



# Saratoga County Final Solid Waste Management Plan

*October 2019*



**Barton  
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Saratoga County

Final Solid Waste Management Plan

October 2019

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## EXECUTIVE SUMMARY

Saratoga County was founded in 1791, establishing Ballston Spa as the County Seat. During the nineteenth century, Saratoga County was an important industrial center. Its location 30 miles north of Albany on the Delaware and Hudson Railway and its proximity to water power from the Hudson River and Kayaderosseras Creek led to rapid industrial development beginning in 1810. Some of the most important industries were paper mills, tanneries, foundries, and textile mills.

Saratoga County is governed by a Board of Supervisors. By resolution, the Board of Supervisors designated the County as the official planning unit for purposes of developing a solid waste management plan. The planning unit includes nineteen townships, nine incorporated villages, and two cities. Every municipality in the County is participating in the planning unit.

A variety of collection services are used in the County to collect and transport solid wastes to landfills and recycling centers. Methods include private contracts, residential drop-off, town-wide contracts, and municipal collection. Municipalities at the town and village level make solid waste related decisions with regard to their levels of involvement. This has resulted in a wide variety of management practices through the County. A summary of waste disposal activities is provided in Chapter 3.

In 2010, based on annual reports submitted to DEC, Saratoga County residents and businesses generated approximately 461,908 tons of waste. The fraction for each material was determined by analyzing annual tonnage reports for those facilities that reported accepting waste from Saratoga County. The majority of the waste is landfilled (318,479 tons or 69 percent) followed by incineration (93,249 tons or 20%) while the remainder is recycled (27,998 tons or 6.1 percent), processed (14,212 tons or 3.1 percent), or composted (7,970 tons or 1.7 percent).

Based on the data gathered, the County has identified proposed milestones to work toward during a ten-year SWMP planning period. The milestones set forth below were identified with the goal of further enhancing the reuse and recycling of materials to reduce the quantity of materials being landfilled. Each proposed milestone will be evaluated for feasibility and cost effectiveness on an individual basis according to the implementation schedule.

<b>Implementation Item</b>
Establish a 10-Year Planning Period
Improve Recycling at Public Facilities
Support Product Stewardship Legislation
Support Yard/Green Waste Composting Facilities
Support Composting Efforts at Saratoga Race Track
Encourage Backyard Composting
Support County Wide Household Hazardous Waste Collection(s)
Encourage Construction and Demolition Debris Recycling
Support Product Reuse
Promote Unique Wastes Disposal Options
Encourage Public Outreach and Education
Support Pay As You Throw Programs
Track Available Technologies
Review County Local Solid Waste Management and Recycling Law

## 1.0 INTRODUCTION

### 1.1. Purpose of Saratoga County Solid Waste Management Plan

The overall objective of the Plan is the formulation, adoption, and implementation of a program to meet the County's solid waste management requirements for at least a ten year period. The Plan is designed to respond to state-established goals for solid waste management tailored to the needs of the County. A major goal in formulating the Plan was the adoption of cost effective solutions for solid waste management using reliable, proven technologies that are environmentally sound, while allowing flexibility for future technological changes.

The residents, businesses, and institutions in Saratoga County currently produce hundreds of tons of solid waste every day. The question about what to do with this waste, now and in the future, creates the need for a plan such as this one.

The purpose of the Solid Waste Management Plan (SWMP) is to: 1) serve as a countywide framework for the coordination of solid waste management; and 2) establish countywide solid waste goals and objectives, including an overall waste reduction goal and a plan to monitor progress toward the goals.

This SWMP provides Saratoga County with policy and program direction for the next decade. This SWMP also recognizes that local municipalities, the New York State Department of Environmental Conservation (NYSDEC), private waste haulers, and private facility owners all play important roles in the current and future management of solid waste and recycling within Saratoga County.

#### 1.1.1. Scope of the Plan

This SWMP addresses municipal solid waste (MSW), non-hazardous industrial waste, construction and demolition debris (C&D), and municipal sewage treatment plant sludge. It does not address hazardous waste from large-quantity generators or special industrial wastes.

The Planning Unit addressed by this Plan is Saratoga County, including its cities, towns, villages, residents, businesses, and operations therein. This Plan also includes programs and facilities that in some cases are located outside of the Saratoga County boundaries, which may impact activities inside the County. All of the programs, services, and facilities related to solid waste management and disposal are addressed by this Plan, including waste reduction, transfer, disposal, and collection.

## 1.2. Saratoga County Regulatory Framework

### 1.2.1. Saratoga County Recycling Law

In 1988, a comprehensive solid waste management planning effort in Saratoga County was made in connection with area recycling efforts. *Local Law No. 1 of 1988* was adopted, which required source separation of newspapers and discarded scrap (“white”) metal. Amendments to the Local Law were made in 1988, 1989, and 1990 which added bulk metal, clear glass and plastic HDPE (#2) bottles to the definition of recyclables. Additionally in 1991, the County established a voluntary program for recycling magazines. The Commissioner of Public Works issues the procedures governing disposal of recyclables. The Commissioner also has the power to establish procedures for designating County recycling centers and for determining the effective dates for compliance with the Recycling Law.

### 1.2.2. Previous Solid Waste Management Planning Efforts

The County officially adopted the Saratoga County Solid Waste Management Plan, which was approved by the DEC on October 12, 1990. Several planning efforts in an attempt to address the County’s short- and long-term solid waste disposal needs were completed prior to the adoption of the 1990 Solid Waste Management Plan, which are discussed in Chapter 2.0.

## 2.0 PLANNING UNIT HISTORY & DESCRIPTION

This chapter outlines the baseline and background conditions on which the plan was developed, including a brief overview of past solid waste management practices and planning efforts.

### 2.1. History of the Planning Unit and Saratoga County's Involvement in Solid Waste

Prior to the 1970s, Saratoga County did not manage municipal waste. Waste disposal was largely the responsibility of each municipality and private haulers. In the late 1970s, the Saratoga County Solid Waste Agency (SCSWA) was established to investigate ways of assisting municipalities with their solid waste management problems. Throughout most of the 1980s, the SCSWA was responsible for countywide solid waste management planning.

In 1985, SCSWA retained Malcolm Pirnie, Inc. to develop a countywide solid waste management plan entitled *Solid Waste Management Feasibility Study*, which recommended a countywide waste-to-energy facility. The Feasibility Study was followed by the completion of the *Saratoga County Solid Waste Management Facility Project Draft Environmental Impact Statement*, by Malcolm Pirnie, Inc. in July 1986 and the *Final Environmental Impact Statement*, by Malcolm Pirnie, Inc. in 1986 for the development of resource recovery facility within the County. Upon further consideration; however, due to the relatively high costs of the proposed facilities, the County Board of Supervisors rejected moving forward with the development of a resource recovery plant and residual waste landfill.

In 1988, the County Board of Supervisors established a new Solid Waste Committee (the "Committee") to replace the SCSWA and to focus on the development of a recycling program to quickly reduce the volume of solid wastes destined to existing landfills. Several steps were taken to institutionalize countywide recycling. The County banned the purchase of Styrofoam containers; enacted Local Law #1 of 1988 ("Recycling Law"), which required source separation of recyclables; hired a recycling coordinator; and implemented a recycling program. Since October 30, 1989, the County has operated five recycling centers for the collection of recyclables, including newsprint, metals, tin cans, clear glass and plastic containers. Also recycled are corrugated containers, magazines, junk mail, office paper, hard and soft cover books, catalogs, directories and brown paper bags. The County established these five recycling centers in order to provide an efficient mechanism to collect and transfer recyclables in the County. These centers serve as destinations and collection points for recyclables. From these centers, the materials are transported to respective markets.

The recycling centers are located in the Towns of Clifton Park, Corinth, Milton, and Moreau and in the City of Saratoga Springs through inter-municipal agreements between the County and the respective municipalities.

In addition to initiating recycling, the County retained Barton & Loguidice, P.C. in 1988 to conduct a solid waste gate survey at existing landfills in order to estimate the quantities and types of solid waste entering these facilities.

Concurrent with these efforts, the Committee began analyzing options for a new solid waste disposal facility for non-recyclables. The construction of a new County landfill appeared to be the most feasible option given economics and time constraints.

At that time, the County was informed by the DEC that they must prepare a Solid Waste Management Plan (SWMP) before the DEC would consider issuing a landfill permit. Therefore, the County Solid Waste Committee prepared a *Draft Solid Waste Management Plan*, which was initially rejected by the DEC. Consequently the County retained a consultant to complete the Solid Waste Management Plan, which was subsequently approved by the DEC and adopted by the County on October 12, 1990.

Saratoga County was granted a permit to construct a 106,000 ton per year solid waste landfill by the DEC on October 5, 1998. On September 13, 2001 the County was issued the final permit to operate. The permit authorized construction of two cells totaling 9 acres capable of providing an estimated 3 years of disposal capacity based on 467,000 cubic yards of air space. The County constructed the landfill starting in 1999 and completed it in 2000. Upon completion of the landfill the County Board decided to hold off on opening and operating the facility and instead rely on the landfill as an “insurance policy” in case the cost of disposal in the private market increased significantly. No waste has been placed in the facility.

The 1990 SWMP was updated in two subsequent reports and was re-titled the Saratoga County Solid Waste Management Plan Update and Update 2 (SWMPU, SWMPU2). As part of the SWMPU, a Comprehensive Recycling Analysis (CRA) was prepared to deal exclusively with reduction, re-use and recycling. The CRA was prepared as a standalone document and updated the entire recycling program, setting program goals and objectives for the life of the planning period through 2010.

Since the initial SWMP, municipalities within Saratoga County have relied upon the existing solid waste transfer stations and recycling centers owned and operated by the County as well as private facilities and haulers.

In 2012, Saratoga County made the decision to privatize the County-owned landfill through a request for proposals (RFP) pursuant to Section 120-w of New York General Municipal Law. Through this RFP process, and subsequent negotiations, the Landfill was sold by the County to Finch Waste Company, LLC (Finch) in December of 2013. The new private owner completed the required applications to connect the adjacent paper mill sludge landfill (also owned by Finch) and the MSW landfill into one MSW landfill facility. The landfill was then sold by Finch to Waste Management of New York LLC (WMNY) in December 2017. The privatization and recent permitting at the landfill have created significant new disposal capacity which has benefitted the County and will continue to benefit the County over the long term.

## **2.2. Location and Geography of the Planning Unit**

The County, located north of Albany along the western shore of the Hudson River, encompasses 810 square miles. It is bounded on the north by Warren County, on the west by Hamilton, Fulton, and Montgomery Counties, on the south by Schenectady and Albany Counties, and on the east by Rensselaer and Washington Counties.

The road network includes approximately 1,847 miles of roadways, about half of which are rural town roads. The remaining roadways are State and County highways, providing intraregional access in both a north-south and east-west direction. The Northway is the major highway through the County, extending from Canada to Albany, where it connects with the New York State Thruway. The New York State Thruway provides access to New York City, western New York State, and New England.

The early railroads play a major role in the economic growth of the County. Conrail, the Delaware and Hudson Railroad (D&H), and the Boston and Maine Railroad (B&M) provide rail freight service in the region. A major freight classification yard is operated by Conrail in Selkirk, Albany County. The B&M operates a freight classification yard in Mechanicville.

## **2.3. Towns, Cities, and Villages Included in Planning Unit**

Saratoga County was founded in 1791, establishing Ballston Spa as the County Seat. During the nineteenth century, Saratoga County was an important industrial center. Its location 30 miles north of Albany on the Delaware and Hudson Railway and its proximity to water power from the Hudson River and Kayaderosseras Creek led to rapid industrial development beginning in 1810. Some of the most important industries were paper mills, tanneries, foundries, and textile mills.

Saratoga County is governed by a Board of Supervisors. By resolution, the Board of Supervisors designated the County as the official planning unit for purposes of developing a solid waste management plan. The planning unit includes nineteen townships, nine incorporated villages, and two cities. Every municipality in the County is participating in the planning unit. See *Figure 2-1: Municipalities in Saratoga County*.

The municipalities comprising Saratoga County are:

**Cities:** Mechanicville, Saratoga Springs

**Towns:** Ballston, Charlton, Clifton Park, Corinth, Day, Edinburg, Galway, Greenfield, Hadley, Halfmoon, Malta, Milton, Moreau, Northumberland, Providence, Saratoga, Stillwater, Waterford, Wilton

**Villages:** Ballston Spa, Corinth, Galway, Round Lake, Schuylerville, South Glens Falls, Stillwater, Victory Mills, Waterford

The intensity of development and settlement patterns varies widely among different regions of the County. While much of the northern portions of the County are rural or agricultural in nature with population densities at less than 100 people per square mile, the northeast—particularly the Towns of Moreau and Wilton— and the southern portion of the County—particularly the Towns of Ballston, Milton, Malta, Clifton Park, Halfmoon and Waterford—are quite suburban, dominated by single-family residential development, strip commercial, and a few apartment complexes. The two densest areas of the County are the City of Mechanicville and Village of Waterford, which have population densities of 5,716 and 5,467 people per square mile respectively.

Figure 2- 1: Municipalities In Saratoga County



Source: Saratoga County Chamber

#### 2.4. Demographics

According to the U.S. Census Bureau 2010 Demographic Profile Data released June 3, 2011, in 2010 there were 219,607 people and 88,296 households residing in Saratoga County. Total Housing Units are estimated at 96,656. According to the American Community Survey for 2005-2009 for Saratoga County, the median household income in

the County is \$64,705. The per capita income for the County is \$31,554 with 4.1% of families having incomes below the poverty line.

The Capital District Regional Planning Commission & U.S. Bureau of Census, with assistance from Saratoga Economic Development Corporation published the following population estimates for the municipalities within Saratoga County for 2010.

**Table 2- 1: Population By Municipality, 2000 and 2010**

Municipality	Population		Change from 2000-2010 %
	Town totals include Village totals		
	<u>2000</u>	<u>2010</u>	
Town of Ballston	8,729	9,263	6.12%
Village of Ballston Spa	5,556	5,602	0.83%
Town of Charlton	3,954	4,123	4.27%
Town of Clifton Park	33,110	36,382	9.88%
Town of Corinth	6,259	6,371	1.79%
Village of Corinth	2,474	2,377	-3.92%
Town of Day	920	1,069	16.20%
Town of Edinburg	1,384	1,593	15.10%
Town of Galway	3,589	3,776	5.21%
Village of Galway	214	216	0.93%
Town of Greenfield	7,362	7,724	4.92%
Town of Hadley	1,971	2,203	11.77%
Town of Halfmoon	18,359	22,029	19.99%
Town of Malta	13,005	14,183	9.06%
Village of Round Lake	604	594	-1.66%
City of Mechanicville	5,019	4,945	-1.47%
Town of Milton	17,103	18,170	6.24%
Town of Moreau	13,549	14,445	6.61%
Village of S. Glens Falls	3,368	3,357	-0.33%
Town of Northumberland	4,603	4,867	5.74%
Town of Providence	1,841	2,095	13.80%
Town of Saratoga	5,114	5,331	4.24%
Village of Schuylerville	1,197	1,247	4.18%
Village of Victory Mills	544	516	-5.15%
City of Saratoga Springs	26,186	29,300	11.89%
Town of Stillwater	7,522	7,920	5.29%
Village of Stillwater	1,644	1,641	-0.18%
Town of Waterford	8,515	8,641	1.48%

Municipality	Population		Change from 2000-2010
	Town totals include Village totals		
Village of Waterford	2,204	2,146	-2.63%
Town of Wilton	12,541	14,961	19.30%
<b>SARATOGA COUNTY TOTAL</b>			9.35%

Source: Capital District Regional Planning Commission & U.S. Bureau of Census, with assistance from Saratoga Economic Development Corporation

## 2.5. Population Trends

Since the construction of the Adirondack Northway (I-87) in the 1960s Saratoga County has consistently been the fastest growing portion of the Capital District and indeed, of upstate New York. In 1960 the county had a population of only 89,000, less than half its current population. Between 1960 and 1980, the County's population increased more than 72% from approximately 89,096 to 153,759. According to Saratoga County Census 2015 projection, from 2010 to 2015, the Saratoga County population growth percentage was 3.2% (or from 219,607 people to 226,632 people). Therefore, from 1960 through 2015 the County's population increased more than 154% from approximately 89,096 to 226,632. According to Cornell Program on Applied Demographics, it is anticipated that the population will modestly increase through 2020 and 2030. The population is projected to increase by about 3.26 percent in 2020 and by about 5.44 percent in 2030. These population projections are summarized in Table 2-2. These population projections are used in the waste generation estimates included in Appendix B.

**Table 2- 2: Population Projections in Saratoga County**

	Population (Projected)	Change in Population	
		#	%
2010	219,607	-	-
2015	226,632	7,025	3.20%
2020	234,009	7,377	3.26%
2030	246,743	12,734	5.44%

Source: US Census Bureau and Cornell Program on Applied Demographics data

## 2.6. Land Use/Development

Factors such as population density and land use affect the composition of the solid waste stream, the methods of collection, and the effectiveness of recycling programs. Sparsely populated rural areas tend to generate primarily residential wastes, with commercial and industrial wastes constituting only a small portion of the total waste stream. Because of low population densities and large areas of unimproved land, yard wastes frequently remain onsite in rural areas. Residents in rural areas generally deliver their waste to transfer stations or a landfill for disposal, although private haulers also may serve rural households.

Suburban locations, on the other hand, tend to generate large volumes of yard wastes, such as grass clippings and brush, in addition to household wastes. Yard wastes are generally bagged and disposed of in landfills, although some localities are looking into large-scale composting as an alternative to landfilling. Collection is generally provided by private hauler.

Urban areas tend to generate residential, commercial, and industrial wastes. Municipalities usually provide collection services to residents (sometimes under contract with a private hauler), but businesses are responsible for disposing of their own wastes. Urban areas, which may have residential areas with small lots and many large, mature trees, also generate large volumes of leaves rather than grass clippings and brush.

The following table represents the breakdown of the County into urban, suburban and rural areas based on the 2010 U.S. census data. Overall, approximately 2.4% of the population is located in an urban area, 76% of the population is located in a suburban area, and 21.5% of the population is located in a rural area.

**Table 2- 3: Land Use in Saratoga County**

	2010 Census Population	Total Area (sq. mi.)	People per Square Mile	Urban, Suburban or Rural
<b>Saratoga County</b>	219,607	843.713	260	
Village of Ballston Spa	5,409	1.611	3358	S
Town of Ballston	9,776	30.014	326	S
Town of Charlton	4,133	32.823	126	R
Town of Clifton Park	36,705	50.22	731	S
Town of Corinth	6,531	58.132	112	R

	2010 Census Population	Total Area (sq. mi.)	People per Square Mile	Urban, Suburban or Rural
Village of Corinth	2,559	1.112	2301	S
Town of Day	856	69.552	12	R
Town of Edinburg	1,214	67.078	18	R
Town of Galway	3,545	45.008	79	R
Village of Galway	200	0.256	781	S
Town of Greenfield	7,775	67.719	115	R
Town of Hadley	2,048	41.092	50	R
Town of Halfmoon	21,535	33.658	640	S
Town of Malta	14,765	31.372	471	S
Village of Round Lake	623	1.175	530	S
City of Mechanicville	5,196	0.909	5716	U
Town of Milton	18,575	35.616	522	S
Town of Moreau	14,728	43.61	338	S
Village of South Glens Falls	3,518	1.488	2364	S
Town of Northumberland	5,087	32.898	155	R
Town of Providence	1,995	45.093	44	R
Town of Saratoga	5,674	42.91	132	R
Village of Schuylerville	1,386	0.585	2369	S
Village of Victory Mills	605	0.528	1146	S
City of Saratoga Springs	26,586	29.06	915	S
Town of Stillwater	8,287	43.565	190	R
Village of Stillwater	1,738	1.432	1214	S
Town of Waterford	8,423	7.416	1136	S
Village of Waterford	1,990	0.364	5467	U
Town of Wilton	16,173	35.968	450	S

## Notes:

Rural (R ) = less than 325 people/sq mile

Suburban (S) = Between 325 and 5,000 people per sq mile

Urban (U) = Greater than 5,000 people per square mile

Source: U.S. Department of Commerce, Bureau of the Census.

Prepared by the Capital District Regional Planning Commission.

Overall Saratoga County is comprised of a majority of residential parcels according to a study prepared by the University of Albany in 2007 (*Comparative Analysis of Land Use and Residential Housing in Saratoga County*). Of Saratoga County's 93,785 parcels, 71% are considered residential, 19% are considered vacant parcels, 4.4% are considered commercial, 0.07% are considered industrial, 1.4% are considered as community services, 1.07% are considered agricultural, 0.23% are considered parcels used for public service, 0.3% are considered public parks, and 1.6% are considered forest lands.

The extent and mix of an area's commercial and industrial base may affect solid waste disposal requirements. Paper mills are among the large industries in the County contributing to the solid waste stream and have special disposal requirements. Large education institutions, such as the City School District of Saratoga Springs, the Shenendehowa Central School District, and Skidmore College, tend to produce large quantities of paper wastes. Shopping malls, hospitals, and medical office buildings are other types of establishments that generate large volumes of wastes.

While a business' number of employees is not necessarily correlated with the volume of waste it generates, it is one metric by which to gauge a business' size. According to Saratoga County Chamber of Commerce and data from the New York State Department of Labor, the type of industry that employs the most individuals in Saratoga County is education, health and social services (22.8%) followed by retail trade (12%) and manufacturing (10.8%).

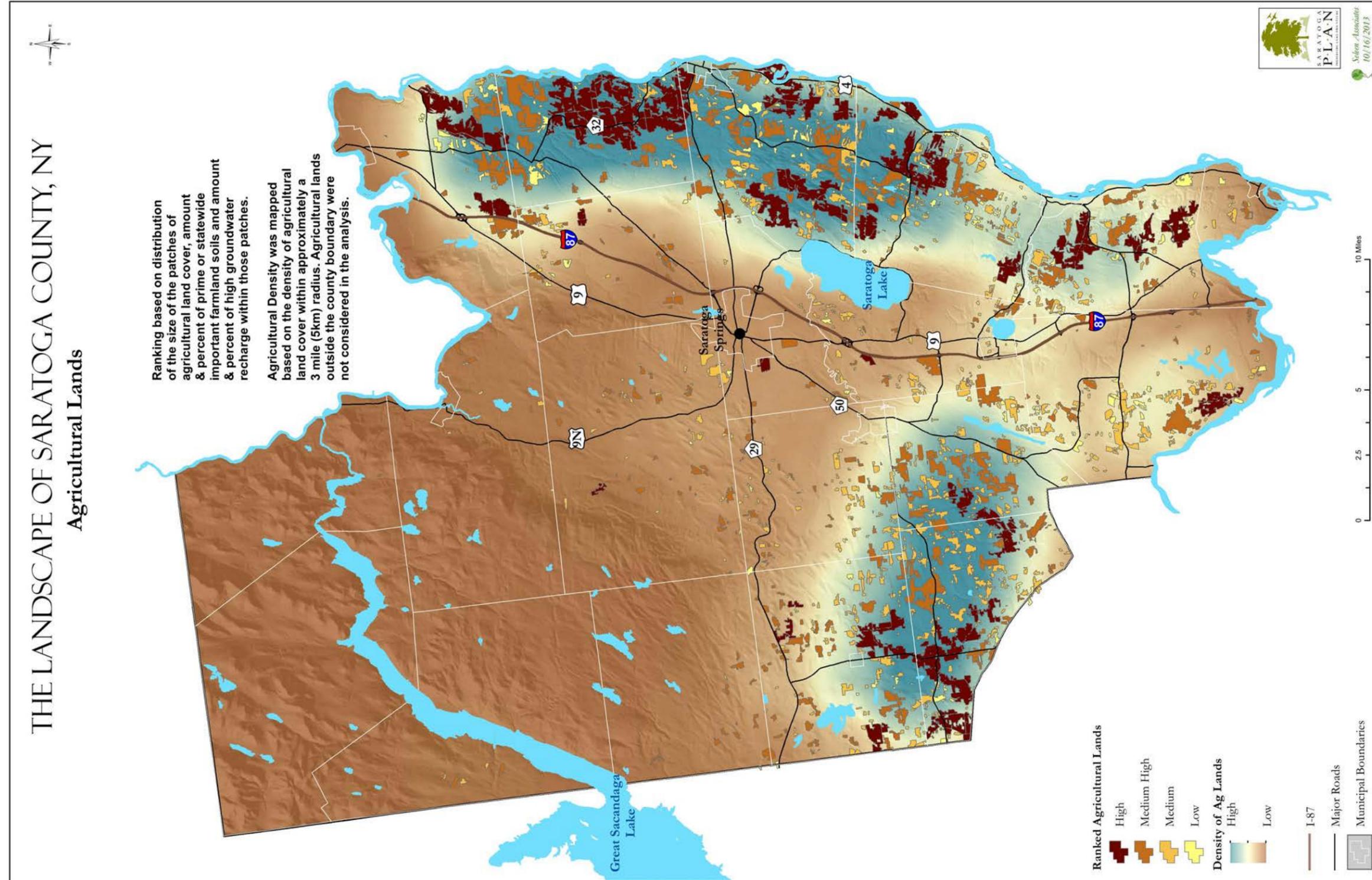
There are many natural, cultural, and historical amenities in the County that have contributed to a growth of tourism. Some of these amenities are seasonal, while others draw visitors throughout the year. Among the attractions in the County are the Adirondack State Park, Saratoga National Historic Park in Stillwater, the Saratoga Battle Monument in Schuylerville, Moreau Lake State Park, the Fairgrounds in Ballston Spa, the National Bottle Museum in Ballston Spa, Saratoga Lake, Galway Lake, Round Lake, and Sacandaga Lake.

