Tioga County

Local Solid Waste Management Plan
Draft

2024 - 2033

Prepared by Ellen Pratt,
Tioga County Sustainability Manager

October 2023

Table of Contents

Executive Summary

Abbreviations & Acronyms

1.0 Planning Unit Description & History

1.1 Size, Location, Population

1.1.1 Physical Setting

1.1.2 Demographics

1.2 Planning Unit Members

1.2.1 Neighboring Planning Units

1.3 Seasonal Variations and Unique Circumstances

1.4 Overview of Solid Waste Generation Sources Within Tioga County

1.4.1 Spring and Summer Residential and Agricultural Wastes

1.4.2 Schools

1.4.3 Libraries

1.4.4 Jail and Nursing Homes/Assisted Living

1.4.5 Special Events within the Planning Unit

1.5 Summary of Implementation of Previous LSWM

1.6 Summary of Changes to the Planning Unit

2.0 Tioga County's Current Solid Waste Management System

2.1 Waste Types

2.2 Availability of Generation and Recovery Estimates

2.2.1 Data Sources and Methodology

2.2.2 Estimation of Total Waste Generation in Tioga County

2.2.3 Estimation of Potential MSW Recovery

2.2.4 Estimation of Potential C&D Waste Recovery

3.0 Existing Program Description

3.1 Brief History

3.2 Current Solid Waste Management System

3.2.1 Landfill Facilities

3.2.2 Transfer Stations or Drop-Offs

3.2.3 Material Recovery Facility

3.3 Waste Reduction Programs

3.3.1 Hazardous Waste Program

3.3.2 Electronic Waste Program

3.3.2.1 Municipalities

3.3.2.2 Education & Outreach

3.3.3 Partnerships with Municipalities Cleanup Events

3.3.4 Household Battery and Fluorescent Bulb Program

3.3.5 Mercury Program

3.3.6 Prescription Program

4.0 Existing Administrative and Financial Structure

4.1 Staff in Charge of Implementing New System

4.2 Financial Structure

4.3 Laws, Regulations or Ordinances

4.3.1 Local Law

4.3.2 Waste Importation and Flow Control

4.4 Solid Waste Management Policies

5.0 Alternative Technology Evaluation

5.1 Waste Reduction Programs

5.1.1 Economics of Waste Reduction Plan

5.1.2 Education & Engagement

5.1.3 Biosolids Management

5.2 Reuse Programs

5.2.1 Innovative Reuse & Education

5.2.2 Paint and Hazardous Waste

5.2.3 Electronics

5.2.4 Product Stewardship Framework

5.3 Recycling Programs

5.3.1 Recycling in Tioga County

5.3.1.1 Addressing Contamination in Collected Recycling

5.3.1.2 Additional Material Recovery

5.3.2 Textile Reuse/Recycling

5.3.3 Borrow-A-Bin Program – Special Event Recycling

5.4 Reducing Food Waste & Organic Recovery

5.4.1 Backyard Composting Program

5.5 Enforcement Programs

5.6 Education & Outreach

5.6.1 Website

5.6.2 Printed Materials

5.6.3 In-Person Engagement & Outreach

5.6.4 Social Media

5.6.5 Advertisements

5.6.6 Videos

5.6.7 Press Releases

5.6.8 Radio/TV

5.6.9 Reports

5.7 Data Collection & Evaluation

5.8 Debris Management

5.9 C&D Reuse & Recovery

6.0 Implementation Schedule

7.0 Waste Stream Projections

Figure 1-1: Municipalities in Tioga County

Figure 1-2: LSWMP Administration Structure

Figure 1-3: Tioga County land use map

Figure 1.4: Tioga County Farm Districts

Figure 2-1: Estimated Waste Management Methods in Tioga County in 2020

Table 1-1: Population by Municipality

Table 1-2: Planning Unit Members with Potential Impacts or Opportunities That Could Affect LSWMP Implementation

Table 1-3: Neighboring Planning Units with Potential Impacts or Opportunities That Could Affect LSWMP Implementation

Table 1- 4: Impacts of Residential and Agricultural Wastes Within the Planning Unit

Table 1-5: Impacts of Schools Within the Planning Unit

Table 1-6: Impacts of Libraries Within the Planning Unit

Table 1-7: Impacts of Jail, Nursing Homes/Assisted Living Within the County

Table 1-8: Impacts of Special Events Within the Planning Unit

Table 2-1: Municipal Sewage Sludge Generation and Management Summary

Table 2-2: Estimation of Total 2020 Waste Tonnage by Management Method

Table 2- 3: Estimated MSW Recoverable Materials in Tioga County

Table 2- 4: Estimated C&D Debris Recoverable in Clinton County

Table 3-1: Out-of-County Solid Waste Landfills Servicing Tioga County Waste

Table 3-2: Solid Waste Facilities & MRF

Table 4-1: 2021-2023 Tioga County Solid Waste Budget

Appendix A – Resource Maps

Appendix B – Detailed Waste Composition Spreadsheets

B.1 - Municipal Solid Waste Combined Composition Analysis and Projections

B.2 – C&D Debris Combined Composition Analysis and Projections

Appendix C – Local Sources Separation Law

C.1 – Copy of the Local Source Separation Law

C.2 - Proposed Modification of the Local Source Separation Law

Appendix D – Examples of Existing Education & Outreach Materials

Appendix E – Alternative Technology Analysis Tables

Appendix F – Implementation Schedule

Appendix G – Example Compliance Report Outline

Executive Summary

The purpose of the Local Solid Waste Management Plan (LSWMP) is to: serve as a countywide framework for the coordination of solid waste management; establish countywide solid waste goals and objectives -- including goals for waste reduction, reuse, and recycling -- and a plan to monitor progress toward the goals; and satisfy NYSDEC requirements for solid waste planning and comprehensive recycling analyses. The initial year of this ten-year planning period will commence following approval of this Plan by the New York State Department of Environmental Conservation (DEC), which is expected to be 2024. The ten-year planning period will be 2024-2033.

The residents, businesses, industries, and institutions in Tioga County currently produce hundreds of tons of solid waste every day. The question about how to increase recovery, to decrease disposal, and to reduce waste generation, now and in the future, creates the need for a plan such as this.

Tioga County serves as the solid waste planning unit for all municipalities within the County. This LSWMP recognizes, however, that local municipalities, the New York State Department of Environmental Conservation (NYSDEC), private waste haulers, neighboring solid waste planning units, and private facility owners all play important roles in Tioga County's current and future management of solid waste and recyclable materials.

