaw Environmental Report completed for the County of DuPage

APPENDIX F



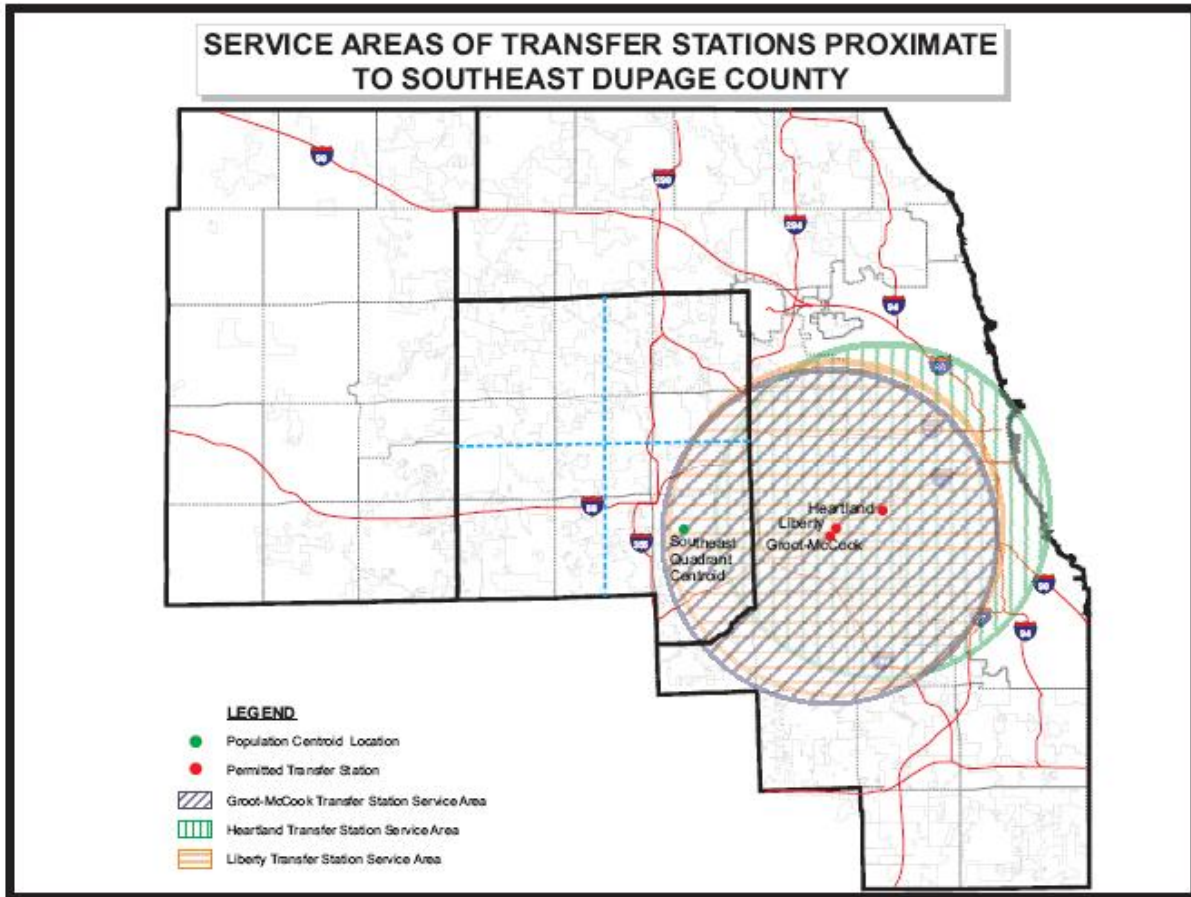
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APPENDIX G



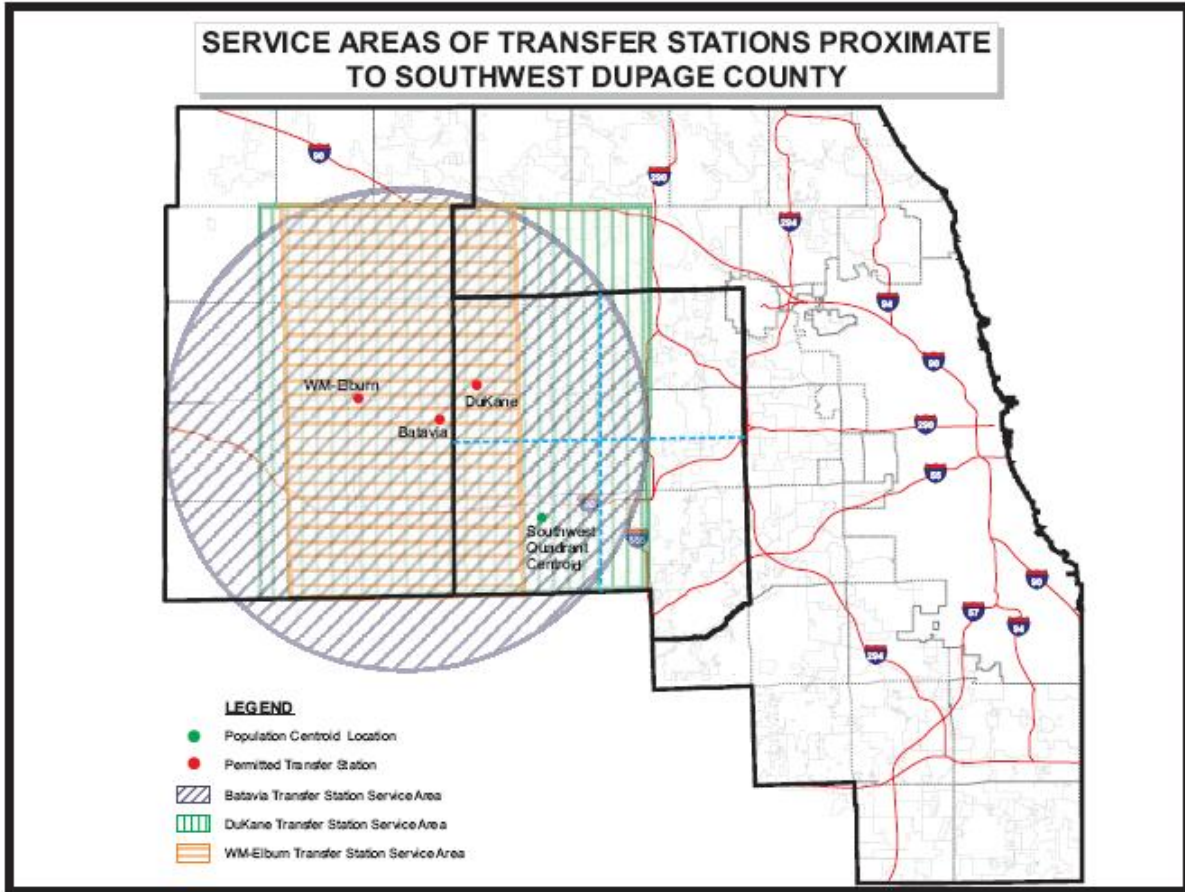
2007 Shaw Environmental Report completed for the County of DuPage

APPENDIX H



2007 Shaw Environmental Report completed for the County of DuPage

APPENDIX I



2007 Shaw Environmental Report completed for the County of DuPage