Besides the above attractions, Saratoga Springs continues to be a favorite destination of vacationers, weekend travelers, and day trippers. The mineral springs, race tracks, and hotels are well known and have attracted visitors for more than one hundred years. Newer attractions include the Saratoga Performing Arts Center, which is home to the New York City Ballet and Philadelphia Philharmonic Orchestra; the National Museum of Dance; and the National Museum of Racing Thoroughbred Hall of Fame. These newer facilities, along with restaurants, shops, and revitalized neighborhoods have enhanced the City's quality of life and brought new visitors to the area.

A total of 583 active farms existed in the County in 2012. These farms occupied approximately 78,800 acres of the County's total land area, and the average farm size was 135 acres. The farmland is concentrated in the southern portion of the County due to the presence of the Adirondack Park to the North. A figure depicting active farmland is shown in Figure 2-2.



Figure 2-2 – Agricultural Lands in Saratoga County





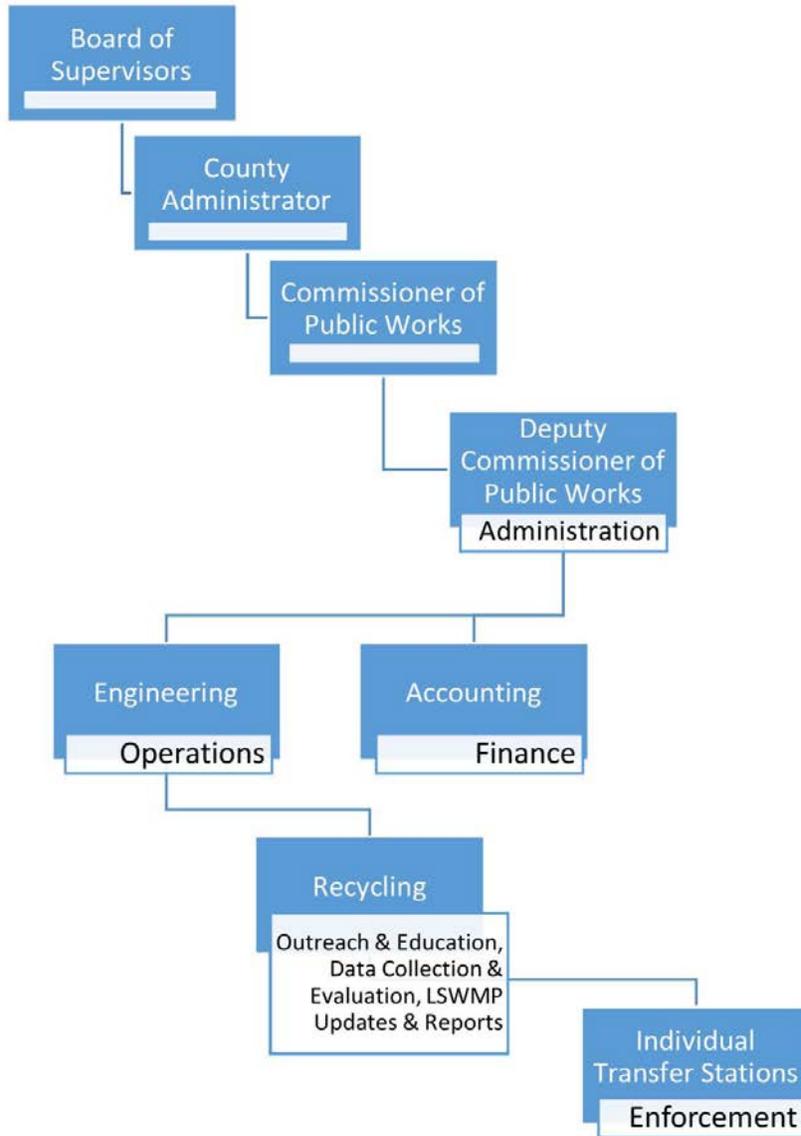
## 2.7. Existing Administrative and Financial Structure

### 2.7.1. Administrative Structure

The County administrative system consists of a Board of Supervisors which acts as the overall legislative body for the County. Solid waste management in the County is overseen by the Department of Public Works, which is overseen by a Commissioner. The administrative structure is illustrated in Figure 2-3, below.

Implementation of the various items outlined in the plan will ultimately be under the supervision of the Commissioner of Public Works with direction from the Board of Supervisors. Typically, the Public Works Department Engineering and Recycling staff will be responsible for specific tasks. Individual transfer stations are staffed on site by town/city personnel, with the exception of the Milton Recycling Center which is staffed by a County employee.

Figure 2-3 – Administrative Structure



### 2.7.2. Financial Structure

Saratoga County has primary responsibility for the collection, removal and transportation of recyclable materials from four Recycling Centers located within the County. The County has four inter-municipal Agreements (1 each) with Clifton Park, Corinth, Moreau and Saratoga Springs for the Management of the Collection of Single Stream Recyclables. The County's Department of Public Works annually budgets \$35,000.00 for each town, for services related to solid waste and recycling. The contract states the town shall perform all on-site management and oversight of the collection of recyclables and scrap metals. Each municipality is also responsible for all maintenance of their Town's Recycling Center. All users of the municipal transfer stations are responsible for paying tipping fees, which go to the municipality as revenue.

Saratoga County has an agreement with County Waste and Recycling Services, Inc. for the transportation, processing & recovery of recyclables and scrap metal from 6 facilities located within the County. The County's contract with County Waste was implemented through a competitive bid process, which is re-bid every two years. The facilities contracted are Clifton Park, Corinth, Moreau and Saratoga Springs, Milton Recycling Centers and Edinburg Town Highway Garage. The Contractor and the County have an agreement for a minimum per ton payment to the County plus additional payments for certain recycling streams based on market value calculated on a monthly basis.

The County pays the contracted hauler for the transportation of single stream recyclables and scrap metal from the Recycling Centers and the Edinburg Town Highway Garage. The prices for each location are listed in Table 2-4 and Table 2-5.

There is no charge for residents to dispose of single stream recycling, scrap metal, batteries, propane tanks or appliances at the municipally owned facilities located within the County.

**Table 2-4 Transportation Cost of Single Stream Recyclables**

<b>Town</b>	<b>Price Per Haul (\$)</b>
<b>Clifton Park</b>	<b>128.00</b>
<b>Corinth</b>	<b>294.00</b>
<b>Edinburg Town Highway Garage</b>	<b>254.00</b>
<b>Milton</b>	<b>189.00</b>
<b>Moreau</b>	<b>247.00</b>
<b>Saratoga Springs</b>	<b>189.00</b>

**Table 2-5 Transportation Cost of Scrap Metal**

<b>Town</b>	<b>Price Per Haul (\$)</b>
<b>Clifton Park</b>	<b>65.00</b>
<b>Corinth</b>	<b>115.00</b>
<b>Edinburg Town Highway Garage</b>	<b>90.00</b>
<b>Milton</b>	<b>50.00</b>
<b>Moreau</b>	<b>85.00</b>
<b>Saratoga Springs</b>	<b>50.00</b>

### 3.0 OVERVIEW OF SARATOGA COUNTY'S CURRENT SOLID WASTE MANAGEMENT SYSTEM

#### 3.1. Current Solid Waste Management System

A variety of collection services are used in the County to collect and transport solid wastes to landfills and recycling centers. Methods include private contracts, residential drop-off, town-wide contracts, and municipal collection. Municipalities at the town and village level make solid waste related decisions with regard to their levels of involvement. This has resulted in a wide variety of management practices through the County. A summary of waste disposal activities by waste type follows.

#### 3.2. Solid Waste Management Facilities

##### 3.2.1. Landfills/Waste-to-Energy Facilities

In 1990 there were fifteen (15) existing municipal landfills that accepted MSW in Saratoga County. The County initiated an approved plan (*Saratoga County Solid Waste Landfill Consolidation Plan*) calling for the closure of all but three municipal landfill facilities as an interim solution to solid waste disposal until opening of a County-wide facility in early 1994. As of April 1994, all 15 landfills in the County had been closed by orders to close from the DEC. Additionally the scheduled opening of the constructed Saratoga County Landfill was delayed due to economic reasons. Consequently, from 1994 to 2014, MSW generated in Saratoga County was solely exported to facilities located outside of the county. A list of the MSW disposal options located outside of the County is provided below.

- Town of Colonie Landfill
- Fulton County Landfill
- Wheelabrator, Hudson Falls Waste-to-Energy Facility (aka Hudson Falls Resource Recovery Facility)
- Clinton County Landfill
- High Acres Landfill
- Seneca Meadows Landfill
- Albany Rapp Road Landfill
- Ontario County Landfill

Beginning in 2014, when the MSW landfill was sold to Finch, a portion of the Saratoga County generated MSW is disposed of within the County. As discussed in Section 2-I above, this facility is now owned and operated by WMNY and known as the Green Ridge RDF. In addition, one industrial waste landfill located

within the County is solely utilized for disposal of industrial waste. The WMNY Facility located in the Town of Northumberland adjacent to the MSW landfill is utilized as an industrial landfill for disposal of paper sludge generated by Finch Paper. This facility has been combined in the NYSDEC Part 360 Solid Waste Management facility permit issued for the WMNY consolidated landfill. Additionally, the former Hudson River Mill owned by International Paper Company, located in the Town of Corinth contains an industrial landfill used for the disposal of industrial process sludge from their prior operations. The mill is no longer operational, and the landfill facility closed in 2015.

According to the 2017 Annual Report, the projected permitted site life of the Green Ridge RDF Landfill is approximately 16 years 3 months. The Green Ridge RDF Landfill will provide a long term reliable disposal option for undiverted solid waste generated by the County.

The WMNY Consolidated Landfill (MSW and Industrial Landfills), and Transfer Stations are the facilities from which adequate data is available to determine what quantities of out-of-County waste are handled within Saratoga County. The following is a summary of the types and quantities of waste that are handled from each outside entity.

**Table 3-1: Out-of-County Waste Handled Within Saratoga County**

	Waste Type	WMNY MSW (tons)	WMNY (Ind.) (tons)	Public Transfer Stations	Private Transfer Stations	Total
Warren County	MSW	12,545.03	'--	833.71	5,803.01	48,727.95
	C&D Debris	2,042.06	'--	384.12	5,199.32	
	Industrial Waste & MRF Residue	0	21,920.7	'--	'--	
Albany County	MSW	58.95	'--	'--	'--	369.94
	C&D Debris	302.69	'--	'--	'--	
	Industrial Waste & MRF Residue	8.30	'--	'--	'--	
Washington County	MSW	8,080.67	'--	1,480.65	2,085.78	16,165.28
	C&D Debris	2,583.50	'--		832.30	
	Industrial Waste & MRF Residue	898.15	204.23	'--	'--	
Rensselaer County	MSW	35.44	'--	'--		101.66
	C&D Debris	40.06	'--	'--		

	Waste Type	WMNY MSW (tons)	WMNY (Ind.) (tons)	Public Transfer Stations	Private Transfer Stations	Total
	Industrial Waste & MRF Residue		'--	'--	26.16	
Schenectady County	MSW	18.99	'--	'--		194.7
	C&D Debris	172.07	'--	'--	3.64	
	Industrial Waste & MRF Residue		'--	'--		
Hamilton County	MSW	15.62	'--	'--	'--	18.57
	C&D Debris	2.95	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Addison, VT	MSW	51.18	'--	'--	'--	75.06
	C&D Debris	23.88	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Montgomery County	MSW	1.06	'--	'--	'--	5.05
	C&D Debris	3.99	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Columbia County	MSW	0	'--	'--	'--	5.74
	C&D Debris	5.74	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Essex County	MSW	848.07	'--	'--	931.72	1,928.38
	C&D Debris	36.93	'--	'--	111.66	
	Industrial Waste & MRF Residue	0	'--	'--		
Rutland, VT	MSW	1,959.17	'--	'--	'--	10,164.79
	C&D Debris	8,205.62	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Bennington, VT	MSW	6,960.33	'--	'--	'--	8,109.22
	C&D Debris	1,148.89	'--	'--	'--	
	Industrial Waste &		'--	'--	'--	

	Waste Type	WMNY MSW (tons)	WMNY (Ind.) (tons)	Public Transfer Stations	Private Transfer Stations	Total
	MRF Residue					
Hampden, MA	MSW	632.90	'--	'--	'--	632.90
	C&D Debris	0	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
North Adams, MA	MSW	591.85	'--	'--	'--	591.85
	C&D Debris	0	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Westchester County	MSW	0	'--	'--	'--	30.04
	C&D Debris	0	'--	'--	'--	
	Industrial Waste & MRF Residue	30.04	'--	'--	'--	
Clinton County	MSW	0	'--	'--	'--	6.09
	C&D Debris	6.09	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Schoharie County	MSW	1,397.45	'--	'--	'--	1,428.68
	C&D Debris	31.23	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Fulton County	MSW	0	'--	'--	6.02	44.98
	C&D Debris	38.96	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	
Cheshire, NH	MSW	0	'--	'--	'--	101.31
	C&D Debris	101.31	'--	'--	'--	
	Industrial Waste & MRF Residue	0	'--	'--	'--	

Source: 2017 NYSDEC Facility Annual Reports

### 3.2.2. Transfer Stations

The most prevalent solid waste collection practice in the County involves the use of individual contracts with private haulers. With this type of collection, private solid waste haulers negotiate fees with their clients on an individual basis, based on the quantity and makeup of the waste to be disposed of. Fourteen of the nineteen municipalities in the County make use of this type of collection practice. Most residents that are either not served by or elect not to use a curbside collection system dispose of waste at a municipally or privately operated transfer station. A listing of the transfer station facilities in Saratoga County is presented in the following Table 3-2.

Table 3- 2: Registered Transfer Stations in Saratoga County

TRANSFER STATION NAME	FACILITY ADDRESS	DISPOSAL DESTINATION
<b>Saratoga County Operated Facilities</b>		
Saratoga Springs Recycling Center	Weibel Avenue, Saratoga Springs	Springer Waste Management or Waste Management, Inc.
Town of Corinth	Heath Road, Corinth	Springer Waste Management or Hiram Hollow Transfer Station
Town of Clifton Park Transfer Station	217 Vischers Ferry Road, Rexford	County Waste's Clifton Park Transfer Station
Milton Recycling Center	County Farm Road, Milton	County Waste's Clifton Park Transfer Station
Town of Moreau Transfer Station	Route 9 & Butler Road, Fort Edward	Springer Waste Management or Hiram Hollow Transfer Station
<b>Town Operated Facilities</b>		
Town of Day Recycling Center	1650 North Shore Road, Hadley	Hudson Falls Resource Recovery or Hiram Hollow Transfer Station
Town of Edinburg Transfer Station		Fulton County Landfill
Town of Hadley Recycling Center	4059 North Shore Road, Hadley	Hiram Hollow Transfer Station
Town of Halfmoon Highway Dept.	322 Route 146, Halfmoon	County Waste's Clifton Park Transfer Station or Colonie Landfill
Town of Northumberland	Peters Road, Gansevoort	Springer Waste Management or Hiram Hollow Transfer Station
Providence Transfer Station	375 Centerline Road, Middle Grove, Providence	County Waste's Clifton Park Transfer Station
<b>Privately Operated Facilities</b>		
County Waste & Recycling	1927 Route 9, Clifton Park	Hudson Falls Resource Recovery, Albany City Landfill, Colonie Landfill, Seneca Meadows Landfill
Hiram Hollow Transfer Station (Casella)	100 Washburn Road, Wilton	Clinton County Landfill

Source: DEC Annual Facility Reports (2010)

The following municipalities in Saratoga County provide curbside collection services to their residents:

- Village of Victory Mills (Hiram Hollow Transfer Station)
- Village of Waterford (County Waste Clifton Park Transfer Station or Colonie Landfill)
- Town of Waterford (County Waste Clifton Park Transfer Station or Colonie Landfill)
- Village of Schuylerville (Hiram Hollow Transfer Station)
- City of Mechanicville (County Waste Clifton Park Transfer Station)
- Village of Corinth (County Waste Clifton Park Transfer Station or Hudson Falls Resource Recovery Facility)

These municipalities directly transport their waste to a transfer station or final disposal location. The destination is provided above in parentheses following the municipality's name.

The materials accepted at each transfer station are provided below in Table 3-3.

**Table 3- 3: Transfer Station by Types of Waste Accepted**

FACILITY NAME	WASTE ACCEPTED/USERS							
	Bagged Garbage	Non-processibles	C&D	Yard Waste	Recyclables	Muni Pickup	Tires	Residents only
<b>Saratoga County Facilities</b>								
Saratoga Springs Recycling Center	X				X			
Town of Corinth	X	X	X	X	X			X
Town of Clifton Park Transfer Station	X	X	X	X	X		X	X
Milton Recycling Center					X			
Town of Moreau Transfer Station	X	X		X	X		X	
<b>Town Operated Facilities</b>								
Town of Day Recycling Center	X	X			X	X		X
Town of Edinburg Transfer Station	X				X	X	X	X
Town of Hadley Recycling Center	X	X	X	X	X	X	X	X
Town of Halfmoon Highway Dept.	X	X	X	X	X			X
Town of Northumberland	X	X		X	X		X	X
Providence Transfer Station	X			X	X			X
Town of Ballston				X	X			X
Town of Charlton					X			X
<b>Privately Operated Facilities</b>								
County Waste & Recycling	X	X	X	X	X			
Hiram Hollow Transfer Station (Casella)	X		X		X			

Source: Saratoga County Planning Unit, March 2011 Compliance Report

### 3.2.3. Recycling Efforts

#### Residential Sector Recycling Efforts

Table 3-2, above, provides a summary of the transfer stations that accept recyclables. Additional recycling facilities that accept materials from Saratoga County include:

- Adirondack Plastics & Paper Recycling
- Fort Edward Materials Recycling Facility
- Fort Ann Transfer Station
- Eastside Metals & Recycling Corp.
- R. Kelly Freedman Holding Group, LLC
- Rensselaer Iron
- Cascades Recovery US, Inc.
- Johnson's Auto Crushers
- Perkins Recycling
- Metro Metals Recycling (Adirondack Metal Recycling LLC)

Two basic systems currently exist in Saratoga County for the collection of recyclables: curbside collection and residential drop off sites (i.e. transfer stations). Residents who elect not to hire a private hauler typically dispose of recyclables at their local transfer station. Transfer stations that are publicly owned and operated tend to be restricted to residents of the municipality in which the facility is located, unless there is a formal inter-municipal agreement. Privately operated transfer stations, such as the ones operated by County Waste and Casella, tend not to restrict who may use the facility. Transfer stations do not charge for the disposal of recyclables.

Bulk Items, which includes larger items such appliances and televisions, are handled at the transfer stations. Scrap metal collection is free and collected in a separate container from other bulk items. Metal is one of the more highly valued recyclable materials. In addition, propane tanks and batteries are accepted for recycling at the transfer stations.

Within the Capital District there are various outlets for product reuse, which provides an option to residents to divert their products for reuse as opposed to disposal. Table 3-4 lists the various locations and the products they accept for reuse.

Table 3- 4: Local Waste Exchange Programs

Facility	Contact Information	Materials Accepted
Albany County Jail 840 Albany Shaker Road, Albany, NY	518/869-2611 Inmate Services: 869-2643 www.albanycountysherriff.com	Appropriate reading materials; periodicals, soft-cover books, (no magazines or hard cover)
Bethany Hospitality Center 27 State Street Troy, NY	518/273-3529	Kitchen items, linens, towels, bedding and can openers. No clothing.
Blessed Sacrament Church 607 Central Ave. Albany, NY	518/482-3375	Clothing
Capital City Mission 259 S. Pearl Street Albany, NY	518/462-0459 www.capitalcityrescuemission.com	Men's, women's and children's clothing, reading materials (biblical), personal items, canned foods
Capital District Community Gardens 40 River Street Troy, NY	518/274-8685 <a href="http://www.cdcg.org">www.cdcg.org</a>	Gardening tools (shovels, rakes, pick axes, pruners, saws, hand tools, etc.), gas powered equipment (lawn mowers, weed wackers, rototillers, chainsaws, etc.), garden hoses, perennial plants, wheelbarrows, pole pruners.
Catholic Charities 40 N. Main Avenue Albany, NY	518/453-6650	Furniture, kitchen appliances, household goods.
Catholic Charities' Wheels for Work Program	518/346-3861	Cars.
C.H.O.I.C.E.S. Faith Plaza Route 9W Ravena, NY	518/756-8650	Clothing - all sizes, sometimes toys, furniture, household items.
Cinderella Project of the Capital Region	www.cinderellaproject.net cinderellaproject@nycap.rr.com	Collect new and gently used prom and bridesmaid dresses (no more than 5 years old), jewelry, unopened hosiery

Facility	Contact Information	Materials Accepted
		and makeup and provide them free of charge to high school junior and senior girls who are experiencing financial difficulty so they can attend their school's formal events in style. Work with students from 40 high schools in Albany, Schenectady, Saratoga and Rensselaer Counties.
Community Maternity Services 27 N. Main Avenue Albany, NY	518/482-8836 www.cccms.com <a href="mailto:marc@ccms.com">marc@ccms.com</a>	Maternity and baby clothing, nursery items, toys, women's street clothing, anything to do with children.
Concerns U 34 Academy Street PO Box 765 Rensselaer, NY	<a href="mailto:Kathyp@ccalbany.org">Kathyp@ccalbany.org</a>	Baby and school age children's clothing and shoes. Coats for kids, household items, food.
Domestic Violence and Rape Crisis Services of Saratoga County	Office: 518/583-0280	Cell phones and chargers for 911 calls. Also accept furniture and household items, but due to limited storage space, call 518/583-0280 to match items directly to clients.
ERC Community Warehouse 21428 Route 22 Hoosick Falls	518/686-7540 www.ercw.com <a href="mailto:pvirtue@ercw.org">pvirtue@ercw.org</a>	Reusable office and home furniture, appliances and all reusable items. Sells reusable at bargain prices.
Equinox Domestic violence Shelter 95 Central Avenue Albany, NY	518/432-7865	Small household furnishings, kitchen, bath and bed items.
Fellowship Baptist Church 184 Eastline Road Ballston Lake, NY	518/899-6404 or 899-5469	Bookcases, storage and kitchen cabinets and copier paper

Facility	Contact Information	Materials Accepted
Goodwill Industries 1 Fuller Road Albany, NY	518/459-5580 <a href="http://www.goodwillny.org">www.goodwillny.org</a> <a href="mailto:info@goodwillny.org">info@goodwillny.org</a>	Clothing, toys, household goods and furniture
Habitat for Humanity 454 N. Pearl Street Albany, NY 696 Delaware Avenue Albany, NY	518/275-6638 <a href="http://www.albanyhabitat.org">www.albanyhabitat.org</a> <a href="mailto:ahabitat@nycap.rr.com">ahabitat@nycap.rr.com</a>	Reusable building materials of all types. Limited space.
Home Furnishings Program 603 State Street Schenectady, NY	518/346-2444	Beds, sheets, dressers, couches, tables, chairs, dishes, lamps and other essentials household item. Pick up in Schenectady only.
Homeless Action Committee 393 N. Pearl Street Albany, NY	518/426-0554 <a href="http://www.homelessaction.com">www.homelessaction.com</a> <a href="mailto:homelessaction@verizon.net">homelessaction@verizon.net</a>	Men's clothing, food, mattresses, dressers, kitchen items, chairs.
Homeless and Traveler's Aide in Albany	518/463-2124 <a href="mailto:info@hataf.org">info@hataf.org</a> <a href="http://www.hataf.org">www.hataf.org</a>	Dressers, twin beds, household items, toiletries (soap, shampoo, deodorant - travel size), baby's (diapers, baby food), household items (dishware, small appliances), office supplies.
Ida Yarborough Center 260 N. Pearl Street Albany, NY	518/465-3074	Games, clothes, books
Interfaith Partnership for the Homeless 26 S. Swan Street Albany, NY	518/434-8021	Adult men and women's clothing, linens, blankets, household items, reading books, games, puzzles, furniture.
Jezreel International Local Warehouse 18 Kairnes Street Albany, NY	<a href="http://www.jezreelinternational.org">www.jezreelinternational.org</a> <a href="mailto:info@jezreelinternational.org">info@jezreelinternational.org</a>	Personal care items, medical supplies, (vitamins, first aid supplies cold and cough remedies), new and near-new clothing.

Facility	Contact Information	Materials Accepted
Joseph's House and Shelter 74 Ferry Street Troy, NY	518/272-2544	Kitchen, bed and bath items, personal items for women and men, clothing. Furniture. Call ahead.
Mac-Haydn Theatre Chatham, NY	<a href="http://www.machaydntheatre.org/WishList.htm">www.machaydntheatre.org/WishList.htm</a>	Cars, building materials, supplies for sets, props and costumes, food, supplies for the Backstage Coffee House.
Masterson Child Development Center 50 Philip Street Albany, NY	518/434-8585	Used toys and children's books for ages 2-6.
Mercy House 12 St. Joseph Terrace Albany, NY	518/434-3531	Women's clothing, reading materials.
Northeastern Association of the Blind at Albany 301 Washington Avenue, Albany, NY	518/463-1211 <a href="http://www.naba-vision.org">www.naba-vision.org</a>	GivACar for Sight
Parson's Child and Family Center 60 Academy Road Albany, NY	518/426-2600 <a href="http://www.parsoncenter.org">www.parsoncenter.org</a> development@parsoncenter.org	Board games, books for teenagers, infant items.
Project Care - The Saratoga Gift Basket Company	518/893-0306 <a href="http://www.saratogagiftbaskets.com">www.saratogagiftbaskets.com</a>	Personal Care baskets to homeless individuals upon entering the shelter, located in Saratoga Springs. Items needed include shampoo, soap, toothpaste, deodorant, toothbrushes, combs and brushes.
Schenectady Day Mission 425 Hamilton Street Schenectady, NY	518/346-2275 <a href="http://www.citymission.com">www.citymission.com</a> <a href="mailto:writeus@citymission.com">writeus@citymission.com</a>	Clothing of all sizes, (if rags, please mark as such), household items, small working appliances, furniture - call ahead - any time.)