The Solid Waste Management Act of 1988 established a State Solid Waste Management Policy. The policy defines the following solid waste management priorities in New York State:

- to reduce the amount of solid waste generated;
- to reuse material for the purpose for which it was originally intended or to recycle material that cannot be reused;
- to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled; and

- to dispose of solid waste that is not being reused, recycled or from which energy is not being recovered, by land burial or other methods approved by the Department (from New York State Environmental Conservation Law (ECL) 27-0106.1).

NYSDEC (December 2010) issued a statewide SWMP, Beyond Waste: A Sustainable Materials Management Strategy for New York. It defines broad statewide objectives for waste reduction, reuse and recycling, waste-to-energy, landfilling, and special issues consistent with the State Solid Waste Management Policy. The quantitative goal of Beyond Waste is to reduce the amount of waste New Yorkers dispose by preventing waste generation and increasing reuse, recycling, composting and other organic material recycling methods. Based on the data gathered and compiled for this LSWMP, the County has identified program strategies to work toward during a ten-year LSWMP planning period that is consistent with the State Solid Waste Management Policy. The strategies set forth below were identified with the goal of further enhancing the reuse and recycling of materials generated in Tioga County and providing for the means to recover energy in an environmentally sound manner from solid waste that has not been reused or recycled. Each strategy and corresponding goal will be evaluated for feasibility and cost effectiveness on an individual basis according to the implementation schedule included in Chapter 6.0.

Program Strategy #1 - Promote Waste Reduction Programs

Goal: Increase waste reduction and use the economics of waste reduction plan to reduce waste in the County.

Program Strategy #2 - Promote Reuse Programs

Goal: Expand reuse activity, supporting reuse operations and infrastructure, creative reuse for residential, commercial, and institutional generators, and focusing on materials such as building materials, paint, electronics, and textiles.

Program Strategy #3 - Expansion of Recycling Programs

Goal: Increase the participation in recycling programs, while reaching residents, institutional, and commercial generators, as well as community event organizers.

Program Strategy #4 - Adopt Product Stewardship Framework

Goal: Shift government funded waste diversion to one that relies on product stewardship.

Program Strategy #5 - Promote Backyard Composting

Goal: Encourage backyard composting to increase diversion divert more food and yard waste from the solid waste disposal stream.

Program Strategy #6 - Promote Composting through Education and Training Programs

Goal: Encourage composting to divert more food and yard waste from the solid waste disposal stream.

Program Strategy #7 – Management of Biosolids

Goal: Increase the diversion of biosolids from landfills.

Program Strategy #8 – Local Laws and Enforcement Programs

Goal: Review and modify laws, rules and regulations to better align with the LSWMP's overall goals; provide public education and enforcement of the revised laws, rules, and regulations.

Program Strategy #9 – Public Outreach and Education

Goal: Educate residents to increase recycling and waste diversion and reduce improper disposal of materials.

Program Strategy #10 – Improving Solid Waste and Recycling Data Compilation

Goal: Continually improve data collection and reporting to monitor and assist with the implementation of the program strategies.

Program Strategy #11 – Encourage Construction and Demolition (C&D) deconstruction activities by private sector

Goal: Increase deconstruction activities in the County and therefore reducing the amount of C&D going to landfills.

Abbreviation & Acronyms

C&D	Construction and Demolition Debris
CESQG	Conditionally Exempt Small Quantity Generators
County	Tioga County
CRT	Compost, Recycling, and Trash
EPA	United States Environmental Protection Agency
EPP	Environmentally Preferable Procurement
EPR	Extended Producer Responsibility
HHW	Household Hazardous Waste
LSWMP	Local Solid Waste Management Plan
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
PAYT	Pay As You Throw
RCA	Recoverable Container Act
Sq Mi	Square Miles
STP	Sewage Treatment Plant
TPD	Tons Per Day
WTE	Waste To Energy
WWTF	Wastewater Treatment Facility
WWTP	Wastewater Treatment Plant

1.0 Planning Unit Description & History

1.1 Size, Location, Population

1.1.1 Physical Setting

Tioga County is located in the south-central part of New York. It is bordered on the north by Cortland and Tompkins Counties; on the east by Broome County; on the south by Pennsylvania's Susquehanna and Bradford Counties; and on the west by Chemung County.

Tioga County is located in south central New York State, on the Pennsylvania border. The County is bordered to the north by Tompkins and Cortland County, to the south by Pennsylvania, to the east by Broome County and to the west by Chemung County. Tioga County is made up of 15 municipalities (towns and villages) and encompasses an area of 522.42 square miles. Figure 1-1 illustrates the County and its municipalities.

The County of Tioga, New York, was established in 1791 as the twentieth county in New York State. Tioga County is governed by County Law and other general laws of the State of New York. Tioga County is a non-charter county. The County Legislature, consisting of 9 members representing 7 legislative districts, is responsible for the overall operation of the county. Each year the Legislature elects a Chair to serve as the Chief Executive Officer. Separately elected officials include the County Judge, Sheriff, District Attorney, Treasurer and Clerk.

Within Tioga County there are nine town and six village governments. Town government functions are managed by an elected Town Supervisor and Town Board and villages have a Mayor-Trustees form of government.

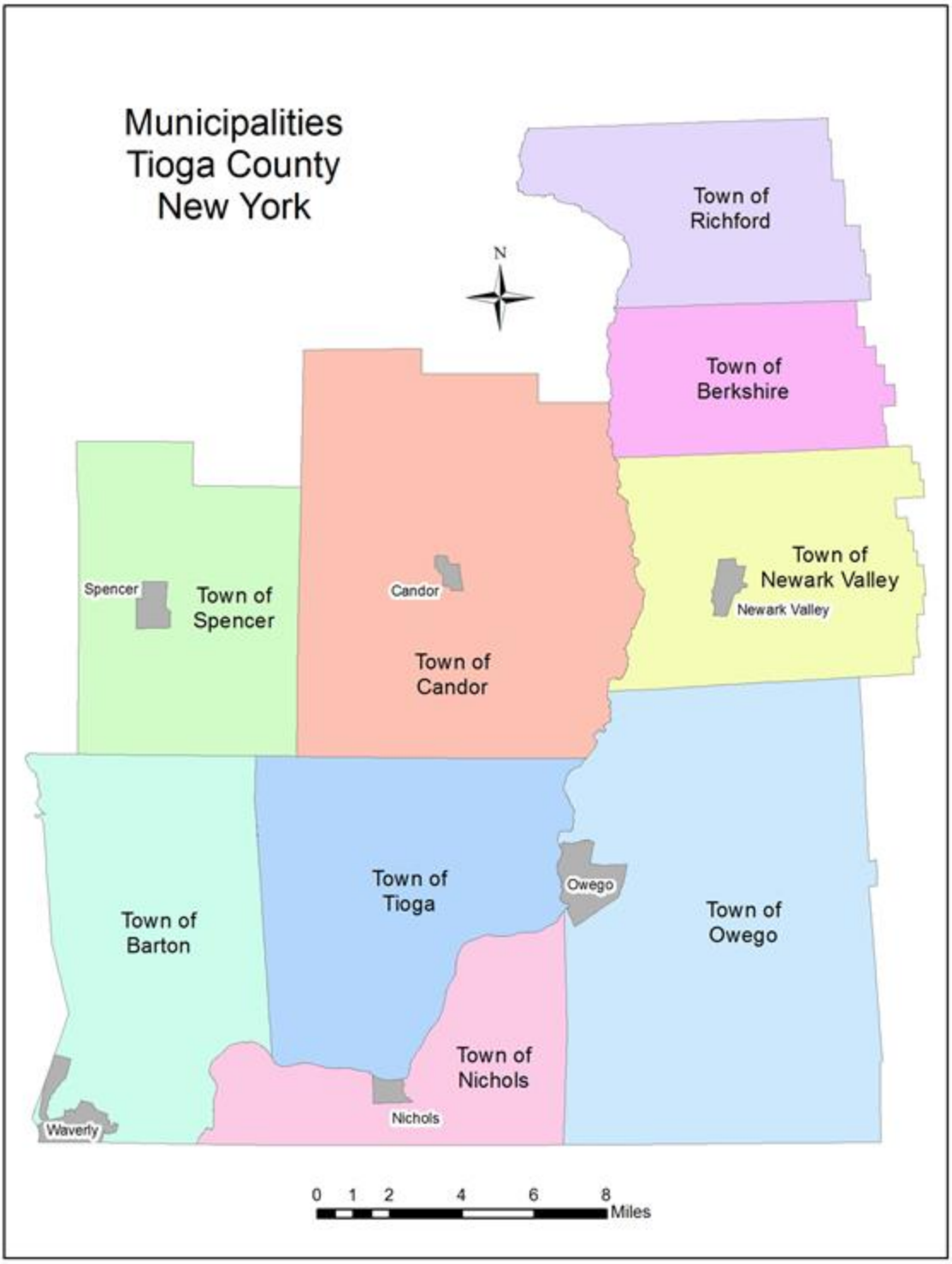


Figure 1-1: Municipalities in Tioga County. Tioga County GIS

1.1.2 Demographics

Tioga County has generally experienced strong population growth over the last 50 years, with a decline in the last two decades from 52,337 in 1990 to 48,567 in 2021. In 1940 population was 27,072, increasing 11% to 30,166 in 1950. This growth trend continued throughout the 1950's and rose to 37,800 in 1960; this was a 25.2% growth rate. From 1960 to 1970 the population gained another 23% reaching 46,500 residents. The rate of growth slowed in the 1970's to 7.1% or 49,800. The 1980's saw a 5% gain reaching the population to a peak of 52,300 in 1990. The 1990's saw the county's first decline in population since 1920. In 2021 the population was reported as 48,567 (2021 American Community Survey) a decline of 7.2% since 1990.

Population growth from 1950 to 1990 was stimulated by the construction of State Route 17 and the opening of IBM-Owego in the late 1950's. The IBM plant employed thousands until the early 1990's when the facility was downsized and sold to Loral Corporation, which later became Lockheed Martin. Also, the opening of State Route 17 allowed for a much easier job commute into Broome County from the southern half of the county. Population growth rates within Tioga County from 1950 to 1980 were similar in growth rates at the national level (Southern Tier East Regional Planning Development Board, STERPDB, Population Changes 1940 to 1990). However, from 1980 to 1990 the county's population grew at a rate of only 5%, far below the national average of 11% during the same decade (STERPDB-Population Changes 1940 to 1990).

The population of Tioga County distributed among nine towns and six villages is shown in Table 1-1. The Town of Owego accounts for almost 38.7% (18,796) of the county's population. Other towns have aggregated populations ranging from about 6,958 in the northeast communities of Berkshire, Newark Valley, and Richford to 10,050 in the towns of Candor and

Spencer. The southern half of the county is the densest with the anchors of the Villages of Owego in the east and Waverly in the west.

1.2 Planning Unit Members

The membership of the Planning Unit has not changed since its inception. The same towns and villages remain a part of this Planning Unit (Table 1-2). It is not anticipated that there will be any further changes of municipalities within the Planning Unit.

Tioga County is governed by County Law and other general laws of the State of New York. Tioga County is a non-charter county. The County Legislature, consisting of 9 members representing 7 legislative districts, is responsible for the overall operation of the county. Each year the Legislature elects a Chair to serve as the Chief Executive Officer.

Ultimately the County is responsible for implementation of this Plan. The County may delegate tasks to other partners (i.e., Municipalities, Cornell Cooperative Extension, Soil and Water Conservation District) due to the nature of the contract, relationship or partnership. Any such delegated task may be assigned with County oversight. Figure 1-2 depicts the administrative structure to be utilized for implementing the programs and objectives outlined in this Plan.

Table 1-1: Population by Municipality

Tioga County	48,567
Town of Barton	8,563
Town of Berkshire	1,205
Town of Candor	5,161
Town of Newark Valley	3,681
Town of Nichols	2,622
Town of Owego	18,796
Town of Richford	1,066
Town of Spencer	2,987
Town of Tioga	4,486
Village of Candor	1,056
Village of Newark Valley	1,006
Village of Nichols	576
Village of Owego	3,686
Village of Spencer	846
Village of Waverly	4,329
Apalachin CDP*	2,149
Crestview CDP*	1,709

American Community Survey 2021 *CDP – Census Designated Place

Table 1-2: Planning Unit Members with Potential Impacts or Opportunities That Could Affect LSWMP Implementation				
Municipal Member	**Population Density†**	**Role in LSWMP Preparation**	**Role in LSWMP Implementation**	**Unique Conditions or Issues**
Towns				
Barton	149.2/sq mi, rural	None	Data collection, education/outreach program and possible partner in e-waste collection events.	Private transfer station located within the town that is open to County residents and business. PAYT
Berkshire	39.9/ sq mi, rural	None	Same as above	None noted.
Candor	54.8/ sq mi, rural	None	Same as above	None noted.
Newark Valley	74.5/ sq mi, rural	None	Same as above	None noted.
Nichols	76.8/ sq mi, rural	None	Same as above	None noted.
Owego	182.6/ sq mi, rural	None	Same as above	Taylor Garbage's MRF. Weitsman's scrap metal recycling.
Richford	27.9/sq mi, rural	None	Same as above	Residents can take their trash, recycling and e-waste to Town's mini-transfer station. PAYT
Spencer	61.1/ sq mi, rural	None	Same as above	None noted.
Tioga	75.4/ sq mi, rural	None	Same as above	Private transfer station located within the town that is open to County residents and business. PAYT
Villages				
Candor	2,400/ sq mi, suburban	None	Same as above	None noted.
Newark Valley	1,106.2/ sq mi, suburban	None	Same as above	Contracts with private hauler to provide curbside recycling collection.