Facility	Contact Information	Materials Accepted
Schenectady Day Nursery 25 Lafayette Street Schenectady, NY	518/374-6319	Costumes for dress-up, new toys for toddlers, games for ages 6-12, baby blankets (new), children's coats, mittens and boots (all in good repair), gently used children's books for ages 1-12, arts and crafts supplies, musical instruments, new playground balls, computers in excellent working condition, tables and folding chairs (adult), office supplies (pens, folders, tape, scissors, etc.), pampers or similar brand, cotton towels (new), paper products for kitchen and bathroom. All pre-owned items should be in excellent repair and usable as is.
Senior Services of Albany 25 Delaware Avenue Albany, NY	518/465-3322 www.seniorservicesofalbany.com <a href="mailto:jschramm@seniorservicesofalbany.com">jschramm@seniorservicesofalbany.com</a>	Shelving units, computers at the Pentium II level or higher, clothing, toys, books, videos and music.
Troy Area United Ministries 17 First Street Troy, NY	518/274-2607 www.taum.org <a href="mailto:info@taum.org">info@taum.org</a>	Clearinghouse for Troy agencies whose clients need furniture.
Unity House 33 Second Street Troy, NY	518/274-2607 www.unityhouseny.org <a href="mailto:ttyson@commservices.net">ttyson@commservices.net</a>	Clothing, kitchen items and appliances. BB system matches donors with wish list. Call ahead for donations.
YWCA (Tenant and shelter program) 21 First Street Troy, NY	518/274-7100 www.ywca-troy.org <a href="mailto:info@ywca-troy.org">info@ywca-troy.org</a>	Kitchen supplies, small working appliances, hygiene products for women, furnishings.

Source: NYSDEC Website

#### Commercial Sector Recycling Efforts

On the commercial front, shopping malls, hospitals, and medical office buildings are establishments that generate large volumes of waste. These establishments

must contract directly with a recycling operation to collect and manage their recyclables.

Besides the facilities listed above in Table 3-2 that indicated that they accept C&D debris, the following additional facilities processed C&D generated in Saratoga County in 2010:

- Hiram Hollow Regeneration Corporation C&D Processing Facility
- Mead Enterprises (Halfmoon) C&D Processing
- Fort Ann Transfer Station
- County Waste & Recycling C&D Processing
- Fort Edward Materials Recycling Facility



Collection of C&D debris is not provided by the County and collection must be contracted for independently with private haulers or contractors.

#### Institutional Recycling Efforts

Large educational institutions, such as the City School District of Saratoga Springs, the Shenendehowa Central School District, and Skidmore College, tend to produce large quantities of paper wastes.

One example of an institution making strides in recycling and waste reduction in Saratoga County is Skidmore College. Skidmore College has established “Sustainable Skidmore” to improve their efforts to reduce the College's 'environmental footprint'. Skidmore recycles or reuses mixed office paper, newspaper, magazines, cardboard, plastic, glass, aluminum cans, electronics, batteries and some furniture. In 2006, Skidmore improved the recycling program by purchasing more recycling containers and hiring four students to serve as recycling coordinators/educators in addition to the facilities recycling staff. Skidmore also donates used Skidmore cell phones to a local charitable organization. Skidmore also recycles its asphalt for road base and shoulders. Skidmore College offers discounts for the use of a reusable mug, and all meals are trayless. Electronics are recycled in addition to traditional materials. Additionally, Skidmore maintains a website designated for recycling initiatives and educational opportunities (<http://www.skidmore.edu/recycling/index.html>).

The College has numerous programs that encourage recycling and waste reduction. A few of those programs are described below.

- **Give and GO Program:** Give and Go is a program designed to capture the used goods that students leave behind at the end of the year and bring it to a local nonprofit where the goods can be reused or resold. This program diverts tons of material from the landfill and gives Skidmore students an opportunity to give back to their community. In 2010, 5 small moving vans of reusable goods were donated to Salvation Army, the Backstretch Employee Service Team and The Captain Program.
- **Skidmore Trash Audit:** On April 18, 2008 the Skidmore Environmental Action Club performed a trash audit by sorting through 30 bags of waste from academic and residential buildings on campus. They separated the contents into mixed recycling, paper and trash. The purpose of the activity was to raise awareness about their recycling program and help people realize how much of trash is recyclable. During the trash audit, Skidmore community members engaged in conversations about the campus' recycling program.
- **Furniture Reuse and Donations:** Skidmore's purchasing department goes above and beyond to ensure that Skidmore's used furniture stays out of the landfill and is donated to local non-profits. This summer, the purchasing department identified several local non-profits to receive 144 beds, desks, chairs and bureaus from a residence hall renovation. Also, Skidmore purchases some used furniture and reuses its own used furniture on campus as much as possible.
- **Recycled Material:** Skidmore currently purchases 30% recycled paper, 45% recycled toilet paper and 100% recycled paper towels and napkins. All of Skidmore's correspondence stationary is on 100% recycled paper.
- **Recyclemania.** To increase Skidmore's recycling rate, Skidmore College initiated Recyclemania, which is part of a nationwide recycling competition between colleges and universities.



- **Proper food handling.** Skidmore Dining Services works hard to ensure their staff is properly trained, first and foremost to ensure the safety of the students and their staff, but also to reduce the amount of food that is thrown away due to avoidable mistakes.
- **The trayless dining program.** Reduces the amount of wasted food. People are less likely to take more food than they can eat when they don't have a tray to carry it back to their table. By not having trays to wash, the dining hall also saves water and energy.
- **Knife training.** Dining services staff members go through knife training, which reduces the amount of food wasted during food preparation.
- **Servsafe® Certified.** In addition to knife training, all staff and management are Servsafe® Certified. Servsafe® is a course that instructs dining service staff about proper food handling—mishandled food = food that often needs to be thrown out. Servsafe® covers systems such as "First in, First out", which ensures the oldest product is used before the newest and proper storage temperatures for various types of food.
- **Scaled and Controlled Portions.** To reduce over serving students, staff members use scales and portion controlled scoops and spoons to manage serving size.
- **Use of Leftovers.** To lessen the amount of food thrown out, dining services staff members are encouraged to be creative in their use of leftovers for soups or other daily chef creations.
- **Food Waste Reduction.** The dining program at Skidmore College has reduced its food waste by an estimated 20%.

#### Public Sector Recycling Efforts

Municipal recycling efforts in the Planning Unit revolve almost entirely around the County's program for the collection of cardboard, magazines, catalogs, junk mail, office paper, soft and hard cover books, telephone books, newspapers, plastic bottles and jugs, glass bottles and jars, scrap metals and cans. Only a few municipalities have programs that collect additional materials. Although the municipal recycling is primarily managed by the County, the majority of recycling from residents and businesses is generally managed by the private sector (i.e., County Waste & Recycling Services).

### Industrial Facility Recycling Efforts

Paper mills are among the large industries in the County contributing to the solid waste stream and having special disposal requirements. Information related to industrial recycling efforts was unavailable at the time this report was completed. As discussed in Chapter 6, a future implementation item during this planning period will be to gather more data in the way of surveys to industrial facilities within the County.

### Public Education Efforts to Promote Recycling

The County's public education efforts are primarily on the website and at the County-operated transfer stations. Further education efforts are handled by the private sector.

#### 3.2.4. Organic Wastes Diversion

Interest in organics waste diversion has increased over the last few years, particularly because it has the potential to divert a significant portion of the waste stream away from landfills, thereby achieving savings through reduced landfilling costs. The composting process can be applied to yard waste, food waste, MSW, sewage sludge, non-hazardous industrial sludge, or some combination of these materials.

### Yard Trimmings

Yard waste composting is a feasible means of waste reduction that requires little technological sophistication and could ultimately reduce the quantity of solid waste disposal in the County by about 8.7% (see Table 4-X). Table 3-2, above, provides a summary of the transfer stations that accept yard wastes. Much of the Planning Unit's service area is rural and, like other rural areas around the state and the country, residents tend to manage yard trimmings on their own property. Therefore, materials collected for centralized composting are lower than in suburban or urban areas where yard trimmings tend to be handled centrally. Overall there are nine facilities within the County that accept yard waste.

Some towns provide for seasonal leaf and tree limb pick-up, while others allow their residents to drop off their yard waste at the local transfer station. A summary of each town, village or city's yard waste program is provided in Appendix A.

### Horse Manure Composting

Saratoga County is home to America's oldest continually operating horse race track and a harness track. According to the Saratoga Harness Track Stable personnel, Real Bark Mulch collects the manure from both the Harness Track and the Flat Track and haul it to their location in Fort Edward, which is composted into mulch. Real Bark Mulch of Fort Edward collects approximately 11,000 yards per year from the two race tracks, and Maple View Farms of Ballston Spa collects approximately 1,000 yards per year from local horse farms.

### Food Scraps/Food Processing Waste

There are no known food waste collection programs or multi-user composting facilities within Saratoga County. There are food waste reduction programs at Skidmore College, which were previously discussed above.

### Food Banks

Saratoga County has several food banks or food pantries that are managed by various entities. These facilities provide a place for restaurants, supermarkets, schools, or individuals to donate leftover food instead of disposing of it in a landfill or incinerator. Table 3-5 provides a list of those food banks available in Saratoga County.

**Table 3- 5: Food Bank/Pantry Location Summary**

ORGANIZATION	ADDRESS	CITY	PHONE	DAYS/HOURS
The First Baptist Church of Ballston Spa	202 Milton Ave.	Ballston Spa	885-8361	Wed/Fri 10am - Non
Christ Episcopal	15 West High St.	Ballston Spa	885-9455	Mon/Wed/Thurs/Fri 10am-Noon Wed. evenings 5-7pm
United Methodist Church	16 Milton Ave.	Ballston Spa	885-6886	Wed/Fri 9:30-11:30am
Economic Opportunity Council (EOC) Food Pantry	40 New St.	Saratoga Springs	587-3158	Mon/Wed/Fri 1-3:45pm
EOC Soup Kitchen	24 Circular St.	Saratoga Springs	581-8233	Mon-Sat 12 noon - 1pm
Salvation Army	27 Woodlawn Ave PO Box 652	Saratoga Springs	584-1640	Mon/Wed/Fri 9:30am-12:30pm
Fellowship Baptist	East Line Road	Round Lake	899-6404	Not reported

ORGANIZATION	ADDRESS	CITY	PHONE	DAYS/HOURS
Church				
Franklin Community Center	10 Franklin St.	Saratoga Springs	587-9826	Mon-Fri 8am-4pm
Greater Galway Community Center	2167 East St.	Galway	882-1316 882-6749	Thurs 10am-7pm
Community Cupboards	Town Hall	Corinth	654-2413	Mon-Fri 2:30-3:30pm
Mechanicville Area Community Services Center	6 South Main St.	Mechanicville	664-8322	Tues 11am-1pm Thurs 5:30-7:30pm
Highway Tabernacle	60 River Road	Mechanicville	664-4442	Not reported
Stillwater Methodist Church	N. Hudson Ave.	Stillwater	664-7984	Mon/Wed 10am-12noon Call ahead
Jonesville Methodist Church	963 Main St.	Jonesville	877-7380	Wed 5-6pm Fri 8:30-11:30am
Community Center	Wilton Rd.	Greenfield Center	584-4979	Wed 1:30-3:30pm 1x a month
Moreau Comm. Center	144 Main St PO Box 1456	South Glens Falls	792-6007	Mon-Fri 9-Noon, and 1-3pm
Charlton Freehold Presbyterian Church	768 Charlton Rd.	Charlton	399-4831	Not reported
ECHO Food Pantry St. Paul's Church	PO Box 136	Rock City Falls	893-7680	Tues 9am-11:30am 3rd Tues 5:30-7pm
Faith Baptist Church	Corner Glenridge & Bradt Rd.	Rexford	399-2220	Friday 9am-Noon
United Methodist Church	126 Middletown Rd.	Waterford	664-3161	Friday 9am-10am
Wilton Food Pantry	59 Old Saratoga Rd, Ballard Rd Fire Station	Gansevoort	584-4001	Mon/Thurs 9am-11am

### Sewage Sludge Handling

According to a phone survey of the wastewater treatment plants, biosolids generated in Saratoga County are currently managed as identified in the following table. According to this information, there is currently some biosolids that are being managed through digestion as well as through land application. Although this are the current methods of management, data from the management methods used in 2006 has been used in the analysis included in Table 4-1 in Chapter 4 for consistency with the 2010 overall waste disposal data used throughout the plan.

**Table 3- 6: Municipal Sewage Sludge Disposal Summary**

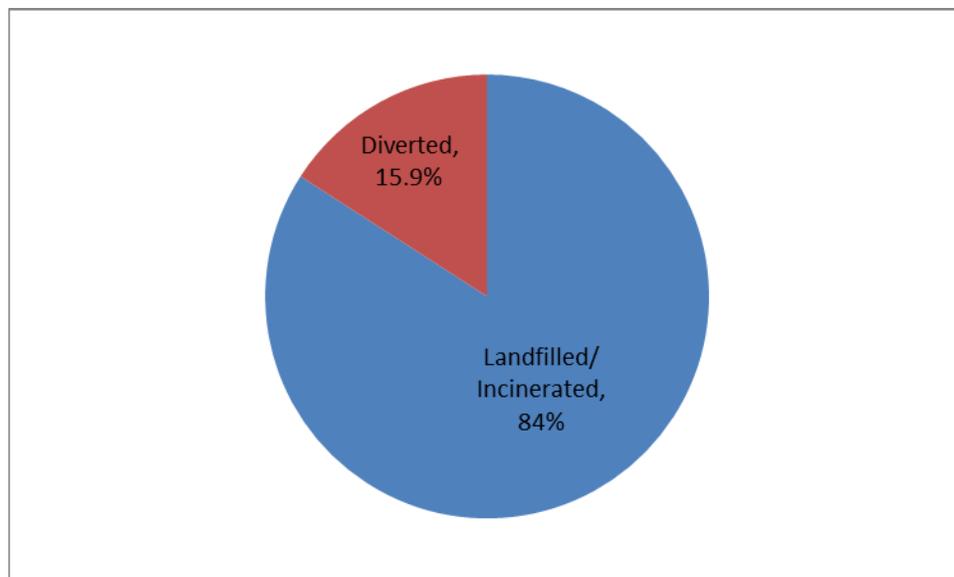
FACILITY NAME	DISPOSAL DESTINATION
Corinth (V) WWTP	Dispose through City of Schenectady (Digestion)
Hadley (T) STP	Fulton County Landfill
Saratoga County SD#1 WWTP	Grasslands (land application)/ Ontario County Landfill
Schuylerville (V) WWTP	Fulton County Landfill
Stillwater (V) STP	Dispose thru Saratoga County SD#1
Waterford (T) WWTP	Dispose thru Saratoga County SD#1

Saratoga County announced, in March 2018, that they will partner with Albany County to construct and operate a regional biosolids waste facility. It is anticipated that the facility would be a sludge digestion facility, which would generate methane gas for electricity generation. The sludge currently handled through the Saratoga County Sewer District would be handled through this facility. A request for proposals for design of the facility is anticipated to be issued in summer 2018.

### 3.3. Existing Recovery Efforts

As demonstrated in the previous section, Saratoga County's residents and commercial, industrial and institutional waste generators have various outlets to divert their waste from disposal to reduction, reuse and recycling. However, unlike solid waste data that is reported to the NYSDEC annually, a complete set of waste diversion data is not readily available since much of it is not required to be reported by private entities to any agency (except for those facilities that must submit recycling reports to NYSDEC). The majority of the residential and light commercial recyclables data has been reported by the recycling centers and is summarized in Tables 4-2 and 4-3 in Chapter 4. Private businesses within the County are not currently required to report the destinations of their recyclables. Therefore, some assumptions related to the current diversion rate for the County have been made. As referenced in Table 4-5 in Chapter 4, based on 315,876 tons of MSW generated within Saratoga County in 2010, 265,697 tons were disposed in landfills or incinerated and 50,180 tons of materials were diverted either by composting or recycling. Consequently, Saratoga County's current MSW diversion rate is estimated at 15.9%, which is depicted in Figure 3-1. Please note that this diversion rate excludes industrial generated waste such as, contaminated soil, sewage sludge, construction and demolition debris, or industrial waste.

**Figure 3- 1: MSW Landfilled/Incinerated vs. Diverted**



Source: NYSDEC, Facility Annual Reports, 2010

### 3.4. Markets Discussion

Given that Saratoga County operates five (5) recycling convenience centers within the County, they have utilized various markets for their recyclables. The markets utilized in 2010 are provided below.

#### Metals and Can Markets

- Eastside Metals & Recycling Corp., Fort Ann, NY
- R. Kelly Freedman Holding Group, LLC, Green Island, NY
- Rensselaer Iron, Rensselaer, NY
- County Waste (white metal only), Clifton Park, NY
- County Recycling (tins cans only), Albany, NY
- Cascades Recovery US, Inc., Albany, NY
- Johnson's Auto Crushers, Wilton, NY

#### Paper Markets

- Adirondack Plastics & Paper Recycling, Argyle, NY
- Perkins Recycling, Queensbury, NY
- Cascades Recovery US, Inc., Albany, NY
- County Recycling, Albany, NY

#### Plastic Markets

- County Recycling, Albany, NY

#### Batteries

- Metro Metals Recycling (Adirondack Metal Recycling), Saratoga Springs, NY

Contracts with recycling markets are typically negotiated when the recyclables are ready for delivery and depend on factors such as quantities, degree of separation, degree of processing, shipping arrangements, length of contract, and market fluctuations. These factors are often negotiable; and buyers consider all the associated costs when developing a contract. In many cases, quantity, processing, and delivery requirements are flexible because buyers simply pay less for the products that suit their specifications

less than ideally. Impurities in the delivered recyclables that exceed set percentage levels may be grounds for rejection of the entire load. Quality assurance is consequently of utmost importance, since brokers will contemplate accepting no further materials once contamination beyond acceptable limits is discovered.

## 4.0 SOLID WASTE TYPES AND QUANTITIES

This chapter provides information on the waste streams generated in Saratoga County.

### 4.1. Waste Types

Saratoga County's solid waste stream has four primary components: municipal solid waste (MSW), non-hazardous industrial waste (i.e., paper mill sludge), construction and demolition debris, and municipal sewage treatment plant sludge.

For the purposes of this study, MSW consists of residential-type waste generated in homes, businesses, institutions, and the commercial portion of waste discarded by industries. The residential component includes newspapers and magazines, glass, metal, plastic containers, food waste, household goods including bulky items like furniture and appliances, textiles, and yard trimmings. The commercial waste stream tends to contain higher percentages of office paper, corrugated cardboard, and scrap metals. Commercial waste is the non-hazardous mixed waste generated by businesses such as restaurants, retail stores, schools and hospitals, professional office, and manufacturing facilities.

As a regulatory requirement, each solid waste management facility is required to submit annual reports to the NYSDEC. These annual reports provide information with regard to the quantities of materials disposed and often identify the geographic locations where the waste materials were generated. The data from the NYSDEC annual reports is readily available and generally reliable. It can also be assumed that the materials collected and processed at the Saratoga County Recycling Facilities and other similar recycling facilities in the County are being separated from the household, business, institutional and commercial wastes classified as MSW, and can be considered to be another component of that waste stream. Due to the fact that these types of recyclables handling facilities must also compile annual reports to the NYSDEC, this data is also relatively easy to gather. Residential yard waste is a component of the MSW waste stream that is difficult to quantify.

Non-hazardous industrial waste is typically generated by manufacturing facilities as a result of an industrial process and is made up of materials such as sludge, ash, and dust. According to annual reports submitted to NYSDEC, some portion of these materials are disposed of in local landfills; however, the homogeneous nature and large quantity of these wastes typically available can also make them useful as feedstocks for other processes or for disposal in monofill landfills. Therefore, only partial data for the generation of these materials within the county may be available.

Construction and demolition debris (C&D) is generated by the residential, commercial, industrial, and institutional sectors and typically consists of wood, masonry, soil, land clearing debris, plumbing fixtures and other construction related items. Many of the area landfills report C&D waste as a separate disposal stream, and therefore, the quantity disposed of from Saratoga County residents is easy to determine. However, many of these materials can be recycled and reused (e.g., clean fill material, mulch, or recycled aggregate). Data from these types of operations and uses is difficult to obtain.

## 4.2. Estimation of County Solid Waste Generation

### 4.2.1. Data Sources and Methodology

As discussed above, much of the following waste generation estimates were derived from available reports provided to the NYSDEC by permitted landfills, sewage treatment plants, and recycling centers. Limitations associated with the data are as follows:

- **Incomplete data:** Data on the public sector solid waste management is often incomplete.
- **Inconsistent data:** Where data exists, different methods have been used from year to year and facility to facility to collect and categorize it.
- **Unavailable data:** Data on privately managed waste is generally unavailable.

### 4.2.2. Waste Generation and Management Methods in New York State

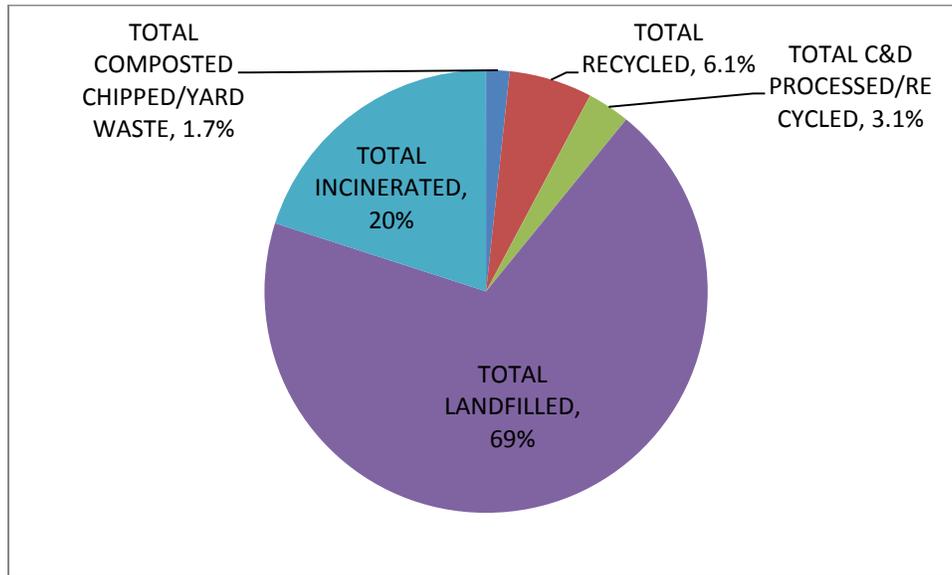
According to *Beyond Waste*, in 2008, New York State residents and businesses generated approximately 24,974,344 tons of waste. The majority of the waste is landfilled (40.0 percent), exported (25.4 percent), and recycled (24.8 percent) while the remainder is combusted (9.8 percent). These figures are useful in comparing Saratoga County's waste generation and management percentages, which are provided in Figure 4-1 below, with similar estimates for NYS's waste stream.

### 4.2.3. Saratoga County Waste Generation and Management Methods

In 2010, based on annual reports submitted to DEC, Saratoga County residents and businesses generated approximately 461,908 tons of waste. Figure 4-1 shows the overall method of disposal for the waste. The fraction for each material was determined by analyzing annual tonnage reports for those facilities that reported accepting waste from Saratoga County. The majority of the waste

is landfilled (318,479 tons or 69 percent) followed by incineration (93,249 tons or 20%) while the remainder is recycled (27,998 tons or 6.1 percent), processed (14,212 tons or 3.1 percent), or composted (7,970 tons or 1.7 percent).

**Figure 4- 1: Estimated Total 2010 Waste Generation in Saratoga County**



Source: NYSDEC, Facility Annual Reports, 2010

Saratoga County has six municipal sewage treatment plants (STPs) or wastewater treatment plants (WWTP). Table 4-1 shows the manner of sludge disposal utilized in 2006, the most recent year for which data was available at the time of the 2010 waste disposal study.



Table 4- 1: Municipal Sewage Sludge Generation and Disposal Summary

Treatment Plant	Treatment Method	Dewatering Device	Dry Tons/Year	Use/Disposal Method	Location
Hadley (T) STP	Imhoff Tank	Drying Beds	4	Landfill	Fulton County Landfill
<b>Total</b>			<b>4</b>		
Corinth (V) WWTP	None	None	60	Incinerate	Thru Glens Falls WWTP
Saratoga Co SD#1 WWTP	None	Belt Filter Press	4000	Incinerate	On-site
Stillwater (V) STP	Aerobic Digestion	None	26	Incinerate	Thru Saratoga Co SD#1 WWTP
Waterford (T) WWTP	Aerobic Digestion	None	200	Incinerate	Thru Saratoga Co SD#1 WWTP
<b>Total</b>			<b>4,286</b>		
Schuylerville (V) WWTP	Aerobic Digestion	Drying Beds	40	Store On-site	On-site
<b>Total</b>			<b>40</b>		
<b>Total Sewage Sludge Stored On-site</b>			<b>40</b>		
<b>Total Sewage Sludge Landfilled</b>			<b>4</b>		
<b>Total Sewage Sludge Incinerated</b>			<b><u>4,286</u></b>		
<b>Total Municipal Sewage Sludge Generated</b>			<b>4,330</b>		

Source: NYSDEC, Biosolids Management in New York State, 2006



Table 4-2 indicates that in 2010 the Wheelabrator Hudsons Falls Resource Recovery facility accepted the largest percentage (19 percent) of all waste generated in the County. The remainder of the recorded waste was accepted at eight different landfills, C&D processing facilities and composting sites, or recycled.