Nichols	1,107.7/ sq mi, suburban	None	Same as above	None noted.
Owego	1,325.9/ sq mi, suburban	None	Same as above	County seat.
Spencer	805.7/ sq mi, suburban	None	Same as above	Contracts with private hauler to provide curbside recycling collection.
Waverly	1,874/ sq mi, suburban	None	Same as above	None noted.

1.2.1 Neighboring Planning Units

Table 1-3 lists the neighboring planning units along with possible opportunities for inter-jurisdictional programs or issues that may impact implementation of the County's LSWMP and achievement of its goals. Further evaluation of these opportunities or potential impacts will be discussed in Chapter 5, and tasks will be included in the Implementation Schedule.

Figure 1-2: LSWMP Administrative Structure

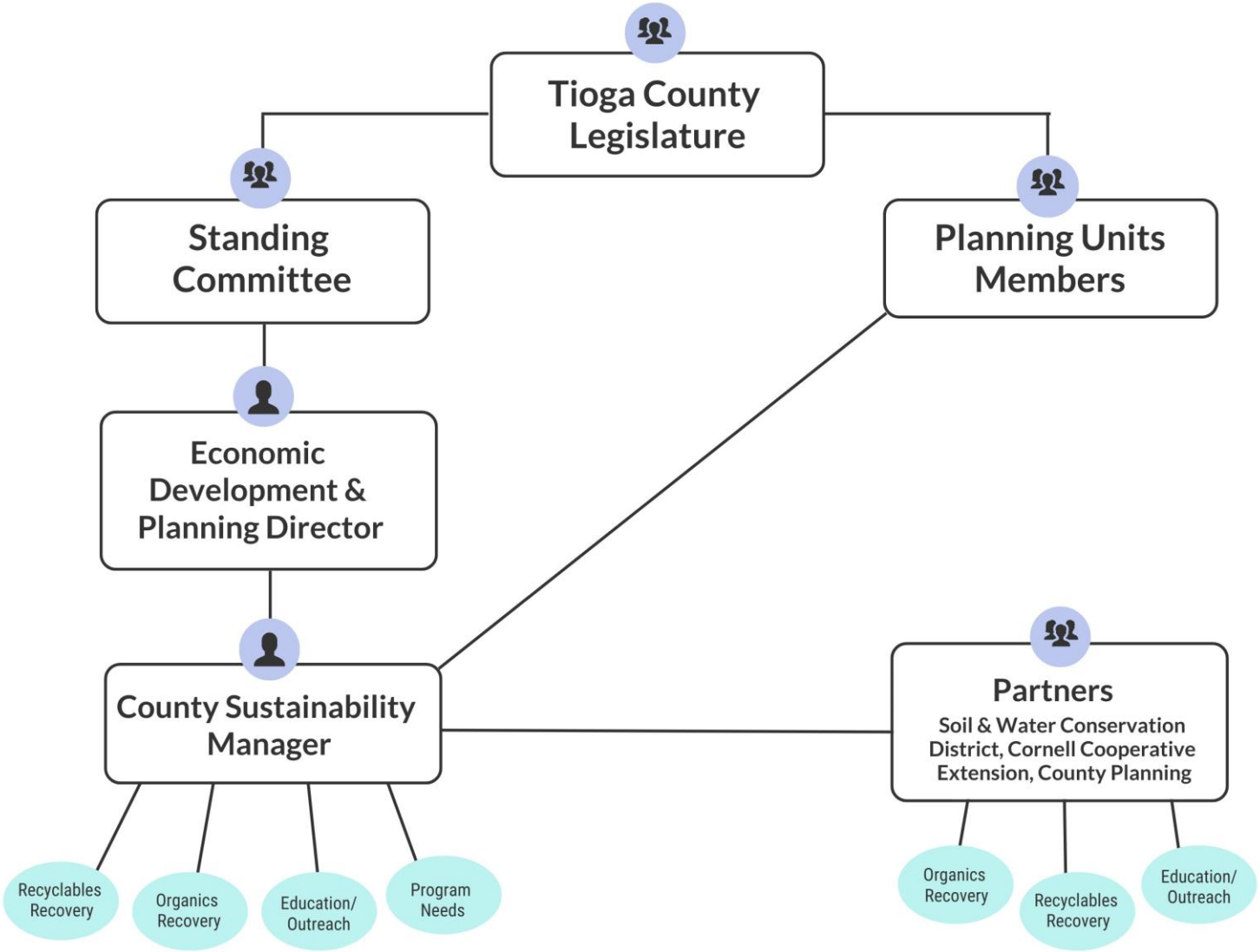


Table 1-3: Neighboring Planning Units with Potential Impacts or Opportunities That Could Affect LSWMP Implementation		
Neighboring Planning Unit	**Existing or Potential Inter-Jurisdiction Consideration/Impacts**	**Effects of Opportunities or Impacts to Implement the LSWMP**
Broome County	The County owns one landfill comprised of an operational municipal solid waste (MSW) and construction and demolition debris (C&D) landfill in the Town of Maine. The collection and disposal of municipal solid waste within Broome County has been primarily handled by either municipalities or the private sector. Haulers transport the majority of the waste to the County's landfill. The collection of the recycling is primarily handled by either municipalities or the private sector. Majority of the recycling is taken to Taylor's MRF located in Apalachin, NY in Tioga County.	Tioga County has an inter-municipal agreement with Broome County Solid Waste which Tioga County residents may bring their HHW and electronic waste to their permanent HHW facility - 24 days from April – November.
Tompkins County	Most solid waste is disposed at the Ontario County Landfill and Chemung County Landfill. Residential curbside single stream recycling collection is offered on a biweekly basis. Residents may also choose to bring single stream materials and a variety of other recyclables, such as scrap metal, electronics, rigid plastics, batteries, white goods, and textiles to the County's facility. Food scraps recycling programs and assistance for home composting target organic components of the waste stream. Yard waste is also accepted at the RSWC, in addition to programs offered by local municipalities around the county.	None identified at this time.
Chemung County	The County owns one landfill comprised of an operational	Chemung County Landfill manages a large portion of the MSW

	municipal solid waste (MSW) and construction and demolition debris (C&D) landfill in the Town of Chemung, and a transfer station/materials recovery facility (MRF) in the City of Elmira, which is currently operated as a consolidation center for waste and recyclable materials that are trucked off-site for disposal at the landfill and processing at a MRF, respectively. Both are operated by New England Waste Services of N.Y., Inc. (NEWSNY), a subsidiary of Casella Waste Systems, Inc. Generators and haulers are not required to deliver waste or recyclables to the County facilities and businesses may self-market their recyclables. Therefore, not all waste and recyclables pass through the County facilities. It is currently estimated that slightly more than 80% of the MSW and nearly 70% of the C&D debris is managed outside of the County.	generated in Tioga County. REACT Recycling in Horseheads processes electronic waste generated in Tioga County.
Cortland County	Implemented flow control for solid waste. Owns and operates the Cortland County Landfill with an annual permit limit of 44,500 tons/year. Municipal single-stream transfer facility – according to annual report, only takes recycling from Cortland County.	None identified at this time.

† Population density based on the American Community Survey 2021

1.3 Seasonal Variations and Unique Circumstances

There are several seasonal variations which occur within Tioga County which could affect implementation of this Plan and achievement of its goals.

- Spring is a large cleanup time, which can lead to an influx of brush, downed trees, lawn debris, and scrap metal. The impacts and effects of these materials are discussed in Section 1.4.1.
- Summer also brings an increase of yard waste, food scraps, agricultural waste and cleanups, as well as garden wastes which could all be

composted. The impacts and effects of these wastes are discussed in Section 1.4.1.

- There are public libraries within the County. Potential recycling options for waste/recyclable materials generated at libraries are discussed in Section 1.4.3.
- There are also many events held within the County during the year listed in Table 1-8. Additional events occur within the County that may generate significant quantities of waste. The impacts and effects of these events are discussed in Section 1.4.5.
- There are also many municipal cleanup events held within the County during the year, some of which the County provides support with electronic waste collection.
- There are some small manufacturers, businesses, nursing homes, and other institutional facilities which manage their own waste and recyclables. While some recycling activities and data for these facilities are unknown, past annual surveys have been conducted, which may inform trends in generation rates. Recycling programs and data collection will be discussed in the Alternatives Evaluation and Selection in Section 5.0. Tasks will be included in the Implementation Schedule to evaluate and implement new or improved recycling programs, including packaging and organics recovery, and to collect data.

1.4 Overview of Solid Waste Generation Sources Within Tioga County

A majority of Tioga County's commercial, institutional, and industrial facilities are located within the State Routes 17, 17C, 38, 79, 96 and 96B transportation corridors. A transportation corridors map in the County can be found in Appendix A. Major employment centers within the County are concentrated in the Owego and Waverly areas which can be seen on the Tioga County land use map (Figure 1-3).