Of the eight MSW landfills that accepted Saratoga County waste, the Clinton County Landfill accepted the most (23 percent). The Town of Colonie Landfill (20 percent), City of Albany Landfill (14 percent), and Seneca Meadows in Seneca County (7.7 percent) also accepted portions of landfilled waste generated in Saratoga County. The former Scott Paper/Finch Paper Sludge Landfill (now WMNY Greenridge Landfill), a private industrial landfill, accepted the greatest portion of landfilled waste (24 percent) generated in the County; however, this waste was generated solely by Scott Paper/Finch Paper.

A total of 7,970 tons of composted or chipped yard waste was accepted at six facilities in Saratoga County in 2010. Of the reporting facilities, the Town of Halfmoon Highway Department accepted the most yard waste (6,500 tons or 82 percent) from Saratoga County.

A total of 42,182 tons of recyclables from Saratoga County were accepted at recycling facilities, transfer stations, highway departments, landfills or C&D processing facilities. Of the reporting facilities, County Waste & Recycling Services accepted the most recyclables (13,715 tons or 32.5 percent) from Saratoga County.

Table 4- 2: Estimation of Total 2010 Waste Tonnage by Facility

Method of Disposal or Recovery	Amount (Tons)	Percentage	% of Total Generation
<b>Incinerated</b>			
Wheelabrator, Hudson Falls	88,963	95%	19%
Saratoga County SD#1 WWTP*	4,226	4.5%	0.91%
Glens Falls WWTP	60	0.06%	0.01%
<b>Total</b>	<b>93,249</b>	<b>100%</b>	<b>20%</b>
*sewage sludge generated from Sartoga County SD#1 WWTP, Stillwater (V) STP, and Waterford (T) WWTP			
<b>Landfilled</b>			
Former Scott Paper/Finch Paper Sludge Landfill (now WMNY Greenridge Landfill)	75,346	24%	16%
Clinton County MSW Landfill	72,060	23%	16%
Town of Colonie MSW Landfill	62,678	20%	14%
City of Albany MSW Landfill	45,759	14%	10%
Seneca Meadows MSW Landfill	24,682	7.7%	5.3%
High Acres MSW Landfill	15,270	4.8%	3.3%
Fulton County MSW Landfill	13,872	4.4%	3.0%
Ontario County MSW Landfill	6,921	2.2%	1.5%
Town of Corinth Transfer	1,779	0.56%	0.39%
Allied Waste (Republic) Niagara Falls MSW Landfill	80	0.03%	0.02%
International Paper Company I&C Landfill	33	0.01%	0.01%
<b>Total</b>	<b>318,480</b>	<b>100%</b>	<b>69%</b>
<b>Composted/Chipped Yard Waste</b>			
Hiram Hollow Transfer Station	904	11%	0.20%
Fulton County Landfill	20	0.25%	0.004%
Welcome Stock Farm	29	0.36%	0.01%
Town of Corinth Transfer Station	100	1.3%	0.02%
Town of Halfmoon Highway Dept.	6,500	82%	1.4%
Town of Moreau Transfer Station	417	5.2%	0.09%
<b>Total</b>	<b>7,970</b>	<b>100%</b>	<b>1.7%</b>
<b>Electronics Recycling</b>			
Hiram Hollow Transfer Station	10	0.2%	0.002%
Town of Halfmoon Highway Dept.	5,591	99.8%	1.2%
<b>Total</b>	<b>5,601</b>	<b>100%</b>	<b>1.2%</b>

Method of Disposal or Recovery	Amount (Tons)	Percentage	% of Total Generation
<b>C&amp;D Processed Materials - Recycled</b>			
Hiram Hollow Regeneration C&D Processing Facility	768	5.4%	0.17%
Mead Enterprises (Halfmoon) C&D Processing	12,000	84%	2.6%
Fort Ann Transfer Station (C&D Processing)	147	1.0%	0.03%
Fort Edward Materials Recycling Facility	28	0.1%	0.01%
County Waste & Recycling C&D Processing	1,269	8.9%	0.27%
<b>Total</b>	<b>14,212</b>	<b>100%</b>	<b>3%</b>
<b>Tires - Recycled</b>			
Seneca Meadows	102	100%	0.02%
<b>Total</b>	<b>102</b>	<b>100%</b>	<b>0.02%</b>
<b>Recycled</b>			
Saratoga County Recycling Facilities	4,626	21%	1.0%
Hiram Hollow Transfer Station	2,677	12%	0.58%
Town of Hadley Recycling Center	130	0.58%	0.03%
County Waste & Recycling Services	13,715	62%	3.0%
Adirondack Plastics & Recycling	436	2.0%	0.09%
Fort Edward Materials Recycling Facility	707	3.2%	0.15%
Fort Ann Transfer Station	4	0%	0.001%
<b>Total</b>	<b>22,295</b>	<b>100%</b>	<b>4.8%</b>
<b>Total Waste Generation</b>	<b>461,908</b>		100%

1 The NYSDEC report, *Biosolids Management in New York State, 2006* provided the most recent data for STPs.

2 The NYSDEC 2010 Facility Annual Reports.

Table 4-3 provides further detail on the types of waste managed through each method. Over half of the total waste generated in Saratoga County and disposed of in landfills was mixed MSW (55 percent) and C&D (14 percent). This indicates that these are two waste streams that should be targeted for increased diversion rates through the implementation items outlined in Section 6. Potential diversion opportunities in Mixed MSW are typical “blue bin” recyclables (glass, paper, plastic, and fiber) and organic waste (yard waste and food waste). C&D waste typically contains recoverable material such as metal, cardboard, wood, and aggregate.

Table 4- 3: Estimation of Total 2010 Waste Tonnage by Management Method by Type

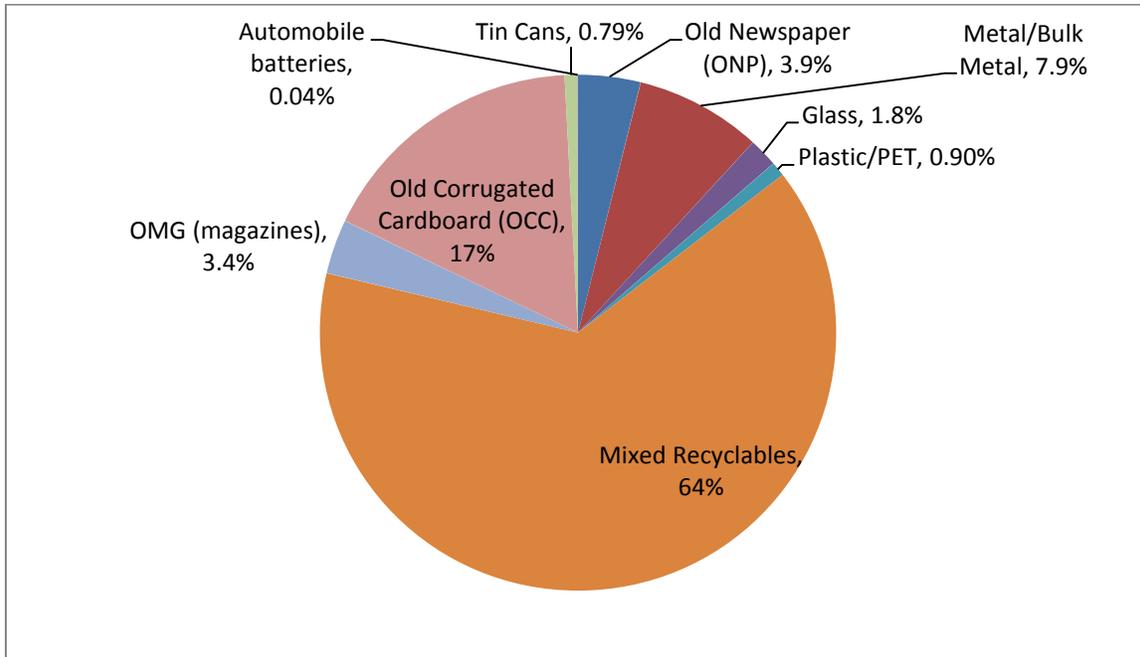
Method of Disposal or Recovery	Amount (Tons)	Percentage	% of Total Generation
<b>Composted Chipped/Yard Waste</b>	<b>Tons</b>	<b>%</b>	
Leaves/Grass	1,004	13%	0.22%
Trees/Brush	6,966	87%	1.5%
<b>TOTAL</b>	<b>7,970</b>	<b>100%</b>	<b>1.7%</b>
<b>E-Waste Collections</b>			
Electronics	5,601	100%	1.2%
<b>TOTAL</b>	<b>5,601</b>	<b>100%</b>	<b>1.2%</b>
<b>Recycled</b>			
Old Newspaper (ONP)	864	3.9%	0.19%
Metal/Bulk Metal	1,756	7.9%	0.38%
Glass	408	1.8%	0.09%
Plastic/PET	210	0.9%	0.05%
Mixed Recyclables	14,325	64%	3.1%
OMG (magazines)	758	3.4%	0.16%
Old Corrugated Cardboard (OCC)	3,788	17%	0.82%
Tin Cans	176	0.79%	0.04%
Automobile batteries	10	0.04%	0.002%
<b>TOTAL</b>	<b>22,295</b>	<b>100%</b>	<b>4.8%</b>
<b>C&amp;D Processed Materials - Recycled</b>			
Aggregate/Concrete	7,983	56%	1.7%
Asphalt	4,000	28%	0.87%
Brick	128	0.9%	0.03%
Other Masonry Materials	505	3.6%	0.11%
Mixed Fill	32	0.23%	0.01%
C&D Mixed	1,348	9%	0.29%
Clean Wood	199	1.4%	0.043%
Bulk Metal	17	0.12%	0.004%
<b>TOTAL</b>	<b>14,212</b>	<b>100%</b>	<b>3.1%</b>
<b>Tires</b>			
Tires	102	100%	0.02%

Method of Disposal or Recovery	Amount (Tons)	Percentage	% of Total Generation
<b>TOTAL</b>	<b>102</b>	<b>100%</b>	<b>0.02%</b>
<b>Landfilled</b>			
MSW – Mixed	176,734	55%	38%
C&D	45,211	14%	9.8%
Asbestos	172	0.05%	0.04%
Industrial Waste including Sludge	76,502	0.36%	0.25%
Ash - Coal	0	0%	0%
Ash - MWS Energy Recovery	0	0%	0%
Sewage Sludge	87	24%	16%
Contaminated Soil	19,774	6.2%	4.3%
<b>TOTAL</b>	<b>318,480</b>	<b>100%</b>	<b>69%</b>
<b>Incinerated</b>			
MSW - Mixed	88,963	95%	19%
Sewage Sludge	4,286	5%	0.93%
<b>TOTAL</b>	<b>93,249</b>	<b>100%</b>	<b>20%</b>
<b>TOTAL WASTE GENERATED</b>	<b>461,908</b>		100%
<b>TOTAL WASTE DISPOSED</b>	<b>411,728</b>		
<b>TOTAL DIVERTED MATERIALS</b>	<b>50,180</b>		

Source: NYSDEC, Facility Annual Reports, 2010 and NYSDEC, Biosolids Management in New York State, 2006

Figure 4-2 demonstrates that the majority of the recyclables reported by processors that accept recyclables from Saratoga County were handled as Mixed Recyclables or Single Stream (64 percent) and Old Corrugated Cardboard (OCC) (17 percent). Due to the large percentage of recyclables that were accepted as single stream and comingled, it is difficult to ascertain the specific composition of the recyclables diverted by Saratoga County.

**Figure 4- 2: Estimation of Total 2010 Recyclable Tonnage By Type**



Source: NYSDEC, Facility Annual Reports, 2010

4.2.4. Estimated Per Capita Generation Rate for Solid Waste

Combining the amount of landfilled, incinerated, recycled, processed, and composted materials allows for calculation of a 2010 Saratoga County per capita generation rate for solid waste, which includes waste disposed at the industrial waste landfills as well. The following Table 4-4 and Figure 4-3 detail the calculation for 2010 per capita generation rate for solid waste in Saratoga County. On average, Saratoga County’s residents, businesses and institutions generated 2.1 tons of waste per capita in 2010. This is approximately 11.5 pounds per capita per day. Given the data, the portion of this figure attributed to the separate residential and commercial waste streams cannot be accurately estimated, although commercial waste is generally considered to be between 30 to 50 percent of MSW. NYSDEC estimates that New Yorkers generate

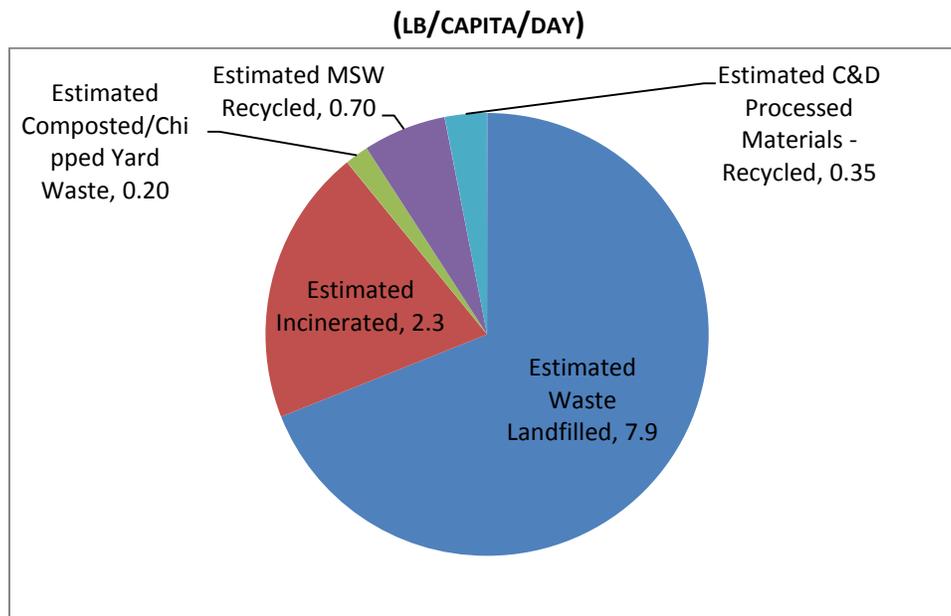
approximately 10.3 pounds per capita per day, which is slightly less than Saratoga County's generation rates. Of the 11.5 pounds per capita per day, 7.9 pounds were landfilled and 2.3 pounds were incinerated while the remaining 1.3 pounds were either composted, processed, or recycled. The landfilled estimation of 7.9 pounds was greater than the 2008 state estimation of 6.1 pounds, and the diversion tonnage of 1.3 pounds was lower than the 2008 state estimation of 4.1 pounds. It is possible that Saratoga County's per capita generation rate was greater than the DEC estimate due to the high volume of tourism in Saratoga County. Tourism tends to negatively impact recycling efforts since educating tourists is difficult to accomplish. Additionally, variations may be due, in part, to differences in New York State waste generation formulas and the waste generation formula used in this SWMP. Additionally, there may be portions of the waste stream that are not being quantified due to incomplete reporting from generators and handlers. This would account for the slightly lower generation and diversion rates.

The per capita waste generation estimate assumes that the number of persons in Saratoga County, according to the US Census Bureau American Survey, was 219,607 in 2010.

**Table 4- 4: Estimated Solid Waste Disposed and Recycled per Capita  
Saratoga County, 2010  
(lb/capita/day)**

	Tons	Pounds	Pounds per Capita	Pounds per Capita per Day
Estimated Waste Landfilled	318,480	636,959,220	2,900	7.9
Estimated Incinerated	93,249	186,497,340	849	2.3
Estimated Composted/Chipped Yard Waste	7,970	15,940,000	73	0.20
Estimated MSW Recycled	27,998	55,995,200	255	0.70
Estimated C&D Processed Materials - Recycled	14,212	28,424,000	129	0.35
<b>Estimated Total Waste Generation</b>	<b>461,908</b>	<b>923,815,760</b>	<b>4,207</b>	<b>11.5</b>

Source: NYSDEC Facility Annual Reports, 2010, US Census Bureau American Survey, 2010

**Figure 4- 3: Estimated 2010 Individual Waste Generation Rate, Saratoga County**

Source: NYSDEC Facility Annual Reports, 2010, US Census Bureau American Survey, 2010

#### 4.3. Estimation of Potential MSW Recovery

The sections above provided the data from reported waste generation and recovery estimates for the year 2010. As previously discussed, not all disposal and recovery data was available for the County; therefore, with the assistance of the DEC's waste composition and recovery projection tool, the following section provides Saratoga County with an estimated MSW waste composition for future planning purposes. The complete tables are included in Chapter 5. MSW composition includes residential, commercial and institutional waste generators; consequently, for the purposes of this analysis, we have excluded the following from the MSW composition estimates: separately managed C&D debris, several organics streams (biosolids, septage, agricultural materials, etc.), industrial waste, medical and biohazardous materials, tires and scrap metal managed outside of the MSW management structures.

The following table provides an estimate based on the DEC's assumptions of the total tons of MSW generated within the County that could be recovered or diverted from a waste disposal location if the appropriate programs were in place.

**Table 4- 5: Estimated MSW Recoverable Materials in Saratoga County**

<b>Material</b>	<b>Estimated Tons Generated (2010)</b>	<b>% of Total</b>	<b>Actual Tons Diverted (2010)</b>	<b>% Diverted (2010)</b>
Newspaper	21,426	4.20%	2,280	10.60%
Corrugated Cardboard	44,665	8.70%	3,788	8.50%
Other Recyclable Paper (Total)	57,043	11.10%	758	1.30%
Other Compostable Paper	33,488	6.50%	0	0%
<b>Total Paper</b>	<b>156,620</b>	<b>30.60%</b>	<b>6,826</b>	<b>4.4%</b>
<b>Metals</b>				
Ferrous/Aluminum Containers (Total)	9,153	1.80%	1,932	21.1%
Other Ferrous Metals	26,530	5.20%	7,179	21.7%
Other Non-Ferrous Metals (Total)	6,274	1.2%	10	0.2%
<b>Total Metals</b>	<b>41,957</b>	<b>8.20%</b>	<b>9,121</b>	<b>21.7%</b>
<b>Plastics</b>				
PET Containers	4,735	0.90%	15	0.30%
HDPE Containers	4,506	0.90%	0	0%
Other Plastic (3-7) Containers	977	0.20%	195	20.0%
Film Plastic	28,923	5.60%	0	0.00%
Other Plastic (Total)	31,058	6.010%	5,730	18.4%
<b>Total Plastics</b>	<b>43,129</b>	<b>13.70%</b>	<b>5,940</b>	<b>8.5%</b>
<b>Glass</b>				
Glass Containers	20,100	3.9%	408	2.0%
Other Glass	1,926	0.4%	0	0%
<b>Total Glass</b>	<b>22,027</b>	<b>4.3%</b>	<b>408</b>	<b>1.9%</b>
<b>Organics</b>				
Food Scraps	69,641	13.6%	0	0%
Yard Trimmings	40,214	7.9%	7,970	19.8%
<b>Total Organics</b>	<b>109,855</b>	<b>21.5%</b>	<b>7,970</b>	<b>7.3%</b>
<b>Other</b>				
Clothing Footwear, Towels,	20,899	4.01%	0	0%

<b>Material</b>	<b>Estimated Tons Generated (2010)</b>	<b>% of Total</b>	<b>Actual Tons Diverted (2010)</b>	<b>% Diverted (2010)</b>
Sheets				
Carpet	7,844	1.5%	0	0%
<b>Total Textiles</b>	<b>28,743</b>	<b>5.6%</b>	<b>0</b>	<b>0%</b>
<b>Total Wood</b>	<b>20,173</b>	<b>3.9%</b>	<b>199</b>	<b>1.00%</b>
C&D Materials	25,073	4.9%	14,013	55.9%
Other Durables	8,519	1.6%	0	0%
Diapers	9,160	1.8%	0	0%
Electronics	7,802	1.5%	5,601	71.8%
Tires	8,371	1.6%	102	1.2%
HHW	2,170	0.4%	0	0%
Fines	1,418	0.3%	0	0%
<b>Total Miscellaneous</b>	<b>62,512</b>	<b>12.2%</b>	<b>19,716</b>	<b>31.5%</b>
<b>Total</b>	<b>512,088</b>	<b>100%</b>	<b>50,180</b>	<b>9.8%</b>

Source: DEC MSW Combined Composition Analysis and Projections, 2010 DEC Facility Annual Reports.

Based on the quantities of diverted materials that were reported to the DEC, Saratoga County diverted approximately 50,180 tons of material (9.8 percent) in 2010. The table above indicates that 512,088 tons of materials are available for diversion from residential, commercial and institutional generators. Not all the categories are populated for the 2010 actual recovery quantities due to the fact that not all categories are accounted for individually. Several materials identified above are collected and recovered at the recycling centers or other similar facilities in Saratoga County; however, there are no mechanisms for gathering data for the individual materials at this time. Chapter 3 and 5 describe the existing systems for recovering these materials as well as possible future programs during this planning period to increase the County's diversion rate.

#### 4.4. Estimation of Potential C&D Debris Recovery

Construction and demolition (C&D) debris can be assessed separately from MSW or industrial wastes. By utilizing the DEC's C&D composition and recovery projection tool, the following section provides Saratoga County with an estimated C&D debris composition for future planning purposes. The complete tables are included in Chapter 5. According to DEC, their analysis and the waste composition and recovery projection tool considers the variations in the C&D waste stream resulting from the construction, remodeling, repair and demolition of utilities, structures and roads and includes land clearing debris from both the building and infrastructure generating sectors. Variations within the building sector from new construction, renovation and demolition activities are considered from both the residential and non-residential generating sectors.

The following table provides an estimate based on the DEC's assumptions of the tons of C&D debris generated within the County that could be recovered or diverted from a waste disposal location if the appropriate programs were in place.

**Table 4- 6: Estimated C&D Debris Recoverable in Saratoga County**

Material	Estimated Tons Generated	% of Total	2010 (Actual)	
			Tons Diverted	% Diverted
Concrete/Asphalt/Rock/Brick	11,651	19.67%	13,459	116%
Wood	13,349	22.53%	199	1.49%
Roofing	6,637	11.20%	0	0%
Drywall	3,891	6.57%	0	0%
Soil/Gravel	7,931	13.39%	32	0.40%
Metal	5,226	8.82%	17	0.33%
Plastic	319	0.54%	0	0%
Corrugated/Paper	2,386	4.03%	0	0%
Other	7,848	13.25%	505	6.4%
<b>Total</b>	<b>59,238</b>	<b>100.00%</b>	<b>14,212</b>	<b>23.99%</b>

Source: DEC MSW Combined Composition Analysis and Projections, 2010 DEC Facility Annual Reports.

Based on the quantities of diverted C&D materials that were reported to the DEC, Saratoga County diverted approximately 14,212 tons of material (24 percent) in 2010. The table above indicates that 59,238 tons of C&D materials are available for diversion from residential and non-residential construction, renovation or demolition projects. Not all the categories are populated for the 2010 actual recovery quantities due to the

fact that not all categories are accounted for individually. Several materials identified above are collected and recovered at the C&D processing facilities in Saratoga County; however, there are no mechanisms for gathering data for the individual materials at this time. Chapter 3 and 5 describe the existing systems for recovering these materials as well as possible future programs during this planning period to increase the County's diversion rate.

## **5.0 FUTURE WASTE GENERATION PROJECTIONS**

Chapter 4 discussed the quantities of waste generated, disposed and diverted from the waste stream. This Chapter will present the projected municipal solid waste (MSW) diversion rates for the duration of the planning period. Waste generation projections were calculated by utilizing the calculated waste generation and diversion rates for 2010, and applying this rate to future projected populations. Based on the implementation goals outlined throughout the plan that may result in the reduction of waste generation over the 10 year planning period, a waste generation reduction of 1% per year was applied to future projections. Recycling rate projections were increased by 10 percent (%) over the course of the planning period, with high diversion rates applied to targeted waste streams. These future waste generation and diversion projections are included in Appendix B.



## 6.0 SOLID WASTE MANAGEMENT PLAN IMPLEMENTATION ITEMS

Based on the data gathered and discussed in the preceding Chapters, the County has identified milestones to work toward during a ten-year SWMP planning period. The milestones set forth below were identified with the goal of further enhancing the reuse and recycling of materials generated in Saratoga County to reduce the quantity of materials being landfilled or incinerated. It is important to note that the County's role and responsibilities for solid waste management have changed significantly in recent years due to policy decisions by the Board of Supervisors and due to a continued emphasis on keeping expenses under control. The landfill facility sited and constructed by the County [but not utilized] was sold to Finch Paper which subsequently sold it to Waste Management Incorporated. Four of the County's five transfer/drop-off stations have been taken over by the local municipalities. The County no longer has a recycling coordinator position or any other position designated for solid waste management issues.

Therefore, in line with these changes and the need to continue to carefully manage expenses, the County will consider the implementation items, milestones and schedule outlined in this section with regard to the feasibility and cost effectiveness.

### 6.1. Strategy Assessment #1 - Establish a 10-Year Planning Period

The NYSDEC's rules and regulations for Comprehensive Solid Waste Management Planning (Subpart 360-15 of 6NYCRR Part 360) require that all solid waste management plans provide for the management of solid waste within the planning unit for a minimum of a ten-year period. Since the County's current SWMP has expired, the County proposes that this SWMP planning period be for a 10-year period, from 2019 through 2028 or ten years after DEC approval of this document (whichever occurs later).