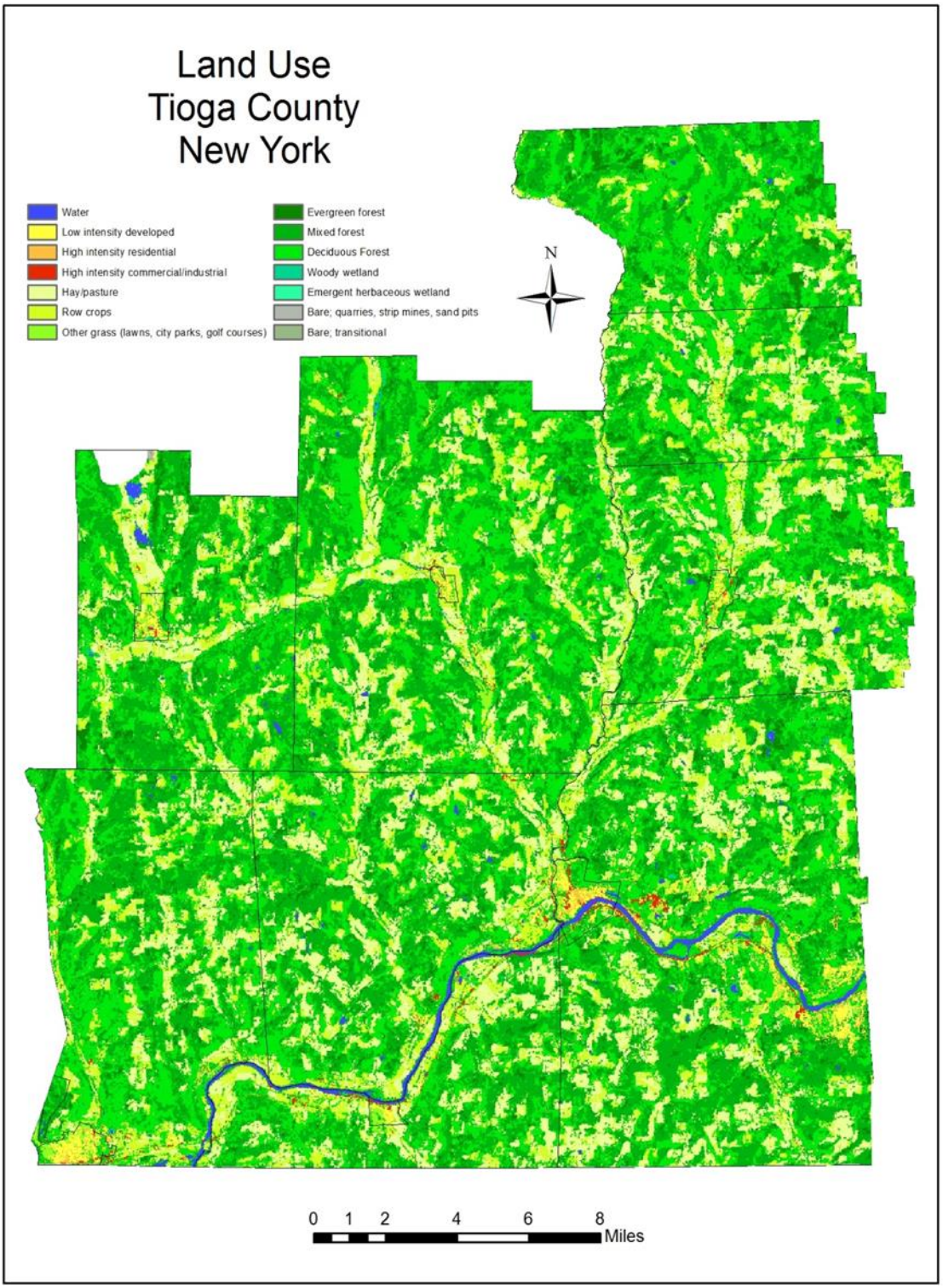


Figure 1-3: Tioga County land use map, Tioga County GIS 2023

Tioga County's economic base is somewhat diversified. The extent and mix of an area's commercial and industrial base may affect solid waste disposal requirements. Large manufacturing, such as the Lockheed, tends to produce large quantities of paper and industrial recycling. Shopping districts and medical office buildings are other types of establishments that generate large volumes of cardboard, mixed paper, and non-recyclable waste.

The unemployment rate in June 2020 was at 10.3%, likely due to impacts from the COVID-19 pandemic and has been steadily declining to a rate of 4.2% in 2022 (NYSDOL). The number of employed jobs was 39,741 (American Community Survey 2021).

There are many natural, cultural, and historical amenities in the County that have contributed to the growth of tourism. Some of these amenities are seasonal, while others draw visitors throughout the year. Among the attractions in the County are Tioga Downs Casino Resort, the Villages of Owego and Waverly's walkable downtowns with shopping and dining, local festivals and live music, breweries and wineries, farm stores, and trails and parks to hike and bike like Two Rivers State Park, Hickories and Nichols Pond.

A total of 535 active farms existed in the County in 2017. These farms occupied approximately 113,182 acres of the County's total land area, and the average farm size was 212 acres. A figure depicting active farmland in Tioga County Farm Districts is shown in Figure 1-4. Land use in Tioga County is shown in Figure 1-3.

1.4.1 Spring and Summer Residential and Agricultural Wastes

Table 1-4 lists seasonal residential and agricultural variations in waste, along with conditions and impacts that affect implementation of the LSWMP and achievement of its goals.

Tioga County Agricultural Districts

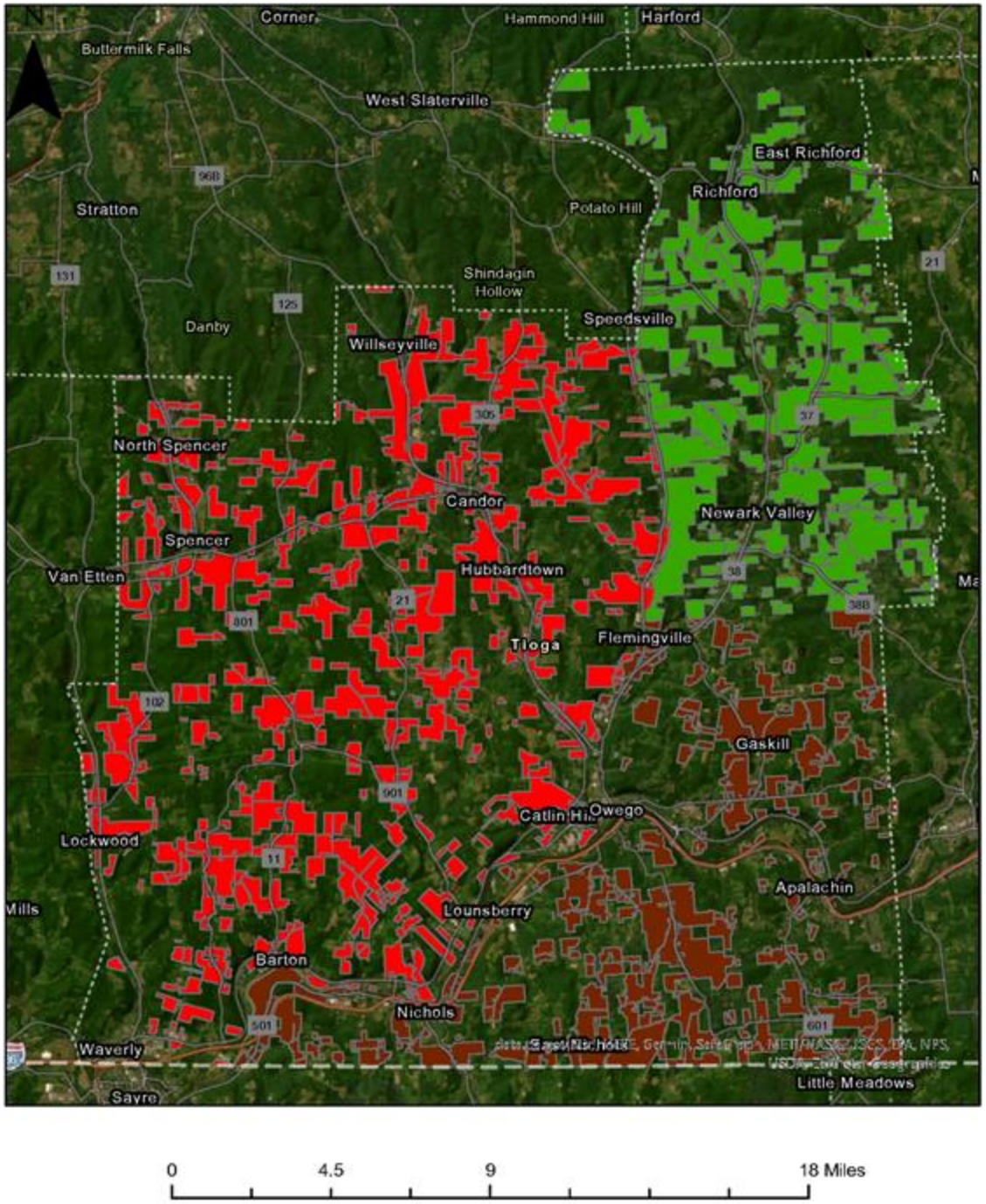


Figure 1.4: Tioga County Farm Districts

Table 1- 4: Impacts of Residential and Agricultural Wastes Within the Planning Unit			
Source of Wastes	**Unique Circumstance or Situation**	**Quantity/Quality Impacts**	**Impacts on LSWMP**
Spring Residential Cleanup	Spring Cleanup	Seasonal influx of brush, downed trees, lawn debris, and scrap metal	Possible composting of organics; will need more data on types of material and amounts to be composted.
Summer Growing Season	Seasonal	Yard and garden wastes. Agricultural organics and agricultural plastics wastes, and cleanups, which have cleanliness and bulky issues for recycling	Possible composting of organics; will need more data on types of material and amounts to be composted.

1.4.2 Schools

The County's educational system consists of public, private, and parochial school systems, including elementary, middle, and high schools. Table 1-5 lists the schools in the planning unit, along with conditions and impacts that affect implementation of the LSWMP and achievement of its goals. A school district map in the County can be found in Appendix A.

All of the schools within the planning unit generate various amounts and types of waste and recyclable materials, but specific details are unknown. Typically, these schools contract with private haulers to manage the wastes and recyclables. Given that private haulers manage these materials, the types and quantities are not reported individually. Steps to materials, the types and quantities are not reported individually. Steps to improve the reporting of data to the planning unit will be discussed in the Solid Waste Management Program Strategies in Chapter 5. Tasks will be included in the Implementation. Schedule to evaluate and implement new or improved recycling programs, including organics recovery, and to collect data.

Table 1-5: Impacts of Schools Within the Planning Unit			
Sources of Waste	**Unique Circumstance or Situation**	**Quantity/Quality Impacts**	**Impacts on LSWMP**
Candor Central School District	Summer cleanout/ construction. Seasonal food wastes from cafeterias. Private hauling of school wastes and recyclables.	Locker content left behind, C&D debris, need recycling plan implemented. Influx of food wastes. Paper, books and electronics recycling.	Lack of data available. Further evaluation needed.
Newark Valley Central School	Same as above	Same as above	Same as above
Owego Apalachin Central School District	Same as above	Same as above	Same as above
Thomas J Watson Sr Elementary School (Union Endicott Central School District)	Same as above	Same as above	Same as above
Tioga Hill Elementary School (Vestal Central School District)	Same as above	Same as above	Same as above
Spencer-Van Etten School District	Same as above	Same as above	Same as above
St. Patrick School	Same as above	Same as above	Same as above
Tioga Central School	Same as above	Same as above	Same as above
Waverly Central School District	Same as above	Same as above	Same as above

1.4.3 Libraries

Table 1-6 lists the libraries in the planning unit, along with conditions and impacts that affect implementation of the LSWMP and achievement of its goals.

It is not known what these libraries are now doing with their wastes that they are generating. Possible recycling programs and data collection will be discussed in the Solid Waste Management Program Strategies in Chapter 5. This could include recycling programs for cardboard, outdated books and

Table 1-6: Impacts of Libraries Within the Planning Unit			
Source of Wastes	**Unique Situation or Circumstances**	**Quantity/Quality Impacts**	**Impacts on LSWMP**
Apalachin Public Library	Periodic cleanouts. Private hauling of all library wastes.	Large amounts of books and magazines. Data unavailable.	Opportunity for libraries to coordinate a recycling management program among libraries. Further evaluation needed.
Berkshire Free Library	Same as above.	Same as above.	Same as above.
Cady Library	Same as above.	Same as above.	Same as above.
Candor Free Library	Same as above.	Same as above.	Same as above.
Coburn Free Library	Same as above.	Same as above.	Same as above.
Spencer Library	Same as above.	Same as above.	Same as above.
Tappan Spaulding Memorial Library	Same as above.	Same as above.	Same as above.
Waverly Free Library	Same as above.	Same as above.	Same as above.

periodicals, and for materials generated from any events held at the library facilities. Tasks will be included in the Implementation Schedule to evaluate and implement new or improved recycling programs, and to collect data as appropriate.

1.4.4 Jail and Nursing Homes/Assisted Living

Table 1-7 lists the jails, institutions and nursing homes in the planning unit, along with conditions and impacts that affect implementation of the LSWMP and achievement of its goals.

It is not known what most of these institutions are doing with their wastes currently. Data needs to be collected as to what types of waste

Table 1-7: Impacts of Jail, Nursing Homes/Assisted Living Within the County			
Source of Wastes	**Facility Type/Unique Situation or Circumstances**	**Quantity/Quality Impacts**	**Impacts On LSWMP**
Tioga County Jail	Needs further evaluation.	Needs further evaluation.	Needs further evaluation related to existing disposal and recycling activities. Possible compost of food wastes.
Riverview Manor Health Care	Periodic cleanouts. Food wastes. Medical waste. No data available.	Unknown regular waste. Potential for high quantity of medical waste.	Needs further evaluation related to existing disposal and recycling activities. Possible compost of food wastes.
Homesteads,LLC	Same as above.	Same as above.	Same as above.
Guthrie-Tioga Senior Care	Same as above.	Same as above.	Same as above.

and/or recyclable materials they generate and where they are disposing/recycling of said materials. It also needs to be determined if they are able to compost any of their wastes such as food wastes. Possible recycling programs and data collection will be discussed further in Chapter 6.

1.4.5 Special Events within the Planning Unit

Table 1-8 lists the special events in the planning unit, along with conditions and impacts that affect implementation of the LSWMP and achievement of its goals.

Table 1-8: Impacts of Special Events Within the Planning Unit			
Sources of Wastes	**Unique Situation or Circumstances**	**Quantity/Quality Impacts**	**Impacts On LSWMP**
Tioga County Fair	Many vendors with packaging/food waste and recycling of drink bottles. Attendees that may or may not care about recycling or waste diversion.	Unknown what is done with the wastes generated at these events and what is recycled or total amounts generated.	There are many waste/recyclable materials that could be captured from these events. Possibility of composting organics and recycling of packaging. Data needed. Opportunity for education outreach to the community related to recycling and waste diversion.
Busy Bird Bluegrass Festival	Vendors with packaging/food waste and recycling of drink bottles. Attendees that may or may not care about recycling or waste diversion.	Same as above.	Same as above.
Annual Catfish Derby	Same as above.	Same as above.	Same as above.
Candor Fourth of July Celebration & Carnival	Same as above.	Same as above.	Same as above.
Owego Strawberry Festival	Same as above.	Same as above.	Same as above.
Blueberry & Books Festival	Same as above.	Same as above.	Same as above.
Candor Daffodil Festival	Same as above.	Same as above.	Same as above.
Newark Valley Summerfest	Same as above.	Same as above.	Same as above.
Sundaes at the Farm	Same as above.	Same as above.	Same as above.
Spencer Picnic	Same as above.	Same as above.	Same as above.
Tioga Kids Picnic	Same as above.	Same as above.	Same as above.
Annual Potato Festival	Same as above.	Same as above.	Same as above.