The County can address and report any changes to their solid waste planning efforts that take place over the 10-year planning period to the Department as part of the solid waste management plan biennial updates that Saratoga County is required to prepare and submit to the Department every two years. A ten-year planning period would represent the most cost effective utilization of limited state and county resources, with no deleterious effects on the County's ability to plan for and implement environmentally sound solid waste management and recycling programs. Table 6-1 provides an overview of this implementation item.

**Table 6- 1: GOAL #1 - Management Plan**

<b>Goal #1 – Establish a 10-year Planning Period</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County Department of Public Works (DPW)
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Submit draft SWMP to NYSDEC for review and comment.</li> <li>2. Submit final SWMP to NYSDEC for approval.</li> </ol>
Resources Required:	Saratoga County DPW will be responsible for completing the Solid Waste Management Plan Biennial Updates every 2 years. A Biennial Update template is provided in Appendix D. These reports will be submitted to the NYSDEC.
Timeframe:	<p>Draft SWMP submission – October 2019</p> <p>Final SWMP approval – January 2019</p> <p>Biennial Updates - Biennially (2021, 2023, 2025, 2027)</p>
Estimated Cost:	Approximately \$4,000-\$8,000/Biennial Update.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Insufficient funding.</li> <li>2. Lack of data.</li> </ol>

**6.2. Strategy Assessment #2 - Recycling at Public Facilities**

Saratoga County will continue to support recycling in local public schools to the extent financial and personnel resources allow. The County will consider expanding such efforts into public facilities (such as municipal office buildings) and at special events (such as the Saratoga County Fair, festivals), as financial and personnel resources allow

If deemed appropriate by the Board of Supervisors, Saratoga County may consider the implementation of a resolution requiring mandatory recycling at all County operated facilities. Table 6-2 provides an overview of a management plan that outlines the resources and steps necessary to implement recycling at public facilities.

**Table 6- 2: Goal #2 - Management Plan**

<b>Goal #2 – Increase Recycling at Public Facilities</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Public Schools with potential assistance from the County
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Consider passing legislation to make recycling mandatory at all County-owned facilities.                             <ol style="list-style-type: none"> <li>a. Encourage “Green Teams” within County offices to support additional recycling opportunities at County facilities.</li> <li>b. Provide recycling outlets at County operated facilities.</li> <li>c. Implement a recycling campaign through signage, email notifications, contests, etc.</li> </ol> </li> <li>2. Consider making County Resolution language available to all municipalities in the County to encourage their adoption of similar laws/ordinances.                             <ol style="list-style-type: none"> <li>a. Task the Public Works Recycling with gathering information from individual municipalities to determine if model programs are available to replicate. Pass information along to municipalities.</li> </ol> </li> <li>3. Consider promoting recycling at Public Schools.                             <ol style="list-style-type: none"> <li>a. Encourage the formation of “Green Teams” within the public schools to assist with the implementation of the program.</li> </ol> </li> <li>4. Encourage Skidmore College to incorporate their sustainable initiatives with other County or public</li> </ol>

<b>Goal #2 – Increase Recycling at Public Facilities</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
	<p>school programs.</p> <ol style="list-style-type: none"> <li>a. Provide support to Skidmore College’s “Sustainable Skidmore” program.</li> <li>b. Encourage waste reduction initiatives.</li> </ol> <p>5. Consider promoting recycling at Special Events.</p>
Resources Required:	Existing staff.
Timeframe:	<p>June 2019 – Consider passing legislation to make recycling mandatory at all County-owned facilities.</p> <p>October 2019 – Coordinate with other municipalities to pass their own recycling legislation.</p> <p>September 2020 –Support recycling and reduction initiatives at Skidmore College.</p> <p>June 2022 – Consider public events recycling campaign.</p>
Estimated Cost:	None.
Funding Opportunities Available:	Grant available from the NYSDEC to cover 50% of the salary of a recycling coordinator for Planning Units.
Potential Limitations:	1. Insufficient staffing.

### 6.3. Strategy Assessment #3 – Support Product Stewardship Legislation

Product Stewardship is based on the concept that all producers selling a product should be responsible for designing, managing, and financing a stewardship program that addresses the lifecycle impacts of their products including end-of-life management. It is a nationwide undertaking to encourage government, at the State level, to implement product stewardship legislation based on the same framework principles in order to maintain a consistent starting point for nationwide implementation of a product stewardship policy. The New York State Product Stewardship Council (NYS PSC) works to implement the principles of product stewardship in New York State and the nation by:

- Developing and recommending workable product stewardship policies and providing educational tools to individuals, organizations, institutions, local governments, the state legislature and elected officials.
- Providing effective leadership and guidance on product stewardship initiatives.
- Coordinating and participating in product stewardship initiatives locally, regionally and nationally.
- Working with manufacturers and their trade associations to develop and implement workable product stewardship initiatives.
- Educating manufacturers, the public, elected officials and other decision makers on the benefits of product stewardship.
- Providing a forum for the exchange of information regarding existing and proposed product stewardship programs.
- Evaluating and, where necessary, recommending improvements to product stewardship programs once they are instituted.

It is the intent of Saratoga County to consider adopting these product stewardship framework principles through a resolution. Table 6-3 provides an overview of a management plan that outlines the resources and steps necessary to adopt product stewardship framework principles

Table 6- 3: Goal #3 - Management Plan

Goal #3 – Consider Supporting Product Stewardship Legislation	
Management Plan	Details for Implementation
Party Responsible for Implementation:	Saratoga County with assistance from the NYS PSC
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Review the Model Local Government EPR Resolution developed by the Product Policy Institute.</li> <li>2. If supported, adopt local legislation supporting product stewardship.</li> </ol>
Resources Required:	Board of Supervisors support
Timeframe:	June 2020
Estimated Cost:	Minimal
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Lack of supervisors support.</li> <li>2. Lack of support from local manufacturers.</li> </ol>

#### 6.4. Strategy Assessment #4 – Yard/Green Waste Composting Facilities

Decisions about yard waste disposal and collection are made separately by each municipality within Saratoga County. Some towns provide for seasonal leaf and tree limb pick-up, while others provide disposal options at the local transfer station. The different programs available within the County were previously described in Chapter 4.

Saratoga County encourages, as the first step in the hierarchy of yard waste management, that residents and businesses implement grass-cycling (leaving their grass clippings on the lawn), and/or backyard composting for yard waste disposal. As a second option, many municipalities and a few private companies operate yard waste compost facilities that are available to residents. During the planning period it will be evaluated whether these programs need to be promoted so that residents and businesses utilize the various services available. Saratoga County will consider supporting educational partners, such as, Skidmore College, Soil and Water Conservation, and Cornell Cooperative Extension, to bolster yard waste composting education in the County.

In an effort to streamline the composting process and make it more cost effective, the County could encourage the development of local yard waste composting facilities by promoting the shared use of specialized compost processing equipment (i.e., tub grinder and/or wood chipper) either free of charge or for a small hourly rate, to reduce the capital and operating costs of such a facility to each municipality. This would require capital at the outset to cover the cost of the equipment, but these costs could be recouped through usage fees. Alternately, another entity (i.e., Saratoga County Soil and Water Conservation) may be willing to partner with the County to operate a similar program to loan out equipment to municipalities. This could also reduce the environmental impacts of relying on larger, centralized facilities, which require multiple trips with transfer trailers to bring leaves from throughout the county to central locations.

Based on the estimates made in Chapter 5 utilizing the DEC's detailed composition analysis and projection spreadsheets, there is a potential to divert 40,214 tons of yard waste from the waste stream on an annual basis by increasing yard waste composting. Based on the character of the Saratoga County community, it is possible that much of the yard waste is composted on-site, but is not accounted for by reporting mechanisms. In 2018, approximately 7,970 tons of yard waste was diverted from the waste stream based on available tracking or recording mechanisms. A summary of the individual town/village/city yard waste programs are provided in Appendix A.

**Table 6- 4: Goal #4 - Management Plan**

<b>Goal #4: Develop a yard waste processing equipment sharing program</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Promotion and coordination by Saratoga County (with possible partners)
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Work with municipalities to promote existing composting facilities (see Appendix A).</li> <li>2. See Implementation Item #13 for Public Outreach and Education efforts.</li> <li>3. Determine scope and feasibility of equipment share project:               <ol style="list-style-type: none"> <li>a. Potentially convene municipalities in the County to gauge interest in such a program and funds available for program</li> <li>b. Use input from local municipalities and other counties with similar programs to determine type of equipment to be purchased</li> <li>c. Seek out equipment cost estimates from equipment vendor</li> <li>d. Working with the municipalities, estimate if program will be cost effective based on interest and equipment costs</li> </ol> </li> <li>4. Seek out cost-sharing and program oversight partnerships with local organizations, if deemed appropriate.</li> </ol>
Resources Required:	Time from the staff of the County Department of Public Works will be needed to conduct initial program interest, and perform cost benefit analysis...
Timeframe:	November 2022 – April 2023
Estimated Cost:	Staff (initial study): \$5,000 Staff (oversight): \$2,000/year Equipment: \$50,000 - \$150,000 [by others] Maintenance: \$6,000/year ** Funding may be available through NYSDEC Recycling Grant Program
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Participation Rate</li> <li>2. Capital Costs</li> <li>3. Operating costs.</li> </ol>

### 6.5. Strategy Assessment #5 – Support Composting Efforts at Saratoga Race Track

Saratoga County is home to America’s oldest continually operating horse race track and a harness track. According to the Saratoga Harness Track Stable personnel, a horse manure collection program exists. Real Bark Mulch collects the manure from both the Harness Track and the Flat Track and hauls it to their location in Fort Edward. The horse manure is then composted into mulch. Real Bark Mulch of Fort Edward collects approximately 11,000 yards per year from the two race tracks, and Maple View Farms of Ballston Spa collects approximately 1,000 yards per year from local horse farms. Saratoga County proposes to continue to stay informed about these efforts and potentially encourage them through economic development.

**Table 6- 5: Goal #5 - Management Plan**

<b>Goal #6: Support Composting Efforts at Saratoga Race Track</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County, New York Racing Association (NYRA), Saratoga Race Track, Real Bark Mulch, Maple View Farms
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Initiate contact with responsible parties.</li> <li>2. Consider assisting with the promotion of these programs.</li> <li>3. Consider partnering with the race track to develop a larger program County-wide.</li> </ol>
Resources Required:	
Timeframe:	November 2021 – Initiate contact with NYRA. 2022-2030 – Continue to promote existing programs.
Estimated Cost:	To be determined.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Lack of partnership interest.</li> <li>2. Insufficient funding.</li> </ol>

**6.6. Strategy Assessment #6 - Backyard Composting**

While composting of all organic waste can be an effective method of low technology recycling that can significantly reduce the stream of landfilled waste, collection of these materials on a household basis can prove both difficult and expensive. Another option for encouraging the removal of these wastes from the waste stream is to implement a backyard composting program, through which residents are provided information regarding the methods of backyard composting. The County proposes to consider the implementation of a backyard composting program once it has sufficient resources to do so. This would most likely involve distribution of information on effective composting through pamphlets, advertising, demonstrations, and/or the County website. The County will also explore entering into a partnership with the local Cooperative Extension office or other entity to provide compost training courses with master composters. As part of the training courses, the County could offer low-cost composting bins to residents by purchasing the bins in bulk and providing them to residents at cost.

Based on the estimates made in Chapter 5 utilizing the DEC’s detailed composition analysis and projection spreadsheets, there is a potential to divert approximately 69,641 tons of organics from the waste stream on an annual basis by increasing back yard composting efforts. Table 6-6 provides an outline of this implementation item.

**Table 6- 6: Goal #6 - Management Plan**

<b>Goal #6: Promote backyard composting of food and yard waste through education and training programs</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County, Identified Partners
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Identify training materials available on the NYSDEC and Cornell Cooperative Extension websites for assistance in developing training courses or locating backyard composting.                             <ol style="list-style-type: none"> <li>a. Place links on Saratoga County’s website for these training course materials.</li> </ol> </li> <li>4. Identify existing organizations that promote backyard composting or have existing educational resources for backyard composting training courses.                             <ol style="list-style-type: none"> <li>a. Skidmore College</li> <li>b. Soil and Water Conservation District</li> <li>c. Cornell Cooperative Extension</li> </ol> </li> <li>5. If partner(s) are receptive, work with the organization(s) to host 1 training event biennially for residents within</li> </ol>

<b>Goal #6: Promote backyard composting of food and yard waste through education and training programs</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
	<p>Saratoga County. Suggest moving the event around the County to reach more people.</p> <p>6. Contact compost bin manufacturers/vendors to obtain quotes for bulk compost bin sales.</p> <p>7. Consider implementing 1-2 Backyard Composting Education Demonstration Sites throughout the County.</p>
Resources Required:	<p>1. Possible course provider fee if performed by outside vendor.</p> <p>2. Capital costs for purchase of compost bins to be recovered by sale of bins.</p> <p>3. County facility for use as training location.</p> <p>4. Partners.</p>
Funding Opportunities Available:	Grant available from the NYSDEC to cover 50% of the salary of a recycling coordinator for your Planning Unit.
Timeframe:	<p>November 2020 – Initiate contact with potential partners.</p> <p>January 2021 – Organize backyard composting educational event. If successful, continue on a biennial basis.</p> <p>April 2022 – Design, construct and manage a backyard composting demonstration site. If successful, implement a second program at another location within the County in 2023.</p> <p>2021-2028 – Continue to monitor for successes and failures.</p>
Estimated Cost:	Equipment Costs: Compost bins approximately \$55 each to be recovered through sale of bins.
Potential Limitations:	<p>program costs.</p> <p>of public support.</p> <p>of partnership support.</p> <p>icient funding.</p> <p>of staffing to coordinate partnerships or events.</p>

### **6.7. Strategy Assessment #7 - County Wide Household Hazardous Waste Collection**

Although specific HHW generation data for the County is not easily obtainable, it is generally estimated in the NYSDEC waste composition tables included in Appendix B that HHW makes up an average of 0.4% of the MSW waste stream. While this equates to a fairly minimal amount of material (2,170 tons per year in Saratoga County), the high toxicity of this material makes it an important target for removal from the landfilled waste stream. The County continues to encourage a regional approach administered by the Towns to address the HHW collection. The Towns of Clifton Park, Malta and Halfmoon have provided days annually for many years. Recently the Towns of Ballston, Charlton, Galway, Greenfield, Milton and Providence joined together for HHW days, which included computer components and TVs. The City of Saratoga Springs has sponsored three (3) events. Additionally, Northumberland, Town of Saratoga and Wilton have hosted events. The County feels that these types of inter-municipal events help foster cooperation and better local participation. A summary of the towns, villages, and city's household hazardous waste programs are included in Appendix A.

The County will continue to work with the municipalities to evaluate the need to expand the program in the future with the consideration of a centrally located permanent HHW facility. Of course, any of these programs will be administered on a basis consistent with the economic situation and the need.

It is estimated that municipally-run single collection events can cost between \$25,000 and \$50,000 per event. The construction of a permanent HHW facility can range from approximately \$100,000 to \$2 million, depending of the level of service desired. The lowest cost facility would consist of material storage units only and would typically still be operated on an event basis with material being collected in a tent or a temporary location. The most expensive would consist of a building designed and constructed for the sole purpose of collection and storing HHW and would be opened multiple days a week, year round. The main benefits of permanent collection facilities are the reduction in disposal costs, the increase in collection quantities, and the flexibility and convenience provided to residents. During single collection events, all of the materials collected must be removed from the collection site for final disposal within 3 days of collection. HHW handling companies typically charge on a per drum basis, regardless of the quantity of material in the drum. This can lead to high disposal costs per ton of waste when partially filled drums are disposed of at full drum prices. Permanent collection facilities provide a permitted storage location where partially filled drums can be stored until the next collection event so that only the disposal of full drums is paid for. This can lead to savings of up to 30% off typical disposal costs.

Permanent collection facilities typically recover approximately 5-8% of the HHW waste stream due to the increase in availability and convenience to residents. The availability of storage on site also allows for the ability to collect materials from residents on an “emergency” basis. If residents contact the County with an emergency need of HHW disposal (such as clean out of a home destroyed by fire, purchase of a new home with unknown HHW material on site, or the clean out of a home of a deceased relative), the facility could be used to accept and store these materials until the next collection event.

Generally the cost of individual events is easier to absorb as opposed to the design and construction of a permanent facility. It must be carefully evaluated as to whether the added convenience, increased recovery rate, and long-term disposal savings can justify the implementation of a permanent facility.

Table 6- 7: Goal #7 - Management Plan

<b>Goal #7: Provide additional HHW collection opportunities to County residents</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Municipalities within the county
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Work with municipalities to gather HHW collection data and determine need for additional collection opportunities</li> <li>2. Assess costs for programs provided by other municipalities to perform a cost benefit analysis for development of a permanent HHW collection facility               <ol style="list-style-type: none"> <li>a. If permanent facility is economically feasible, work with municipalities to develop permanent facility</li> <li>b. If additional individual events required, work with municipalities or other partners to analyze cost-share opportunities</li> </ol> </li> </ol>
Resources Required:	Capital for permanent HHW facility. Staff to assist with collection events if needed.
Timeframe:	May 2021 to January 2022
Estimated Cost:	Capital: \$0 - \$2 million Operational: \$50,000 to \$80,000 per event
Funding Opportunities Available	NYSDEC HHW grant will cover up to half of permitting, design, and construction costs for permanent facility and half of operational costs if incurred by the County.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Limited capital for initial implementation</li> <li>2. Availability of cost share partners</li> </ol>

### **6.8. Strategy Assessment #8 - Recycling Surveys and Reporting**

While the County offers various recycling options, no current monitoring mechanism is in place to determine quantities of recyclables for commercial, institutional, and industrial generators. Based upon current estimates, approximately 16% of the waste stream is diverted for recycling, which only reflects results reported by local recycling companies on their NYSDEC annual reports. While all solid waste is required to be handled through this system, and therefore is completely accounted for, the same requirement does not apply to recyclable materials. Therefore, large recyclables producers such as big box stores, and even private recyclables collection companies, may ship recyclable products directly to the end user for a profit, bypassing the county-located recycling facilities. As a result, these materials are not being accounted for in the County's recycling reports.

The County will continue to evaluate the development of biennial recycling data surveys, which would be distributed to various sectors of the County in order to compile more complete recycling data. These surveys would help assess what materials could be available for use in new programs such as organics composting pilot projects and construction and demolition (C&D) material recycling. Ideally, the survey would be conducted in stages, with the largest waste producers being contacted first. Since waste generation data is not available for many of the businesses and industries in the County, those with the most employees would be surveyed first. While the number of employees does not necessarily reflect the quantity of waste generated, it is anticipated that those business and industries with many employees generate the type of waste most easily recovered by current programs, such as MSW.

Survey recipients would be asked for data such as recyclable material (metals, plastic, and paper) produced per year, organic material produced per year, C&D material produced per year, and current disposal/recycling methods. Intermediate facilities such as confidential paper shredding services may also be contacted to determine how much material they receive from within Saratoga County. This information would then be compiled to help the County determine the actual recycling rate within the County, which recycling efforts are most effective, and which new recycling methods would be most prudent for the County to pursue. Table 6-8 provides an overview of a management plan that outlines the resources and steps necessary to implement such a program.

Table 6- 8: Goal #8 - Management Plan

Goal #8 – Recycling Surveys	
Implementation Item #8 Management Plan	Details for Implementation
Party Responsible for Implementation:	Local municipalities, private haulers, private waste/recyclables generators, Saratoga County
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Determine if funding is available</li> <li>2. Determine haulers and generators to survey.</li> <li>3. Prepare surveys.</li> <li>4. Send out surveys or opt to conduct electronic surveys utilizing an e-survey mechanism.</li> <li>5. Tabulate data from surveys as they are received.</li> <li>6. Interpret data from surveys.</li> <li>7. Follow up with interested commercial, institutional, and industrial generators to improve their waste diversion programs.</li> </ol>
Resources Required:	One staff member to prepare, distribute, and record surveys.
Timeframe:	Evaluate Biennially (2021, 2023, 2025, 2027)
Estimated Cost:	County staff labor and time. Approximately \$25,000 per survey.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Inadequate staffing.</li> <li>2. Insufficient funding.</li> <li>3. Lack of data.</li> <li>4. Lack of response to surveys.</li> </ol>

**6.9. Strategy Assessment #9 Construction & Demolition Debris Recycling**

Capital District Habitat for Humanity incorporated in 1988 as an affiliate of Habitat for Humanity International building homes and serving families in Albany and Saratoga Counties. A Habitat ReStore recently opened in the Capital District. A Habitat ReStore is a thrift style store that accepts donations of lumber, building supplies, doors, windows, appliances, furniture and cabinets from individuals, remodeler's, builders and builder supply stores. The donations are then sold to others through the ReStore. This program provides an outlet to divert construction and household materials from landfills and help protect the environment as well as to raise money for Habitat for Humanity projects. Saratoga County will continue to work with Habitat for Humanity to promote this program and encourage individuals and businesses to divert their excess construction materials to this store for reuse.



During this planning period, Saratoga County will consider the feasibility of setting a C&D material recycling goal for County funded projects. While this goal would likely not be mandatory, it would require contractors performing construction and demolition work for Saratoga County to commit to meeting the diversion goal, or provide documentation as to why the goal could not be met. This would set an example for other municipally funded work in the County, as well as providing a way to jump-start the coordination of C&D recycling options between waste handlers and contractors.

Currently, collection of C&D debris is not provided by the County and collection must be contracted for independently with private haulers or contractors. As discussed in Chapter 4, there are seven (7) transfer station facilities within Saratoga County that accept C&D debris, and of those, three (3) facilities process the C&D for recovery. Additionally, there are two (2) additional facilities located in Washington County that accept C&D materials from Saratoga County. At this time, landfilling C&D waste is more economical than recycling it in most cases. Consequently, it would not be financially prudent for Saratoga County to enter into the business of C&D waste sorting and recycling, as it has not been proven as a viable operation. However, based on current estimates, approximately 14% of landfilled materials in Saratoga County (or approximately 45,000 tons annually) are construction and demolition debris. One method the County will explore as a means to encourage C&D waste diversion without developing infrastructure would be to encourage the separating of portions of the waste stream at the source. Wood and masonry materials can be recycled fairly easily if properly separated from other materials. The County can work with existing C&D

processors to evaluate the feasibility of offering financial incentives to encourage generators to separate their own waste at the source and bring these sorted loads to the processing facilities for recycling.

**Table 6- 9: Goal #9 - Management Plan**

<b>Goal #9– Enhance Construction &amp; Demolition Debris Recycling</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	HFH ReStore, Empire State Development, Saratoga County, Other Identified Partners
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Partner with and promote existing C&amp;D processing facilities within Saratoga County.</li> <li>2. Consider establishing a goal for C&amp;D waste diversion/recycling on County funded projects.</li> </ol>
Resources Required:	<ol style="list-style-type: none"> <li>1. Potential partners' support.</li> </ol>
Timeframe:	January 2023
Estimated Cost:	Administrative costs.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Lack of support from potential partners.</li> <li>2. Lack of programs available to replicate.</li> <li>3. Lack of private investment.</li> </ol>

### 6.10. Strategy Assessment #10 - Product Reuse

Product reuse is one of the most efficient forms of recycling. Saratoga County proposes to encourage the private sector to provide additional systems by which their residents can drop off used, but still usable items free of charge. Items would also be salvaged from the existing recycling streams, such as bulk metal, book recycling, and used electronics recycling. These items would then be made available to residents for a fee.

A Materials Exchange program is an alternative product reuse outlet. Materials exchanges facilitate the exchange of materials or wastes from one party, which has no use for that material, to another party that views the materials as a valuable commodity. These facilities foster waste reduction efforts through the reuse of materials, thus eliminating the need to process the materials for recovery or disposal. These facilities are not regulated by the DEC. Existing facilities accepting materials were previously listed in Chapter 3 Table 3-3. Through economic development, the County would be supportive of a private or public entity developing a similar program within Saratoga County. Table 6-10 provides an overview of this implementation item.

**Table 6- 10: Goal #10 - Management Plan**

<b>Goal #10 – Encourage Product Reuse Programs</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Private Entities, Municipalities
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Support a materials exchange program if the opportunity arises</li> <li>2. Support existing product reuse operations and encourage additional product reuse facilities through economic development.</li> </ol>
Resources Required:	None
Timeframe:	Ongoing
Estimated Cost:	To be determined.
Potential Limitations:	Lack of private sector interest.

**6.11. Strategy Assessment #11 – Unique Wastes**

6.11.1. Pharmaceutical Wastes

Until recently, consumers have been told to flush unwanted drugs. With technological advances and research, low levels of drugs are being found in our surface waters. We know that some drugs pass largely unaltered through our wastewater treatment plants and enter rivers and other waters. Drugs from health care facilities, pharmaceutical manufacturing facilities and farms can also find their way into the water.



The Drug Enforcement Administration has held two nationwide take back initiative programs and is expected to hold them on an annual basis. The most recent National Prescription Take-back Day was held on Saturday, October 29<sup>th</sup> from 10am to 2pm. Table 6-11a below lists the facilities where these events occurred in Saratoga County.

**Table 6- 11a: National Prescription Take-Back Day – Saratoga County**

Participants	Collection Sites	Location	City
New York State Police	New York State Police Public Safety Building	5 Municipal Plaza State Rte. 146	Clifton Park
Saratoga Springs Police Department	Saratoga Springs PD PBA Hall	52 Weibel Avenue	Saratoga Springs
Saratoga Springs Police Department	Saratoga Springs Police Department	5 Lake Avenue	Saratoga Springs
Mechanicville Police Department	CVS Pharmacy Parking Lot	12 South Central Avenue	Mechanicville

Saratoga County intends to track collection events within the County and nearby Counties and promote them around the County through educational activities. The NYSDEC’s website also maintains a Household Drug Collection Schedule that can be referenced for nearby collection sites or programs.

### 6.11.2. E-Wastes

Presently the County has a limited E-Waste Recycling program, which relies on other entities, such as All Green Electronics Recycling and We Recycle!, to sponsor E-waste collection days. Recently, the New York State Electronic Equipment Recycling and Reuse Act was signed into law on May 28, 2010. It requires manufacturers to set up and fund programs for the collection and recycling of electronic waste in New York State. This new law will relieve New York local municipalities, such as Saratoga County, of the costly burden of managing hazardous e-waste, and will provide free and convenient recycling of electronics to consumers and businesses in New York State. Saratoga County supports this legislation and intends to track it to determine how it may benefit Saratoga County's local programs. A summary of the towns, villages, and city's e-waste programs are included in Appendix A.

The County's list of mandatory recycled items does not include computers, computer monitors, and televisions. As the technology in consumer electronics evolves, the quantity of electronic waste, or E-waste, entering the waste stream will continue to grow. While some municipalities within the County currently accept E-waste for recycling at its transfer stations, the County proposes to evaluate the feasibility of expanding the list of mandatory recycled items to include E-wastes such as computers, computer monitors, televisions, cell phones and digital cameras. This would require the adoption of a local law to include these items as mandatory recyclables.

### 6.11.3. Medical Wastes

Sharps are not allowed at the transfer stations or recycling centers, as they pose a serious health and safety risk to employees who would come in contact with them. However, local pharmacies, healthcare facilities, etc. have programs in place that provide for the proper disposal of these sharps. All hospitals in New York State (except for federal facilities) are required to collect sharps from households. The County's role is to make sure that residents are aware that these programs are in place.

### 6.11.4. Universal Wastes

Universal waste is a category of waste materials designated as "hazardous waste", but containing materials that are very common. Although household hazardous waste facilities were previously discussed, this category is also

pertinent to commercial, institutional and industrial entities. Businesses and other generators of such waste are required to provide for their proper disposal and typically HHW collection events are for residents.

### *Mercury*

Mercury is used in some consumer products; examples include thermometers, thermostats, and automotive switches. Residents may dispose of these and other mercury containing materials for free at the scheduled household hazardous waste days, which were previously discussed.

It is well known that mercury is an extremely toxic substance that does not break down easily once released to the environment, and therefore its disposal needs to be controlled. The County will assess the feasibility of developing a permanent program for the collection and proper disposal of mercury containing products such as thermometers and thermostats. The goal of such a collection program is to provide residents with a convenient and safe method of disposal of these items and reduce the instances of improper disposal.

### *Compact Fluorescent Lamps (CFLs)*

Compact fluorescent lamps (CFLs) contain a small amount of mercury; approximately 3-5 milligrams. Expended CFL's should be disposed of properly, in the same manner as other household hazardous waste products like paint, batteries and non-digital thermostats. Saratoga County residents can dispose of expended or broken CFLs at the local Household Hazardous Waste (HHW) Collection Sites. Additionally, many CFL retail outlets, such as Home Depot, offer safe disposal or recycling.

### *Batteries*

Many residents use and discard of batteries into the waste stream. Although waste batteries are a small amount of the solid waste stream, they are a concentrated source of some types of heavy metals. The main constituents of concern for human health and the environment include: cadmium, lead and mercury.

Reusable/rechargeable batteries are preferred over single-use batteries provided the rechargeable batteries are recycled after their useful life is over. Most communities in New York State have a voluntary, drop-off program for collecting household batteries.

Starting in June 8, 2011, New York retail locations that sell rechargeable batteries will be required to accept used batteries of the same type for recycling. Additionally, as of December 15, 2011, it will be against the law for New Yorkers to knowingly dispose of rechargeable batteries in the garbage.

#### 6.11.5. Pesticides

CleanSweepNY is an Environmental Benefit Project which was initiated by the New York State Department of Environmental Conservation's Bureau of Pesticide Management and it describes in one word an effort to safely and economically dispose of canceled, unwanted, unusable, or otherwise obsolete pesticides and other chemicals from agricultural or non-agricultural business activities. CleanSweepNY also provides for the disposal of elemental mercury, mercury containing devices such as thermometers, manometers, etc. from schools and other entities.

CleanSweepNY collection events do not target the general public since home and garden pesticides are accepted in Household Hazardous Waste (HHW) collections. Commercially applied or larger quantities of pesticides are usually excluded from local HHW collections. In New York State this fact has created a backlog of demand for safe, legal, and affordable disposal of obsolete pesticide products and other chemicals.

CleanSweepNY is administered by DEC in collaboration with the New York State Department of Transportation, which provides sites for the collection of these unwanted chemical materials. The program is supported by Cornell Cooperative Extension, the Agricultural Container Recycling Council, NYS Green Industry, Soil and Water Conservation districts, the New York Farm Bureau, and related grower associations. To date, CleanSweepNY has collected and disposed of over 850,000 pounds of hazardous chemicals and more than 500 pounds of elemental mercury. The program has also collected over 3,000 plastic pesticide containers for recycling that would have otherwise ended up in landfills.

Throughout the planning period, Saratoga County will evaluate the feasibility of promoting these existing programs to residents. Table 6-11 provides a framework for encouraging proper disposal of the mentioned wastes.

**Table 6- 11: Goal #11 - Management Plan**

<b>Goal #11 – Encourage Proper Disposal of Unique Wastes</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County DPW; Private Entities (i.e., supermarkets, pharmacies, hospitals, electronics stores, home improvement stores, Sheriff Dept., etc.)...
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Consider promoting existing programs already in place.</li> <li>2. Consider feasibility of sponsoring additional events through the County with other partners.</li> </ol>
Resources Required:	Existing staff.
Timeframe:	Ongoing
Estimated Cost:	Minimal except for administrative costs.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Insufficient funding for programs.</li> </ol>

#### **6.12. Strategy Assessment #12 - Public Outreach and Education**

Public outreach and education regarding waste diversion programs and responsible disposal of special wastes was identified as a key component of the solid waste management program in Saratoga County through the discussion of waste management facilities outlined in Chapter 4. As presented in that chapter, there are numerous outlets that already exist in Saratoga County that supports waste diversion practices. The conclusion that can be drawn from this observation is that in lieu of utilizing the County's limited resources to develop new diversion programs to accept a more broad range of less abundant waste stream, these resources would be better utilized in promoting participation in programs that are currently available to the public.

Saratoga County is dedicated to education and believes that this is best accomplished, and provides the greatest benefit, when practiced in partnership with the community, since impacts and benefits of management decisions reach across property boundaries. Waste streams that could experience higher diversion rates through further public education efforts have been identified in many of the discussions presented above. Specifically, the waste handling areas that should receive the most focus are:

- Yard Waste Composting Facilities
- Backyard Composting
- HHW Collection Events
- C&D Debris Diversion Opportunities
- Unique Waste Disposal Options

During this planning period, the County will evaluate its current and potential education methods for promoting reuse and the County's recycling law. The County will evaluate the feasibility of adding recycling education at public events, specifically in the areas where they can team with local companies and not for profit agencies to encourage the recycling of specific waste streams.



One example of an educational facility that the County could partner with would be the Hudson Valley Community College's newest facility, TEC-SMART (Training and Education Center for Semiconductor Manufacturing and Alternative and Renewable Technologies) located in the Town of Malta. It features more than a dozen state-of-the-art classrooms and laboratories to train the workforce in semiconductor manufacturing green technologies, including photovoltaic, home energy efficiency, geothermal, alternative fuels and wind energy. By having a facility in Saratoga County that is focused on green technologies is a great starting point for partnering to expand the County's public outreach and education program. Table 6-12 provides an overview of how the County could implement a public outreach and education program by partnering with existing educators.

**Table 6- 12: Goal #12 - Management Plan**

<b>Goal #12 – Encourage Public Outreach and Education Program</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	TEC-SMART, Cornell Cooperative Extension, Hudson Valley Community College, Skidmore College, etc.
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Consider developing a preliminary education plan to utilize as a starting point for conversations with Skidmore College, TEC-SMART or others.</li> <li>2. Consult with local professionals during development, implementation, and updates to the preliminary education plan.</li> <li>3. Partner with a local environmental institute, organization, college or university to conduct educational outreach activities around the community. <ol style="list-style-type: none"> <li>a. Partnering with an education or environmental department of a local college or university to complete educational outreach efforts.</li> </ol> </li> <li>4. Negotiate contract with local environmental institute or organization for public outreach and education services.</li> </ol>
Resources Required:	Partnerships
Timeframe:	December 2026 – Partner with local environmental institute, organization, college or university.
Estimated Cost:	Unknown
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Results will depend on the types of partnerships and projects developed.</li> <li>2. Lack of funding.</li> <li>3. Lack of partnership support or interest.</li> </ol>

As demonstrated in Chapter 3, Saratoga County’s residents and commercial, industrial and institutional waste generators have various outlets to divert their waste from disposal to reduction, reuse and recycling. With this extensive network of existing program, Saratoga County is in the best position to be a catalyst to promoting these outlets without having to fund or implement them.

### **6.13. Strategy Assessment #13 - Pay as You Throw Programs**

In areas where Pay-As-You-Throw (PAYT) is an option for waste collection, residents are charged a fee for municipal solid waste collection based on the amount of waste they dispose of. According to the Environmental Protection Agency (EPA), this concept creates a direct economic incentive to recycle more and to generate less waste. PAYT programs allow residents to treat waste collection as a utility and pay only for the service they actually use. Most communities that use a PAYT program operate municipal hauling and charge their residents a fee per bag or per can of waste. In a small number of communities, residents are billed based on the weight of their trash. All of these variations on the PAYT programs allow residents to pay less for waste disposal if they recycle more and throw away less waste.

There are many variations to the PAYT program. The program allows customers to select the appropriate number or size of containers for their standard weekly disposal amount. The bag program allows customers to purchase bags, often printed with special logos for different haulers, and dispose of waste in these specially marked bags. The price of each bag incorporates the cost of collection, transportation and disposal of the waste. The more bags customers use the more they are paying for waste collection and vice versa. The tag and sticker program allows customers to purchase tags or stickers, which are often specially marked for different haulers, and place these tags or stickers on their garbage bags. This program is similar to the bag program, only using tags and stickers instead of specialty bags.

Hybrid PAYT programs vary greatly from community to community. An example of a hybrid program would be offering residents a limited collection, i.e. five bag limits per week, with any additional bags being bought at a per bag fee from the municipality, hauler, etc. In this type of program, the initial cost of service is often billed to the residents in the form of taxes or quarterly bills through the municipality or hauler. Weight based programs use a modified scale located on the waste collection trucks and charge customers based on the actual pounds of garbage set out for disposal. On board computers record weights by household and customers are billed on this basis.

As with any program, there are advantages and disadvantages. Some of the advantages and disadvantages of the PAYT programs are listed below:

*Advantages:*

- PAYT programs are a fair way to charge customers. Customers who dispose of more waste pay a higher cost than those who recycle more and dispose of less waste.
- PAYT programs do not place restrictions on customer choices. Customers are not prohibited from putting out additional garbage, but those who want to dispose of more garbage will pay a higher fee.
- PAYT programs are generally inexpensive to implement. They may also help prevent overuse of solid waste services.
- PAYT programs encourage waste reduction in the form of recycling, composting, and source reduction.
- PAYT programs can be implemented in a variety of sizes and types of communities, with a broad range of collection methods.
- PAYT programs offer environmental benefits by reducing the amount of waste sent to a landfill and recycling more of the products used by residents.

*Disadvantages:*

- PAYT programs may raise concerns regarding illegal dumping.
- PAYT programs can be a concern for large poor families who cannot afford to pay for the amount of waste they dispose.
- PAYT programs can be hard to implement at first if communities are unwilling to embrace the change that the program requires.
- Implementing PAYT programs, i.e., purchasing of stickers, cans, bags, etc., retrofitting waste trucks, employee reassignment, etc., can prove challenging.

Since Saratoga County is not responsible for collection of residential waste, the PAYT program would need to be implemented through the local haulers and transfer stations. In an effort to determine the presence of PAYT-type systems within the County, and the willingness of private haulers to participate in such a program, the County proposes to conduct a survey of the waste hauling companies and transfer stations that operate within the County. This task could be accomplished in conjunction with the recycling surveys discussed in Implementation Item #9.

**Table 6-13: Goal #13 - Management Plan**

<b>Goal #13 – Encourage and Monitor PAYT Programs</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Haulers, Transfer Stations
Steps to Undertake Implementation:	<ol style="list-style-type: none"> <li>1. Conduct a survey of local haulers and transfer stations to gauge the availability of PAYT.</li> <li>2. Continue communication with local haulers and transfer station operators to monitor PAYT interest and availability.</li> <li>3. Evaluate the need to promote PAYT programs to customers.               <ol style="list-style-type: none"> <li>a. If warranted, work with local haulers and transfer stations to promote PAYT programs to customers.</li> </ol> </li> </ol>
Resources Required:	<ol style="list-style-type: none"> <li>1. Haulers</li> <li>2. Transfer Station operators (municipalities)</li> </ol>
Timeframe:	Ongoing.
Estimated Cost:	Majority of costs would be incurred by the haulers or municipalities.
Potential Limitations:	<ol style="list-style-type: none"> <li>1. Lack of hauler cooperation or interest.</li> <li>2. Lack of funding.</li> </ol>

#### 6.14. Strategy Assessment #14 – Review of Available Technologies

Currently, a majority of the waste generated within the County is disposed of at solid waste landfill facilities, alternative waste disposal technologies that are available to the solid waste disposal markets are described in detail below.

##### 6.14.1. Comparison to other disposal technology options

#### *Pyrolysis/Gasification*

Pyrolysis systems use a vessel which is heated to temperatures of 750°F to 1,650°F, in the absence or near absence of free oxygen. The temperature, pressure, reaction rates, and internal heat transfer rates are used to control pyrolytic reactions in order to produce specific synthetic gas (syngas) products. These syngas products are composed primarily of hydrogen (H<sub>2</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), and methane (CH<sub>4</sub>). The syngas can be utilized in boilers, gas turbines, or internal combustion engines to generate electricity, or alternatively can be used in the production of chemicals. Some of the volatile components of MSW form tar and oil, and can be removed for reuse as a fuel. The balance of the organic materials that are not volatile, or liquid that is left as a char material, can be further processed or used for its adsorption properties (activated carbon). Inorganic materials form a bottom ash that requires disposal, although it is reported that some pyrolysis ash can be used for manufacturing brick materials.

Gasification is a similar process performed at slightly higher temperatures (1,400°F to 2,500°F) to produce primarily hydrogen and carbon dioxide as syngases.

There are currently two pyrolysis/gasification plants in operation in Japan which have operated with mixed MSW as a sole fuel source with mixed success.

#### *Waste to Energy (Combustion/Incineration)*

A Waste-to-Energy (WTE) facility is a solid waste management facility that combusts wastes to generate steam or electricity and reduces the volume of municipal solid waste (MSW) that would otherwise need to be disposed of by approximately 80-90 percent. These facilities are also sometimes referred to as resource recovery facilities, Municipal Waste Combustors (MWC) or solid waste incinerators with energy recovery. Newer technology allows higher efficiency heat recovery from the combustors, increasing energy production potential.

Although WTE facilities result in a reduction in waste for disposal, a secondary disposal method, such as landfilling would still be required in conjunction with the facility. This, coupled with very high initial construction costs, high operations and maintenance costs, and the uncertainty of revenues associated with energy sales make the disposal cost per ton for this method higher than that for landfilling.

There are currently 10 active WTE facilities in New York State; however, none have been permitted or constructed in the state in the past 20 years.

#### ***Mixed Municipal Solid Waste Composting***

Mixed MSW composting is typically an aerobic composting process that breaks down all organic portions of the waste into compost material. Waste is typically collected at the facility as a mixed stream. The process requires intense pre- and post-processing, treatment and sorting to remove inert materials such as plastic or glass, which diminish the quality of compost products. Some MSW composting facilities also accept biosolids. Wastes are typically loaded into a rotating bioreactor drum for two to four days. Screening processes are used to separate unacceptable wastes, which are landfilled as process residue, from the raw compost which is stored in a maturation area for approximately one month to allow biological decomposition to occur.

Facilities such as this do not have a well established track record in the United States. There are currently 13 mixed MSW composting facilities in operation in the United States, including one in Delaware County, New York. Issues associated with the reliable and cost effective operation of such facilities include quality of compost, retail/wholesale outlet for compost generated, disposal location for bypass material, and odors.

#### ***Plasma Arc Gasification***

Plasma arc gasification is a waste treatment technology that uses electrical energy and the high temperatures created by an electrical arc gasifier. This arc breaks down waste primarily into elemental gas and solid waste (slag), in a device called a plasma converter. The process has been touted as a net generator of electricity, although this will depend upon the composition of input wastes. It will also reduce the volume of waste requiring land disposal.

There are currently 10 plasma arc gasification facilities in operation in Japan and Taiwan, but only one that operates on a large scale (all others are < 50 TPD) and

uses mixed MSW as its only feedstock. A small MSW facility (85 TPD) is in operation in Canada. In the United States, St. Lucie County in Florida has obtained a permit to construct a large scale MSW plasma arc gasification facility, but as of this date, has not commenced construction due to vendor and funding issues.

To date, this technology has not been proven to be economically feasible within the United States for MSW management.

#### ***Mechanical/Biological Treatment***

Mechanical-biological treatment (MBT) systems are similar to mixed MSW composting systems in that intense sorting is required as the first step in the waste treatment process. This is considered the mechanical phase of the treatment, where recyclable and non-organic materials are removed from the waste stream prior to the biological treatment. The biological treatment phase involves bio-drying of the remaining organic materials for production of refuse derived fuel, or RDF. RDF can be used in place of fossil fuel products, such as a replacement for coal in electricity production. There are currently over 70 active MBT systems in operation across Europe, with a majority of these facilities operating as pilot scale projects (exact numbers are not available).

To date, this technology has not been proven to be economically feasible within the United States for MSW management.

#### ***Anaerobic Digestion***

Anaerobic digestion is a biological process by which microorganisms digest organic material in the absence of oxygen, producing a solid byproduct (digestate) and a gas (biogas). In the past, anaerobic digestion has been used extensively to stabilize sewage sludge, but is more recently under consideration as a method to process the organic fraction of MSW. In anaerobic digestion, biodegradable material is converted by a series of bacterial groups into methane and CO<sub>2</sub>. In a primary step called hydrolysis, a first bacterial group breaks down large organic molecules into small units like sugars. In the acidification process, another group of bacteria converts the resulting smaller molecules into volatile fatty acids, mainly acetate, but also hydrogen (H<sup>2</sup>) and CO<sub>2</sub>. A third group of bacteria, the methane producers or methanogens, produce a medium-Btu biogas consisting of 50-70% methane, as well as CO<sub>2</sub>. This biogas can be collected and used for a variety of purposes including electricity production or converted to high BTU natural gas. There are currently over 200 MSW anaerobic digestion

facilities operating across Europe. Many of these facilities are smaller scale projects, designed to provide treatment of wastes for small towns and villages. There are two such facilities in operation in Canada, each in the Toronto, Ontario area.

To date, this technology has not been proven to be reliable and economically feasible within the United States for MSW management.

#### **Ethanol Production**

Ethanol production from a mixed MSW waste stream requires an intensive sorting process as the first processing step. All recyclable and inert materials must be removed to produce an organic waste stream for ethanol production. This material is then chopped, fluffed, and fed into a hydrolysis reactor. The effluent of this reactor is mostly a sugar solution, which is prepared for fermentation. This solution is detoxified and introduced to a fermenter, in which microorganisms convert the sugar to ethanol and CO<sub>2</sub>. Next, the solution is introduced into an energy-intensive process that combines distillation and dehydration to bring the ethanol concentration up to fuel grade (99%) ethanol. A solid residue of unfermented solids and microbial biomass is recovered through the anaerobic digestion process, and its marketability as a compost material depends on the purity of feedstock as well as its visual quality. Solid residues can be burned or gasified if alternative methods of reuse are not feasible. Various pilot scale facilities are operating in the United States and Europe, but many have reverted to more homogeneous feedstocks such as wastewater treatment sludge and food processing wastes, because obtaining the homogeneous input stream from mixed MSW has proven difficult.

Saratoga County does not propose evaluating the feasibility of these alternative waste disposal options during the 10 year planning period; however, Saratoga County does acknowledge that they are available and should advances in the above technologies occur, the County will reassess these opportunities during the next planning period. Table 6-14 provides an overview of a management plan to implement this item.

**TABLE 6-14: GOAL #14 - MANAGEMENT PLAN**

<b>Goal #14 – Track Alternative Technologies</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County
Steps to Undertake Implementation:	Be informed regarding progress made on alternative technologies.
Resources Required:	Existing resources.
Timeframe:	TBD
Estimated Cost:	Not applicable.
Potential Limitations:	Technological limitations.

#### **6.15. Strategy Assessment #15 - Amendments to County Local Solid Waste Management and Recycling Law**

The County has begun to identify, internally, areas in which its existing recycling law could be strengthened in order to more adequately ensure that waste are disposed of according to plan. During the next planning period, the County intends to conduct an internal review of its law, as well as consult with outside sources, in order to ensure its local solid waste law is up to date. Specific items that the County intends to address include, but are not limited to:

- Update to administrative structure referenced in current local law
- Modifications to existing mandatory recycling list
- Recycling at county owned facilities
- Pay-As-You-Throw incentives
- Commercial Recycling
- Recycling Compliance

These items, among others, will be considered during the law review process and implemented as the County deems prudent.

**Table 6-15: Goal #15 - Management Plan**

<b>Goal #15 – Update Local Solid Waste Management Law</b>	
<b>Management Plan</b>	<b>Details for Implementation</b>
Party Responsible for Implementation:	Saratoga County, Municipalities
Steps to Undertake Implementation:	During the next planning period, the County intends to conduct an internal review of its law, as well as consult with outside sources, in order to ensure its local solid waste law is up to date.
Resources Required:	Outside sources
Timeframe:	June 2023
Estimated Cost:	Administrative costs.
Potential Limitations:	1. None identified.

**6.16. Strategy Assessment #16– Enforcement Programs**

Enforcement programs allows local governments to strengthen existing Solid Waste and Recycling Laws in order to more adequately ensure that waste is disposed of or recycled according to plan.

Currently, Saratoga County does not anticipate that enforcement programs would be an effective strategy for Solid Waste and Recycling within the County.

**6.17. Strategy Assessment #17– Flow Control and Districting Potential**

Flow control legislation allows local governments to direct solid waste and/or recyclables to designated facilities to ensure a continuous source of revenue and eliminates the possibility that any portion of the municipality’s waste stream could be diverted.

Thirty-five states (including New York) as well as the District of Columbia and the Virgin Islands directly authorize flow control, while four additional states authorize flow control indirectly through mechanisms such as local solid waste management plans or home rule authority. In New York, a municipality is usually specifically authorized by the State Legislature to adopt flow-control legislation. Unlike other states, New York explicitly states that flow control may cover source-separated recyclable materials. Currently, there are 37 municipalities in New York State (i.e., districts, towns, counties, authorities) authorized by the State Legislature to enact flow control legislation covering approximately 80 percent of the state’s population. Although flow control is authorized, many municipalities or Planning Units do not enforce it.

Due to the fact that the County does not have the capacity to handle all waste generated within the County Saratoga County does not anticipate that flow control would be an effective strategy for solid waste management within the County.

**6.18. Strategy Assessment #18 – Local Hauler Licensing Programs**

Local hauler licensing programs require all haulers, businesses, landlords, and property management companies to obtain a hauler's permit in order to use the County Landfills and/or the Materials Recovery Facility. This program gives the County a mechanism for tracking waste and recyclables brought to County owned facilities, impose penalties on haulers who do not follow facility guidelines, and track payments.

To provide stricter oversight of the haulers responsible for collection of solid waste and recyclables, some communities opt to require hauling companies that collect, transport or dispose of discarded materials (garbage, recyclables or compostables) to be licensed by the municipality in which they are performing these services. Hauler licensing allows municipalities to gain access to data on amounts of material collected and managed.

Saratoga County does not own or operate an active landfill so a local hauler licensing program is not an effective strategy for the County.

## 7.0 IMPLEMENTATION SCHEDULE

While some of the program enhancements outlined above are already in the planning stages, some will require a higher level of feasibility analysis, funding, and planning before implementation. The preliminary implementation schedule for the proposed plan is outlined in the table below. As pursuit of implementing these proposed enhancements continues, and further information is gathered regarding the feasibility of implementing these programs, this schedule will be updated as needed via the biennial SWMP Biennial Updates, which are issued by the County every 2 years.

**Table 7-1: Program Enhancement Implementation Schedule**

Implementation Item	Target Date	Implementation Tasks
Establish a 10-Year Planning Period	September 2018	Draft SWMP Submission
	January 2019	Final SWMP Approval
	2021, 2023, 2025, 2027,	Biennial Updates to DEC
Improve Recycling at Public Facilities	June 2019	Consider passing legislation to make recycling mandatory at all County-owned facilities.
	October 2019	Coordinate with other municipalities to pass their own recycling legislation.
	September 2020	Consider partnering with Skidmore College.
	September 2021	Promote public schools recycling program.
	June 2022	Consider public events recycling campaign.
Consider Supporting Product Stewardship Legislation	June 2020	Review model resolutions and adopt if supported.
Yard/Green Waste Composting Facilities	November 2021 – April 2022	Consider developing a yard waste processing equipment sharing program.
Support Composting Efforts at Saratoga Race Track	November 2020	Initiate contact with NYRA.
	2019-2028	Continue to promote existing programs.
Backyard Composting	November 2020	Initiate contact with initial partners.
	January 2021	Organize backyard composting educational event.
	April 2021	Design, construct and manage a backyard composting demonstration site.
	2020-2028	Continue to monitor for successes and

Implementation Item	Target Date	Implementation Tasks
		failures.
County Wide Household Hazardous Waste Collection	May 2020 – January 2021	Consider additional HHW collection opportunities to County residents.
Recycling Surveys and Reporting	Biennially (2020, 2022, 2024, 2028)	Prepare, issue, tabulate, interpret surveys.
Construction and Demolition Debris Recycling	January 2023	Partner with and promote existing C&D processing facilities.
Product Reuse	Ongoing	Support existing product reuse operations. Encourage additional product reuse facilities through economic development.
Unique Wastes	Ongoing	Promote existing programs. Consider sponsoring and promoting additional events.
Public Outreach and Education	December 2020	Partner with local environmental institute, organization, college or university to promote solid waste management and recycling educational efforts.
Pay As You Throw Programs	Ongoing.	Work with haulers to determine the need to increase availability and promotion.
Review of Available Technologies	TBD	
Amendments to County Local Solid Waste Management and Recycling Law	June 2023	Conduct internal review of the existing law. Modify as deemed appropriate and necessary.

## **8.0 PUBLIC PARTICIPATION/NOTIFICATION TO NEIGHBORING JURISDICTIONS**

The draft LSWMP was presented to the Saratoga County Board of Supervisors, and, on their authorization, the draft plan was made available on the County's website. All neighboring counties or Planning Units were notified of the availability of the draft plan.

In addition, a formal public comment period was held from February 27, 2019 to April 15, 2019 during which all interested parties were encouraged to submit comments in writing or during the public hearing held on April 3, 2019. The comment period and public hearing was advertised on the County's website and in local publications used for advertisement of official County notices.

A summary of all comments received during the public comment period were prepared, along with the County's responses to each of these comments. This responsiveness summary is included as Appendix C.



## **9.0 PLANS FOR SWMP DISTRIBUTION**

The County will provide public notice regarding the completion of the Final SWMP on the county website. The website posting will indicate that the plan can be viewed through the county website and that hard copies are available for public review at the county office building.

Each neighboring county will be notified in writing of the completion of the plan and its availability.



**10.0 RESOLUTION ADOPTING THE SWMP**

The Saratoga County Board of Supervisors enacted a resolution adopting the Final Solid Waste Management Plan on October 15, 2019. A copy of this resolution is included in Appendix E.



## **Appendix A**

### **Survey of Towns/Cities/Villages**

<b>Town</b>	<b>Yard Waste</b>	<b>E-Waste</b>	<b>Household Hazardous Waste</b>
Town of Ballston 885-8502 Outlet Road	Town Residents bring to facility-get key from Highway Dept. Material is then composted- residents can take it	Join with other Towns (if \$ in budget) for one day	Join with other Towns (if \$ in budget) for one day
Town of Charlton 384-0152	Picked up by County Waste-no charge-out to curb-no bags	Join with other Towns (if \$ in budget) one day- Bulk = every other yr.	Join with other Towns (if \$ in budget) for one day
Town of Clifton Park 371-6651	April-end of Nov –FREE Bagged debris picked up by County Waste. Clifton Knolls has a Leaf District w/own machines – CP picks up and charges the district.	Transfer Station on Vischer Ferry Road – generates revenue	September – one day, residents of Halfmoon, Village of Round Lake, and Malta Fall – Town wide pickup of large items
Town of Corinth 654-6962	Collection at Highway garage – compost leaves, grass, brush. Have a burn permit/otherwise chipper	Casella dumpster – charge people 6cents per pound.	Furniture only goes into dumpster – charge people 6cents per pound.
Town of Day 696-3019	At the recycle center – brush only on Tues/Sat/Sun – chipped & composted	Garbage – Wheelabrator	N/A
Town of Edinburgh 863-2034	Dump – Fri./Sat. leaves are composted; brush is burned	Materials Recovery out of Wilton? (they also take batteries)	Furniture only – must be taken apart; springs are recycled
Town of Galway 882-6651	N/A	N/A	Join with other Towns (if \$ in budget) for one day
Town of Greenfield 893-7604	N/A	2 times a year people can bring to garage; RCRR of Albany collects	Tires go to BCD Tire in Mayfield; large items go to Hiram Hollow
Town of Hadley 696-3414	Spring/Fall pick up – all year drop off (small chg) Then to Hiram Hollow	Collected at garage – then taken to Hiram Hollow	N/A

<b>Town</b>	<b>Yard Waste</b>	<b>E-Waste</b>	<b>Household Hazardous Waste</b>
Town of Halfmoon 664-3127	Bagged – collected at Transfer Station. Storm pickups.	FREE collection, brought to Tech Valley Recycling in Clifton Park	Join with Clifton Park in September, annually
Town of Malta 899-2818	Pickup 2 times a year. County Waste picks up curbside also – FREE	Join with Clifton Park in September, annually	Join with Clifton Park in September, annually
City of Mechanicville 664-7171	Pickup daily – Tree limbs on Fri.	County Waste dumpsters	N/A
Town of Milton 885-5655	Stump Dump-Compost. Transfer Station Drop Off = 8 to 1pm Sat. Also 2pickups per year.	Join with other Towns (if \$ in budget) for one day	Join with other Towns (if \$ in budget) for one day
Town of Moreau 798-8126 Nancy/Transfer Station	Brush/Limb pickup in Spring – ground into mulch. Drop off at Transfer Station of leaves – mulched	Small fee at Transfer Station – brought to Hiram Hollow or Ray Supply. Also annual pickup by Waste Mgt.	Join with Town of Wilton when they have a day
Town of Northumberland 793-6901	No Leaf program. Brush & road kill-composted. Branches are chipped into mulch – pickup in right of way-2to3 times	Waste Management roll off – single stream recycling	Join with Town of Wilton when they have a day
Town of Providence 882-6067	N/A	N/A	Join with other Towns (if \$ in budget) for one day
Town of Saratoga 695-3904 Cell 796-1293	No Lawn debris. Brush dropped off at Landfill April – Nov.1 <sup>st</sup> Sat.	N/A	N/A
City of Saratoga Springs 587-3550 x 2563 Joette	Branches 4' 2" Dia. At curb – once a week. Leaves @curb, bagged, one day-composted	N/A	N/A
Town of Stillwater 664-6148 x 206	2 – 3 times per year, drop off at garage – small charge per vehicle	N/A	2 – 3 times per year, drop off at garage – small charge per vehicle

<b>Town</b>	<b>Yard Waste</b>	<b>E-Waste</b>	<b>Household Hazardous Waste</b>
Town of Waterford 235-3413	Pickup – 4’ bundles. Leaf bags/vac = Fall – brought to CP Transfer	Take for FREE – Fall & Spring – to CP Transfer	Take for FREE – October – to CP Transfer
Town of Wilton 584-4588	County Waste collects – FREE Saturdays April thru November	N/A	Join with other Towns, every other year.
Village of Ballston Spa 885-6211	Vacuum leaf collection – composted. Brush & branches to dumpsite and then buried	Possibly join with Town of Milton HHW day – ewaste also collected	Possibly join with Town of Milton HHW day
Village of Round Lake 899-2800	Weekly – turned into mulch. County Waste collection bi-annually	N/A	Join with Clifton Park in September, annually
Village of Corinth 654-2373	Trees & branches to landfill. Pickup of leaves in Fall-no bags = all brought to resident who composts	N/A	N/A
Village of Schuylerville 695-3675	No information available at time of report.		
Village of S. Glens Falls 792-4033	Branches –Transfer station. Leaves picked up 2 times/local farmer	N/A	N/A
Village of Stillwater 664-6258	Picked up during Nov. in bags or piles/farmer across river gets all	2 – 3 times per year with the Town of Stillwater	2 – 3 times per year with the Town of Stillwater
Village of Victory Mills 695-3808	Picked up Oct. – snow = leaves, branches. A resident composts	Large items, including electronics, every other yr. – Hiram Hollow	N/A
Village of Waterford 235-9898	No information available at time of report.		



## **Appendix B**

### **Detailed Waste Composition Spreadsheets**

## **B.1 – MSW Composition Tables**

## Step 1. Planning Unit and Plan Period Selection

Please, select from the drop-down list the name of your **planning unit** and the **planning period** of your **LSWMP**. Be aware that a LSWMP must be developed for a **10-year period**, and that your selection will be replicated on each one of the following tabs.

<b>Planning Unit</b>	Saratoga County
<b>Planning Period</b>	2019-2029

## Step 2. Waste Generation Rate

In order to project how the amount of waste generated in the planning unit will change over time, data regarding the current amount of waste generated by the planning unit is needed. This can be the total tons of waste generated by the planning unit in the current year (**Tons/yr**), or this can be the estimated daily quantity of waste generated per person in the planning unit (**lb/person/day**). If both the total annual generation and the estimated generation rate per person are unknown, the state average for MSW generation rate can be used along with the planning unit's population to estimate the total amount of waste generated in the planning unit.

For this step, select **one** of the options that describes the known information about the planning unit. Enter the waste generated in Tons (MSW disposed & Recycled Materials) or the waste generation rate in lb/person/day in the **purple cell**. If no data on the waste generated in the planning unit is available, choose the corresponding option from the list. The calculator will estimate the total amount of waste generated based on the state's average generation rate and the planning unit's population.

### Saratoga County

The amount of waste generated (by all residents, institutions, etc.) in the planning unit will be based on what is known. If the MSW generation amount and the generation rate are unknown, the state average for MSW generation rate will be used.

I know the amount of MSW generated (Tons/year):

Enter tons disposed here:

461,908.00

The planning unit Average MSW Generation Rate (lb/person/day) is:

The amount of MSW Generated and the planning unit Average MSW Generation Rate are unknown.

Enter tons diverted here:

50,180.00

## Step 3. Planning Unit Population - Projections & Municipal Solid Waste (MSW) - Projections

This tab will provide you with population projections and MSW generation projections for the planning period you had previously selected. It is recognized that Municipal Solid Waste (MSW) generation is reliant on population changes, hence, it is necessary to project both and identify their correlation.

In the first **purple cell** enter the total tons of MSW that was disposed in the year immediately before your plan period starts. For example: If the plan period is 2016-2026, the MSW disposed data should be from 2015.

**Population Projection:**

Calculations are determined by a linear regression based on the latest census population data and an annual growth rate percentage specific to the planning unit. If it is anticipated that the population is going to decrease over time, the minus sign (-) will be used.

**MSW Generation Projection:**

The MSW generation rate (Lb/person/day) calculated on the previous tab from the **Waste Generation Rate** will serve as a start point for the planning period. On the calculator, three options are considered to anticipate the MSW generation over time, and one must be selected according to the goals of the planning unit.

**First Option:**

MSW generation rate **does not change**. Consequently, MSW generation fluctuates with the population of the planning unit. If the population increases, waste generation will rise as well, and vice versa. By selecting this option, the planning unit is in **"status quo"**, meaning that is not making any improvements, and consequently is getting far from reaching the State's goal by 2030.

**Second Option:**

MSW generation **amount** remains the same, regardless of whether or not the planning unit's population changes.

**Third Option:**

As a result of successfully implementing the Local Solid Waste Management Plan, MSW generation will be reduced by an annual factor of...

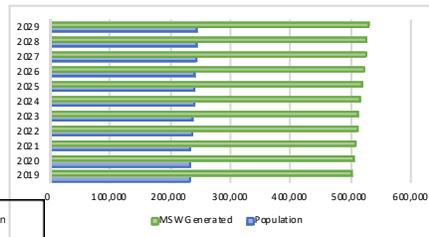
An **Annual Factor of Reduction (%)** should be calculated, defined, and selected by the planning unit. This factor will be the numerical representation of one of the planning unit's goals for the planning period. Once calculated, the Annual Factor of Reduction can be chosen from the drop down list provided.

**Note:**

The graphic will display the Population and MSW Generation projections over the selected planning period. It has been designed to visualize the contrast of the final outcomes, based on the selections of each planning unit.

### Saratoga County 2019-2029

Current Data	
2010 Population Census	219,607
2018 Population	236,863
2018 MSW Generated (Tons/yr)	512,088
2018 MSW generation rate (Lb/person/day)	10.69
2018 MSW Disposed (Tons/yr)	461,908
2018 MSW Diverted (Tons/yr)	50,180



- MSW generation rate does not change. Consequently, MSW generation fluctuates with the population of the planning unit, if the population increases, waste generation will rise as well, and vice versa.
- MSW generation amount remains the same, regardless of whether or not the planning unit's population fluctuates.
- As a result of successfully implementing the Local Solid Waste Management Plan, MSW generation will be reduced by an annual factor of ...

Annual rate of population growth (%)	0.53%
--------------------------------------	-------

Population Projection											
2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
232,769	234,009	235,249	236,496	237,749	239,010	240,276	241,550	242,830	244,117	245,411	

Forecasting future conditions... What do you expect to happen to the MSW generation rate over the next 10 year period plan?

Reduction Factor (per year) **1.0%**

MSW generation rate (Lb/person/day)	11.83
-------------------------------------	-------

MSW Generation Projection											
2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
11.83	11.83	11.83	11.83	11.83	11.83	11.83	11.83	11.83	11.83	11.83	(Lb/person/day)
502,369	505,046	507,722	510,413	513,118	515,838	518,572	521,320	524,083	526,861	529,653	Tons/yr



## Step 5. Municipal Solid Waste (MSW) Detailed Composition Analysis

On this tab, the composition of the municipal waste stream will be estimated based on the amount of material generated in the planning unit and the state average of the different waste materials. A pie chart will be generated to clearly show the composition of the waste stream and to identify key categories of the waste stream for the planning unit.

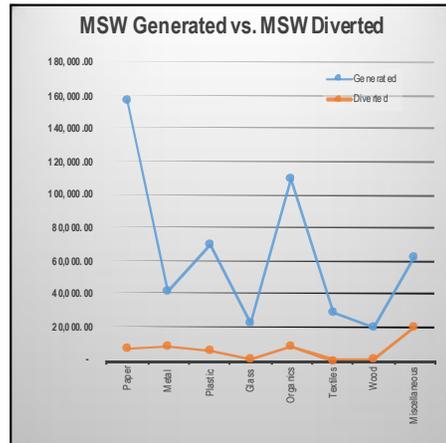
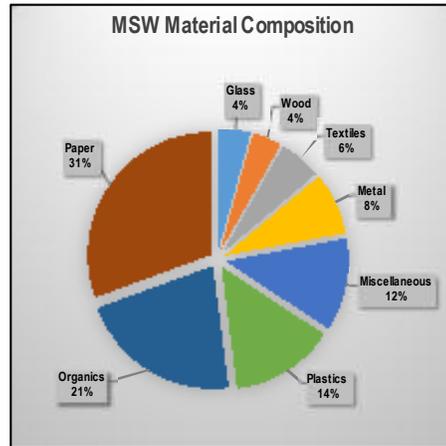
The total tons of MSW diverted per year will be auto populated based on previous data inputs, while the amounts tons diverted for each material by category should be populated by the   Purple cells   should be used for amounts of diverted waste by type of material, and a totaled number by category (e.g. paper, metal) should be put in the   green cells. After inputting the data, a graphic will be generated to show the MSW generation and diversion streams in Tons.

Make sure that the total amounts at the bottom of the page are consistent with the data you already put into the calculator. If the cell is highlighted in   red, you should revise the amounts of diverted waste by category.

**Saratoga County**

**2019-2020**

		2016		
		MSW Materials Composition	MSW Generated (Tons)	MSW Diverted (Tons)
Material		100.0%	512,088	50,180
Paper	Newspaper	4.2%	21,426	2,280
	Corrugated Cardboard	8.7%	44,665	3,788
	Other Recyclable Paper (Total)	11.1%	57,043	758
	Other Compostable Paper	6.5%	33,488	0
	<b>Total Paper</b>	<b>30.6%</b>	<b>156,620</b>	<b>6,826</b>
Metal	Ferrous/Aluminum Containers (Total)	1.8%	9,153	1,932
	Other Ferrous Metals	5.2%	26,530	7,179
	Other Non-Ferrous Metals (Total)	1.2%	6,274	10
	<b>Total Metals</b>	<b>8.2%</b>	<b>41,957</b>	<b>9,121</b>
Plastic	PET Containers	0.9%	4,735	15
	HDPE Containers	0.9%	4,506	0
	Other Plastic (3-7) Containers	0.2%	977	195
	Film Plastic	5.6%	28,923	0
	Other Plastic (Total)	6.1%	31,058	5,730
	<b>Total Plastics</b>	<b>13.7%</b>	<b>70,200</b>	<b>5,940</b>
Glass	Glass Bottles, Jars and Containers	3.9%	20,100	408
	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.4%	1,926	0
	<b>Total Glass</b>	<b>4.3%</b>	<b>22,027</b>	<b>408</b>
Organics	Food Scraps	13.6%	69,641	0
	Leaves and Grass / Pruning and Trimmings	7.9%	40,214	7,970
<b>Total Organics</b>	<b>21.5%</b>	<b>109,855</b>	<b>7,970</b>	
Textiles	Clothing Footwear, Towels, Sheets	4.1%	20,899	0
	Carpet	1.5%	7,844	0
<b>Total Textiles</b>	<b>5.6%</b>	<b>28,743</b>	<b>0</b>	
Wood	<b>Total Wood (Pallets, crates, adulterated and non-adulterated wood)</b>	<b>3.9%</b>	<b>20,173</b>	<b>199</b>
Miscellaneous	DIY Construction & Renovation Materials	4.9%	25,073	14,013
	Diapers	1.8%	9,160	0
	Electronics	1.5%	7,802	5,601
	Tires	1.6%	8,371	102
	HHW	0.4%	2,170	0
	Soils and Fines	0.3%	1,418	0
	Other Composite Materials- Durable and/or inert	1.7%	8,519	0
	<b>Total Miscellaneous</b>	<b>12.2%</b>	<b>62,512</b>	<b>19,716</b>
<b>Total</b>		<b>100.0%</b>	<b>512,088</b>	<b>50,180</b>





### Step 7. Municipal Solid Waste (MSW) Generation and Diversion - Detailed Projections

The final result of the Population and Municipal Composition Calculator is presented on the last tab. This tab contains data for the current year regarding waste generated and waste diverted from disposal. This tab also shows the projected waste diversion percentages and the amount of waste in tons these percentages will divert for recycling. Total amounts of waste diverted will be calculated for each material and each year of the planning period.

#### Saratoga County

2019-2029

Material	MSW Materials Composition (%)	2018			2019			2020			2021			2022			2023			2024			2025			2026			2027			2028			2029		
		MSW Generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted (Tons)	% MSW Diverted						
<b>Paper</b>	<b>100.0%</b>	<b>512,088</b>	<b>50,189</b>	<b>9.8%</b>	<b>502,369</b>	<b>49,697</b>	<b>9.9%</b>	<b>505,546</b>	<b>50,629</b>	<b>10.1%</b>	<b>497,722</b>	<b>50,838</b>	<b>10.2%</b>	<b>510,413</b>	<b>50,370</b>	<b>9.9%</b>	<b>515,118</b>	<b>51,847</b>	<b>10.1%</b>	<b>515,838</b>	<b>51,432</b>	<b>9.9%</b>	<b>518,572</b>	<b>51,972</b>	<b>10.0%</b>	<b>521,328</b>	<b>52,135</b>	<b>10.0%</b>	<b>524,063</b>	<b>52,466</b>	<b>10.0%</b>	<b>526,811</b>	<b>52,568</b>	<b>10.0%</b>	<b>529,553</b>	<b>52,917</b>	<b>10.0%</b>
Newspaper	4.18%	21,426	2,280	10.6%	21,019	2,312	11.0%	21,131	2,536	12%	21,243	2,762	13.0%	21,355	2,990	14.0%	21,467	3,213	14.9%	21,579	3,437	15.9%	21,691	3,661	16.9%	21,803	3,885	17.8%	21,915	4,109	18.8%	22,027	4,333	19.7%	22,139	4,567	20.7%
Corrugated Cardboard	8.72%	44,665	3,788	8.5%	43,817	4,601	10.5%	44,050	5,066	12%	44,284	5,646	12.8%	44,519	5,899	13.3%	44,755	6,378	14.3%	44,992	6,857	15.2%	45,230	7,350	16.3%	45,470	7,844	17.3%	45,711	8,342	18.3%	45,953	8,846	19.3%	46,197	9,355	20.3%
Other Recyclable Paper	88.10%	446,007	46,809	10.5%	437,533	42,784	9.8%	440,445	44,963	10.2%	436,275	44,939	10.3%	445,639	43,581	9.8%	450,644	45,569	10.1%	451,647	46,120	10.2%	452,651	46,673	10.3%	453,655	47,219	10.4%	454,659	47,723	10.5%	455,663	48,227	10.6%	456,667	48,731	10.7%
Paperboard	2.63%	13,446	0	0.0%	13,191	0	0.0%	13,261	0	0%	13,332	0	0%	13,402	0	0%	13,473	0	0%	13,545	0	0%	13,616	0	0%	13,688	0	0%	13,760	0	0%	13,834	0	0%	13,907	0	0%
Office Paper	1.82%	9,308	0	0.0%	9,132	0	0.0%	9,180	0	0%	9,229	0	0%	9,278	0	0%	9,327	0	0%	9,377	0	0%	9,426	0	0%	9,476	0	0%	9,526	0	0%	9,577	0	0%	9,628	0	0%
Junk Mail	2.44%	12,480	0	0.0%	12,243	0	0.0%	12,309	0	0%	12,374	0	0%	12,439	0	0%	12,505	0	0%	12,572	0	0%	12,638	0	0%	12,705	0	0%	12,772	0	0%	12,840	0	0%	12,908	0	0%
Other Commercial Printing	1.91%	9,779	0	0.0%	9,594	0	0.0%	9,645	0	0%	9,696	0	0%	9,747	0	0%	9,799	0	0%	9,851	0	0%	9,903	0	0%	9,955	0	0%	10,008	0	0%	10,061	0	0%	10,115	0	0%
Magazines	0.98%	5,007	0	0.0%	4,912	0	0.0%	4,938	0	0%	4,965	0	0%	4,991	0	0%	5,017	0	0%	5,044	0	0%	5,071	0	0%	5,098	0	0%	5,125	0	0%	5,152	0	0%	5,179	0	0%
Books	0.45%	2,280	0	0.0%	2,237	0	0.0%	2,249	0	0%	2,261	0	0%	2,273	0	0%	2,285	0	0%	2,297	0	0%	2,309	0	0%	2,321	0	0%	2,334	0	0%	2,346	0	0%	2,358	0	0%
Paper Bags	0.42%	2,127	0	0.0%	2,086	0	0.0%	2,098	0	0%	2,110	0	0%	2,122	0	0%	2,134	0	0%	2,146	0	0%	2,158	0	0%	2,170	0	0%	2,182	0	0%	2,194	0	0%	2,206	0	0%
Phone Books	0.30%	1,531	0	0.0%	1,502	0	0.0%	1,510	0	0%	1,518	0	0%	1,526	0	0%	1,534	0	0%	1,543	0	0%	1,551	0	0%	1,559	0	0%	1,567	0	0%	1,576	0	0%	1,584	0	0%
Poly-Coated	0.21%	1,083	0	0.0%	1,062	0	0.0%	1,068	0	0%	1,074	0	0%	1,079	0	0%	1,085	0	0%	1,091	0	0%	1,097	0	0%	1,103	0	0%	1,108	0	0%	1,114	0	0%	1,120	0	0%
Other Recyclable Paper (Total)	11.14%	57,043	759	1.3%	55,950	855	1.6%	56,258	2,250	4%	56,556	2,404	4.3%	56,856	2,559	4.5%	57,157	3,001	5.3%	57,460	3,045	5.3%	57,765	3,119	5.4%	58,071	3,194	5.5%	58,379	3,269	5.6%	58,688	3,345	5.7%	58,999	3,392	5.8%
Other Compostable Paper	0.54%	33,488	0	0.0%	32,852	0	0.0%	33,028	0	0%	33,202	0	0%	33,378	0	0%	33,555	0	0%	33,733	0	0%	33,912	0	0%	34,091	0	0%	34,272	0	0%	34,454	0	0%	34,638	0	0%
<b>Total Paper</b>	<b>30.95%</b>	<b>106,620</b>	<b>8,828</b>	<b>8.3%</b>	<b>105,648</b>	<b>7,808</b>	<b>7.4%</b>	<b>104,666</b>	<b>9,822</b>	<b>9%</b>	<b>103,684</b>	<b>10,811</b>	<b>10.4%</b>	<b>102,702</b>	<b>11,800</b>	<b>11.5%</b>	<b>101,720</b>	<b>12,789</b>	<b>12.6%</b>	<b>100,738</b>	<b>13,778</b>	<b>13.7%</b>	<b>99,756</b>	<b>14,767</b>	<b>14.8%</b>	<b>98,774</b>	<b>15,756</b>	<b>15.9%</b>	<b>97,792</b>	<b>16,745</b>	<b>17%</b>	<b>96,810</b>	<b>17,734</b>	<b>18.1%</b>	<b>95,828</b>	<b>18,723</b>	<b>19.2%</b>
<b>Metal</b>																																					
Ferrous/Aluminum Containers	1.24%	6,311	0	0.0%	6,250	1,044	16.7%	6,283	1,181	19%	6,317	1,319	20.9%	6,350	1,459	23.0%	6,384	1,600	25.1%	6,418	1,742	27.1%	6,452	1,886	29.2%	6,486	2,032	31.3%	6,520	2,179	33.4%	6,555	2,327	35.5%	6,590	2,477	37.6%
Aluminum Containers	0.54%	2,782	0	0.0%	2,729	199	7.3%	2,743	225	8%	2,758	251	9.1%	2,773	278	10%	2,787	305	10.9%	2,802	332	11.9%	2,817	360	12.8%	2,832	387	13.7%	2,847	415	14.6%	2,862	444	15.5%	2,877	472	16.4%
Other Ferrous Metals	5.18%	26,530	7,179	27.1%	26,027	7,992	30.7%	26,186	7,261	28%	26,344	7,431	28.2%	26,503	7,601	28.7%	26,662	7,771	29.2%	26,821	7,941	29.6%	26,980	8,111	30.1%	27,139	8,281	30.5%	27,298	8,451	30.9%	27,457	8,621	31.4%	27,616	8,791	31.8%
Other Non-Ferrous Metals	0.23%	1,173	0	0.0%	1,150	0	0.0%	1,157	0	0%	1,163	0	0%	1,169	0	0%	1,175	0	0%	1,181	0	0%	1,188	0	0%	1,194	0	0%	1,200	0	0%	1,207	0	0%	1,213	0	0%
Automotive batteries	0.63%	3,232	0	0.0%	3,170	0	0.0%	3,187	0	0%	3,204	0	0%	3,221	0	0%	3,238	0	0%	3,255	0	0%	3,273	0	0%	3,290	0	0%	3,307	0	0%	3,325	0	0%	3,343	0	0%
Other non-aluminum	0.37%	1,870	0	0.0%	1,834	0	0.0%	1,844	0	0%	1,854	0	0%	1,864	0	0%	1,874	0	0%	1,883	0	0%	1,893	0	0%	1,903	0	0%	1,914	0	0%	1,924	0	0%	1,934	0	0%
<b>Total Metals</b>	<b>7.19%</b>	<b>41,357</b>	<b>9,121</b>	<b>22.1%</b>	<b>41,161</b>	<b>9,263</b>	<b>22.5%</b>	<b>41,360</b>	<b>9,717</b>	<b>23%</b>	<b>41,560</b>	<b>10,175</b>	<b>24.5%</b>	<b>41,760</b>	<b>10,638</b>	<b>25.4%</b>	<b>41,960</b>	<b>11,106</b>	<b>26.4%</b>	<b>42,160</b>	<b>11,578</b>	<b>27.4%</b>	<b>42,360</b>	<b>12,050</b>	<b>28.4%</b>	<b>42,560</b>	<b>12,522</b>	<b>29.4%</b>	<b>42,760</b>	<b>13,028</b>	<b>30.3%</b>	<b>42,960</b>	<b>13,514</b>	<b>31.3%</b>	<b>43,160</b>	<b>14,010</b>	<b>32.3%</b>
<b>Plastic</b>																																					
PE Containers	0.82%	4,726	15	0.3%	4,646	46	1.0%	4,670	93	2%	4,695	141	3.0%	4,720	189	4.0%	4,745	237	5.0%	4,770	286	6.0%	4,795	336	7.0%	4,821	386	8.0%	4,846	436	9.0%	4,872	487	10.0%	4,898	538	11.0%
HDPE Containers	0.88%	4,508	0	0.0%	4,427	22	0.5%	4,444	44	1%	4,468	87	1.9%	4,492	130	2.9%	4,516	174	3.9%	4,539	218	4.8%	4,564	263	5.8%	4,588	307	6.7%	4,612	351	7.6%	4,636	395	8.5%	4,661	439	9.4%
Other Plastic (E-T) Containers	0.19%	977	195	20.0%	959	162	16.8%	964	196	21%	969	201	20.8%	974	205	21.0%	979	209	21.3%	984	212	21.5%	989	215	21.8%	995	219	22.0%	1,000	222	22.3%	1,005	225	22.6%	1,011	228	22.8%
Film Plastic	5.65%	28,823	0	0.0%	28,374	162	0.6%	28,525	285	1%	28,676	430	1.5%	28,828	577	2.0%	28,981	647	2.3%	29,134	814	2.8%	29,288	1,025	3.5%	29,444	1,176	4.0%	29,600	1,322	4.5%	29,757	1,468	5.0%	29,915	1,615	5.4%
Other Plastic	3.08%	15,803	0	0.0%	15,503	0	0.0%	15,588	0	0%	15,688	0	0%	15,791	0	0%	15,895	0	0%	15,999	0	0%	16,103	0	0%	16,208	0	0%	16,313	0	0%	16,418	0	0%	16,523	0	0%
Durables	1.66%	8,519	0	0.0%	8,357	0	0.0%	8,402	0	0%	8,446	0	0%	8,491	0	0%	8,536	0	0%	8,581	0	0%	8,627	0	0%	8,672	0	0%	8,719	0	0%	8,765					

## **B.2 – C&D Composition Tables**

# **C&D Debris Waste Composition and Projection tool**

## **Purpose and Background**

Construction and Demolition (C&D) debris is the second largest waste stream in the state and is estimated to account for 25 to 30% of the total solid waste generation. Basic understanding of the materials composition of the C&D debris stream, would facilitate the management strategy and planning process at a local level of this important but usually overlooked waste stream.

The purpose of the *C&D Debris Waste Composition and Projection tool* is to estimate the generation and materials composition of the C&D debris stream for each planning unit. Calculations are based on specific characteristics such as activity, and sector of generation of C&D debris, which consist of new construction, renovation, and demolition of residential and non-residential properties, or municipal infrastructures such as roads and bridges.

A comprehensive knowledge of the C&D debris stream, will assist the selection of initiatives and management programs that minimize environmental impacts. The implementation of reduction, recycling and reuse management practices extend the lifecycle of materials and conserve the use of raw materials, water, and energy, reduce the overall building project expenses through avoiding unnecessary purchases and disposal costs, and conserve landfill space among many other benefits.

This projection tool is not intended to substitute for the valuable information gained by performing municipal waste characterization studies. There is no substitute for accurately gathered and analyzed municipal specific waste composition data. This tool is merely intended to help refine the waste composition differences between planning units as a result of the wide array of demographics in New York State.

For this tool, DEC developed estimates of materials composition in the C&D debris waste stream using data inputs that include field-based waste composition studies and research-based evaluations performed within New York State and in other major US cities and States that have similar characteristics to some of New York's regions.

After a careful review of dozens of composition analyses, the material composition of the (C&D) debris waste stream was found to be on average of RUCARB (recognizable uncontaminated concrete, asphalt, rock, and brick), wood, roofing, drywall, soil and gravel, metal, plastic, corrugated cardboard and paper, and other miscellaneous materials. The data from the following sources were used:

- Municipalities within New York State: New York City and Town of Babylon.
- Municipalities in other states: Seattle, WA and Des Moines, IA.
- Other States: Vermont, Wisconsin, Oregon, Delaware, Minnesota, Florida, and California.
- EPA

## **Step 1. Planning Unit and Planning Period Selection**

Please, select from the drop-down-list the name of your **planning unit** and the **planning period** of your **LSWMP**. Be aware that a LSWMP must be developed for a **10-year period**, and that your selection will be replicated on each one of the following tabs.

<b>Planning Unit</b>	Saratoga County
<b>Planning Period</b>	2019-2029

## Step 2. Construction & Demolition (C&D) Debris Material Composition Analysis

In order to identify the Materials Composition of the C&D Debris waste stream, it is necessary to define the sources of the waste first.

Construction and demolition (C&D) Debris consists of waste that is generated during renovation, demolition or new construction of residential and non residential properties. It also includes the new construction and/or renovation of municipal infrastructure, such as roadways, park facilities, bike trails, bridges, etc. The user should estimate these values and enter them in the purple cells.

The results are presented on the last right column under C&D Debris Waste Stream Composition. Be aware of color changes on the cells, whenever a category represents over 15% of the total generation, the cell will turn red to easy identify key categories on the waste stream. It will also aid with the selection of isolated initiatives, programs, and infrastructure for the solid waste management system.

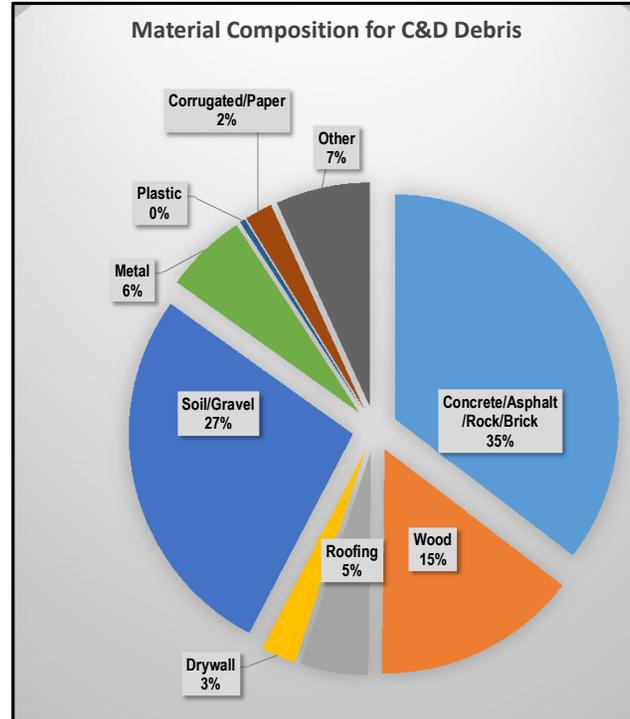
**Note:**

- The graphic displays the planning unit's C&D Debris generation data by material categories. It has been designed to help visualize the more representative categories of the waste stream.

**Saratoga County**

**2019-2029**

		Generation source								
		Residential				Non- Residential (commercial-institutional)				Other Municipal Infra-structure
		17.00%				25.00%				58.00%
		New Construction	Renovation	Demolition	Combined Residential	New Construction	Renovation	Demolition	Combined Non-Residential	Renovation
		11.00%	29.00%	60.00%	100.00%	13.00%	48.00%	39.00%	100.00%	100.00%
Materials	Concrete/Asphalt/Rock/Brick	9.80%	16.10%	21.50%	18.65%	30.70%	19.10%	23.10%	22.17%	46.00%
	Wood	29.90%	19.10%	25.70%	24.25%	22.70%	12.40%	24.20%	18.34%	10.50%
	Roofing	6.00%	22.00%	6.10%	10.70%	2.10%	21.20%	5.10%	12.44%	0.00%
	Drywall	15.60%	7.90%	5.10%	7.07%	4.60%	6.40%	4.30%	5.35%	0.00%
	Soil/Gravel	11.30%	7.10%	18.50%	14.40%	13.10%	6.50%	15.60%	10.91%	38.00%
	Metal	5.30%	11.30%	5.20%	6.98%	12.00%	15.50%	11.10%	13.33%	2.40%
	Plastic	1.50%	0.70%	0.30%	0.55%	0.50%	0.70%	0.30%	0.52%	0.30%
	Corrugated cardboard/Paper	9.30%	2.90%	3.10%	3.72%	7.10%	4.60%	4.20%	4.77%	0.30%
	Other	11.30%	12.90%	14.50%	13.68%	7.20%	13.60%	12.10%	12.18%	2.50%
	Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



C&D Debris Materials Composition (%)
100.00%
35.39%
14.80%
4.93%
2.54%
27.22%
5.91%
0.40%
2.00%
6.82%
100.00%

### Step 3. Construction & Demolition (C&D) Debris Generation Projections

This step will estimate the amount of waste generated for each material based on the total amount of waste generated in that year. In the **purple cells** enter the amount of waste generated in the Planning Unit. It will be a known amount for the first year, **2018** and an estimate of what will be generated for each year of the planning period, **2019-2029**

**Saratoga County**

**2019-2029**

		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Materials	C&D Debris Materials Composition (%)	C&D Debris Generated (Tons)											
	Concrete/Asphalt /Rock/Brick	35.4%	20,965.5	21,235.2	21,412.2	21,589.1	21,766.1	21,943.0	22,120.0	22,297.0	22,473.9	22,650.9	22,827.8
	Wood	14.8%	8,765.7	8,878.4	8,952.4	9,026.4	9,100.4	9,174.4	9,248.4	9,322.4	9,396.4	9,470.3	9,544.3
	Roofing	4.9%	2,919.5	2,957.1	2,981.7	3,006.4	3,031.0	3,055.7	3,080.3	3,105.0	3,129.6	3,154.2	3,178.9
	Drywall	2.5%	1,503.5	1,522.9	1,535.6	1,548.3	1,561.0	1,573.6	1,586.3	1,599.0	1,611.7	1,624.4	1,637.1
	Soil/Gravel	27.2%	16,121.7	16,329.1	16,465.1	16,601.2	16,737.3	16,873.4	17,009.4	17,145.5	17,281.6	17,417.7	17,553.7
	Metal	5.9%	3,501.5	3,546.5	3,576.1	3,605.6	3,635.2	3,664.7	3,694.3	3,723.8	3,753.4	3,782.9	3,812.5
	Plastic	0.4%	235.0	238.0	240.0	242.0	243.9	245.9	247.9	249.9	251.9	253.9	255.8
	Corrugated cardboard/Paper	2.0%	1,184.4	1,199.6	1,209.6	1,219.6	1,229.6	1,239.6	1,249.6	1,259.6	1,269.6	1,279.6	1,289.6
	Other	6.8%	4,041.2	4,093.2	4,127.3	4,161.4	4,195.5	4,229.7	4,263.8	4,297.9	4,332.0	4,366.1	4,400.2
<b>Total</b>	<b>100.0%</b>	<b>59,238.0</b>	<b>60,000.0</b>	<b>60,500.0</b>	<b>61,000.0</b>	<b>61,500.0</b>	<b>62,000.0</b>	<b>62,500.0</b>	<b>63,000.0</b>	<b>63,500.0</b>	<b>64,000.0</b>	<b>64,500.0</b>	

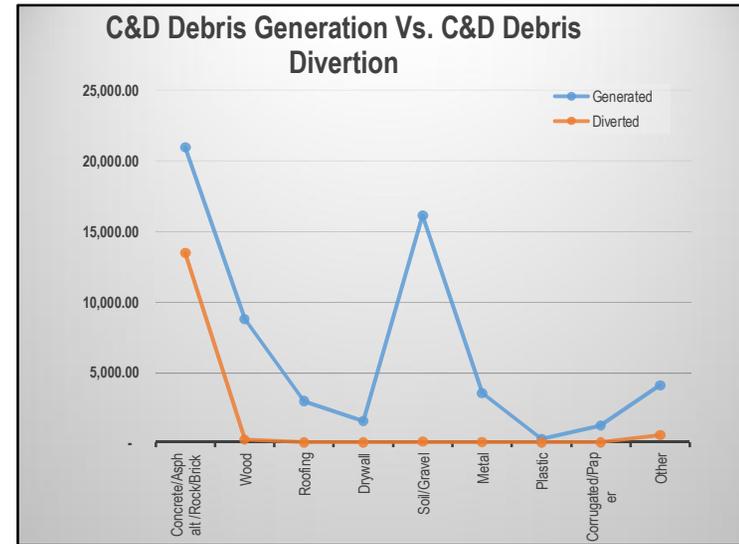
## Step 4. Construction & Demolition (C&D) Debris Diversion Projections

Based on the total amount of C&D debris generated in the Planning Unit, which was entered in Step 3, this step will be used to calculate the % of this material that is diverted from the C&D debris waste stream. For this step, enter the amount of waste diverted for each material in the purple cells.

**Saratoga County**

**2019-2029**

	C&D Debris Materials Composition (%)	2018			
		C&D Debris Generated (Tons)	C&D Debris Diverted (Tons)	% C&D Diverted	
<b>Materials</b>	Concrete/Asphalt/Rock/Brick	35.4%	20,965.5	13,459.0	64.2%
	Wood	14.8%	8,765.7	199.0	2.3%
	Roofing	4.9%	2,919.5	0.0	0.0%
	Drywall	2.5%	1,503.5	0.0	0.0%
	Soil/Gravel	27.2%	16,121.7	32.0	0.2%
	Metal	5.9%	3,501.5	17.0	0.5%
	Plastic	0.4%	235.0	0.0	0.0%
	Corrugated cardboard/Paper	2.0%	1,184.4	0.0	0.0%
	Other	6.8%	4,041.2	505.0	12.5%
<b>Total</b>		<b>100.0%</b>	<b>59,238.0</b>	<b>14,212.0</b>	<b>24.0%</b>



### Step 5. Construction and Demolition (C&D) Debris Generation and Diversion Projections

This tab will be used to create goals for the amount of C&D debris the planning unit will divert for each year of the planning period. These goals will be entered as percentages, based on how much of the material generated that will be diverted for recycling or beneficial use. The diversion goal percentages will be entered in the purple cells for each material and each year of the planning period.

#### Saratoga County

2019-2029

	C&D Debris Materials Composition (%)	2018			2019			2020			2021			2022			2023			2024			2025			2026			2027			2028			
		C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted	C&D Debris Generated (Tons)	C&D Debris Diverted	% C&D Diverted				
Materials	Concrete/Asphalt/Rock/Brick	35.4%	20,965.5	13,459.0	64.2%	21,235.2	14,864.6	70.0%	21,412.2	15,059.1	70.3%	21,588.1	15,271.3	70.7%	21,766.1	15,561.2	71.3%	21,943.0	15,848.7	72.2%	22,120.0	16,134.0	72.9%	22,297.0	16,420.0	73.7%	22,473.9	16,705.3	74.3%	22,650.9	16,980.5	75.0%	22,827.8	17,255.4	75.6%
	Wood	14.8%	8,762.7	1,991.0	2.3%	8,878.4	44.4	0.5%	8,992.4	89.5	1.0%	9,106.4	135.4	1.5%	9,219.4	182.0	2.0%	9,331.0	229.4	2.5%	9,442.0	277.5	3.0%	9,552.4	326.3	3.5%	9,663.4	374.9	4.0%	9,773.9	423.5	4.5%	9,884.8	472.7	5.0%
	Roofing	4.9%	2,919.5	0.0	0.0%	2,957.1	0.0	0.0%	2,991.7	0.0	0.0%	3,026.4	0.0	0.0%	3,061.0	0.0	0.0%	3,095.7	0.0	0.0%	3,130.3	0.0	0.0%	3,165.0	0.0	0.0%	3,199.6	0.0	0.0%	3,234.2	0.0	0.0%	3,268.9	0.0	0.0%
	Drywall	2.9%	1,503.5	0.0	0.0%	1,522.9	0.0	0.0%	1,535.6	0.0	0.0%	1,548.3	0.0	0.0%	1,561.0	0.0	0.0%	1,573.6	0.0	0.0%	1,586.3	0.0	0.0%	1,599.0	0.0	0.0%	1,611.7	0.0	0.0%	1,624.4	0.0	0.0%	1,637.1	0.0	0.0%
	Soil/Gravel	27.2%	16,121.7	32.0	0.2%	16,329.1	81.6	0.5%	16,465.1	329.3	2.0%	16,601.2	696.1	4.2%	16,737.3	1,073.7	6.4%	16,873.4	1,451.2	8.6%	17,009.4	1,828.7	10.7%	17,145.5	2,204.4	12.8%	17,281.6	2,580.2	14.9%	17,417.7	2,955.9	17.0%	17,553.8	3,302.4	18.8%
	Metal	5.9%	3,501.5	17.0	0.5%	3,546.5	35.5	1.0%	3,576.1	71.5	2.0%	3,605.6	138.2	3.8%	3,635.2	204.9	5.6%	3,664.7	271.6	7.4%	3,694.3	338.3	9.2%	3,723.8	405.0	10.9%	3,753.4	472.7	12.6%	3,782.9	540.5	14.3%	3,812.5	612.2	16.1%
	Plastic	0.4%	235.0	0.0	0.0%	238.0	0.0	0.0%	242.0	0.0	0.0%	245.0	0.0	0.0%	249.0	0.0	0.0%	252.0	0.0	0.0%	256.0	0.0	0.0%	259.0	0.0	0.0%	263.0	0.0	0.0%	267.0	0.0	0.0%	271.0	0.0	0.0%
	Corrugated Paper	2.0%	1,184.4	0.0	0.0%	1,199.6	0.0	0.0%	1,209.6	0.0	0.0%	1,219.6	0.0	0.0%	1,229.6	0.0	0.0%	1,239.6	0.0	0.0%	1,249.6	0.0	0.0%	1,259.6	0.0	0.0%	1,269.6	0.0	0.0%	1,279.6	0.0	0.0%	1,289.6	0.0	0.0%
	Other	6.8%	4,041.2	505.0	12.5%	4,093.2	532.1	13.0%	4,127.3	557.2	13.5%	4,161.4	665.8	16.0%	4,195.5	823.3	19.6%	4,229.7	1,011.1	23.9%	4,263.8	1,204.4	28.3%	4,297.9	1,395.5	32.5%	4,332.0	1,590.6	36.7%	4,366.1	1,781.7	40.8%	4,400.2	2,167.8	49.3%
	<b>Total</b>	<b>100.0%</b>	<b>59,238.0</b>	<b>14,212.0</b>	<b>24.0%</b>	<b>60,000.0</b>	<b>15,538.3</b>	<b>25.9%</b>	<b>60,500.0</b>	<b>17,106.7</b>	<b>28.3%</b>	<b>61,000.0</b>	<b>18,176.8</b>	<b>30.0%</b>	<b>61,500.0</b>	<b>19,194.6</b>	<b>31.2%</b>	<b>62,000.0</b>	<b>20,247.5</b>	<b>32.8%</b>	<b>62,500.0</b>	<b>21,334.4</b>	<b>34.1%</b>	<b>63,000.0</b>	<b>22,455.9</b>	<b>35.6%</b>	<b>63,500.0</b>	<b>23,612.2</b>	<b>37.2%</b>	<b>64,000.0</b>	<b>24,805.5</b>	<b>38.8%</b>	<b>64,500.0</b>	<b>26,037.2</b>	<b>40.4%</b>

## **Appendix C**

### **Responsiveness Summary**

The public comment period for the Draft Local Solid Waste Management Plan (LSWMP) commenced on February 27, 2019. It was advertised in the Saratogian, the newspaper of record for Saratoga County, as well as being displayed on the County website. Copies of the draft LSWMP were made available for public review in the Saratoga County Department of Public Works located at 3654 Galway Road in Ballston Spa, as well as being displayed on the County website.

A public hearing was held at 10:00 a.m. on Wednesday, April 3, 2019 at the Saratoga County Building #5, Auditorium, 50 West High Street, Ballston Spa, New York for the purpose of hearing public comments. No members of the public attended the public hearing.

The public notice indicated that written comments would be received until April 15, 2019 and were provided with a mailing and an email address for comment submission.

No public comments were received on the draft LSWMP.

## **Appendix D**

### **Sample Biennial Update Outline**

**Saratoga County  
Local Solid Waste Management Plan**

**Biennial Update**

**Reporting Period:  
January 1, 20XX - December 31, 20XX**

**April 20XX**

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Appendices

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- Appendix B – 20XX Saratoga County Solid Waste and Recyclables Inventory

**Appendix E**

**Resolution Adopting Final LSWMP**



## **SARATOGA COUNTY BOARD OF SUPERVISORS**

### **RESOLUTION 222 - 2019**

**Introduced by Supervisors Szczepaniak, Allen, Grattidge, Kinowski, Raymond, Schopf and Smith**

#### **AUTHORIZING THE ADOPTION OF THE SARATOGA COUNTY LOCAL SOLID WASTE MANAGEMENT PLAN**

WHEREAS, the County of Saratoga is the planning unit responsible for developing a Local Solid Waste Management Plan ("LSWMP") pursuant to Section 27-0107, paragraph 1(a) of the Environmental Conservation Law of the State of New York; and

WHEREAS, on September 5, 2019 the New York State Department of Environmental Conservation issued a letter stating that the current draft of the updated LSWMP constitutes an approvable plan; and

WHEREAS, Section 366-4.1(d)(2) of the New York State Department of Environmental Conservation's solid waste management regulations contains several provisions that must be included in a planning unit's resolution to adopt a Final LSWMP, and such clauses are included herein as required; now, therefore, be it

RESOLVED, that the Saratoga County Board of Supervisors, acting as the solid waste planning unit for Saratoga County, hereby adopts the Saratoga County Final LSWMP; and, be it further

RESOLVED, that, as required by Sections 366-4.1(d)(2)(i), 366-4.1(d)(2)(ii), and 366-4.1(d)(2)(iii), of the New York State Department of Environmental Conservation's solid waste management regulations, the County of Saratoga will (i) adopt the Final LSWMP, effective upon the Department of Environmental Conservation's approval of the LSWMP, (ii) implement and maintain the solid waste management system described in the LSWMP, and (iii) submit biennial updates; and, be it further

RESOLVED, that the Clerk of the Board of Supervisors is hereby directed to send notices of the availability of the Final LSWMP to adjacent solid waste planning units and will ensure that an electronic copy of the Final LSWMP is made available for public review on the County's website; and, be it further

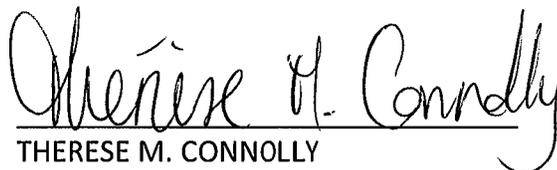
RESOLVED, that the Clerk of the Board of Supervisors is hereby directed to furnish all items to the New York State Department of Environmental Conservation as indicated in the September 5, 2019 letter referenced above.

**BUDGET IMPACT STATEMENT:** No budget impact.

STATE OF NEW YORK )  
COUNTY OF SARATOGA)

I, THERESE M. CONNOLLY, Deputy Clerk of the Board of Supervisors of Saratoga County, do hereby certify that the foregoing is a true copy, and the whole thereof, of a resolution duly adopted by the Board of Supervisors of said County, on the 15<sup>th</sup> day of October, 2019.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed hereto the official seal of said Board of Supervisors this 22<sup>nd</sup> day of October, 2019.



THERESE M. CONNOLLY

Deputy Clerk of the Board of Supervisors  
Saratoga County, New York