Annual Newark Valley Apple Festival	Same as above.	Same as above.	Same as above.
Candor Fall Festival	Same as above.	Same as above.	Same as above.
Lights on the River	Same as above.	Same as above.	Same as above.
Holiday Magic Festival	Same as above.	Same as above.	Same as above.
Holiday Showcase	Same as above.	Same as above.	Same as above.
Winterfest at Tioga Downs	Same as above.	Same as above.	Same as above.

Source: Tioga County Tourism

The potential of capturing recycling and wastes from special events could be increased dramatically. It is unknown at this time if any wastes are being captured or recycled at these events. It needs to be investigated as to what events are held, when and where they are held, what types of waste/recyclable materials are being generated, and how they are currently being managed. Possible recycling programs and data collection will be discussed in the Solid Waste Management Program Strategies in Chapter 6. Tasks will be included in the Implementation Schedule to evaluate and implement new or improved recycling programs, including packaging and organics recovery, and to collect data.

1.5 Summary of Implementation of Previous LSWMP

All benchmarks of the original 1991 SWMP and subsequently updated 2015 LSWMP have been achieved and implemented into the planning unit. These include:

2000 - currently: Hazardous Waste Program which consists of an inter-municipal agreement with Broome County Solid Waste since 2000 in which Tioga County residents may bring their HHW to their permanent HHW facility 24 days from April – November.

1992 – 2020: Countywide recycling program. County contracted the collection of recycling for all residents and small businesses in Tioga County.

2015 – 2017: Final three years of the 10-year Upstate Shredding-Ben Weitsman & Son donated $10,000/yr. Tioga County to initiate "tire clean up events" within Tioga County. Through these events, the County has provided a safe and economical method for both resident and municipalities to dispose of waste tires.

2016 – 2020: County partnered with Taylor Garbage and Taylor Garbage (Owego Transfer Station at 352 Glen Mary Drive, Owego) e-waste drop off for residents at no charge.

2012 – 2020: County partnered with Taylor Garbage and Taylor Garbage (Owego Transfer Station at 352 Glen Mary Drive, Owego) battery and fluorescent bulb drop off for residents at no charge.

Tioga County implemented educational component to all their programs to encourage waste reduction and further diversion.

1.6 Summary of Changes to the Planning Unit

On January 3, 2020, a devastating fire occurred at the privately owned Taylor Garbage's material recovery facility (MRF) located in Apalachin, NY. Tioga County has contracted the countywide curbside recycling pick up out for more than twenty years with Taylor Garbage dba Southern Tier Recycler's. This program weekly collects and processes the recycling for all the households in Tioga County. Taylor's rebuilt and upgraded their MRF, and it was operational in early 2022.

In 2020, the County's countywide curbside recycling contract went out to bid and the bids came back more than twice the cost of the previous contracts. In looking for ways to save taxpayers money due to the high cost of continuing the

countywide curbside recycling, Tioga County Legislature decided to privatize recycling to private haulers which commenced January 1, 2021.

The County updated our Source Separation Local Law (see appendix C.1) and are looking to update to include hauler permitting see Source Separation Local Law draft in appendix C.2 (modifications in red).

2.0 Tioga County's Current Solid Waste Management System

This chapter provides information on the waste streams generated in Tioga County based on self-reported data, data from county facilities made available through NYSDEC reporting, and estimates from the NYSDEC MSW composition projections.

2.1 Waste Types

Tioga County's solid waste stream has five primary components: municipal solid waste (MSW), non-hazardous industrial waste, construction and demolition debris, municipal sewage treatment plant sludge/biosolids, and processed scrap metal (e.g., scrap vehicles) waste.

For the purposes of this LSWMP in Tioga County, MSW consists of waste generated in homes, businesses, institutions, and the commercial portion of waste discarded by industries. The residential component includes, but is not limited to, newspapers and magazines, corrugated cardboard, glass, metal, plastic containers, food waste, yard trimmings, textiles, and household goods including bulky items such as furniture and appliances. The commercial waste stream tends to contain higher percentages of office paper, corrugated cardboard, and scrap metals. Commercial waste is the non-hazardous waste generated by businesses such as restaurants, retail stores, and professional offices, as well as schools, nursing homes/assisted living, 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 about the quantities of materials managed 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 recycling facilities in the County are being separated from the household, business, institutional, and commercial wastes classified as MSW, and are considered 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. Yard waste is a component of the waste stream that is difficult to quantify. Implementation of a plan to collect data and estimate MSW by material type, including estimating residential yard waste generation and recovery, is further discussed in Section 5.0.

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, drill cuttings, and dust. The homogeneous nature and relatively large quantity of non-hazardous industrial wastes typically available can also make them useful as feedstocks for other processes or result in unique management methods. Therefore, only partial data for the generation of these materials within the county is currently available. Implementation of a plan to collect data and estimate MSW by material type, including estimating industrial waste generation and recovery, considering these circumstances is further discussed in Section 6.0.

Construction and demolition (C&D) debris 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. For this specific analysis, asbestos debris and petroleum contaminated soil are also included in the C&D debris category. Many of the upstate New York landfills report C&D debris as a separate disposal stream, and therefore,

the quantity disposed of from Tioga County residents can be identified from those landfill annual reports. 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 has been difficult to obtain. Further discussion about data collection to estimate C&D debris generation and recovery is included in Section 5.0.

As defined in the Part 360 regulations, biosolids are the accumulated semisolids or solids resulting from treatment of wastewaters from publicly or privately owned or operated sewage treatment plants. Biosolids do not include grit or screenings, or ash generated from the incineration of biosolids. Municipal treatment plants generate sludge/biosolids that require special handling and management.

Processed scrap metals are typically generated by commercial or industrial sectors, but in potentially large quantities which makes it worth monitoring. Data from these types of operations and uses is difficult to obtain. Data collection to estimate scrap metals generation and recovery in the County is further discussed in Section 5.0.

2.2 Availability of Generation and Recovery Estimates

2.2.1 Data Sources and Methodology

As discussed above, much of the following waste generation estimates were derived from available reports provided to the NYSDEC by transfer stations. Limitations associated with the data are as follows and will be considered when evaluating and implementing new or improved data collection efforts.

- 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.

2.2.2 Estimation of Total Waste Generation in Tioga County

Based on annual reports submitted to the NYSDEC for 2020, Tioga County residents and businesses generated approximately 52,676.29 tons of waste (including potentially recyclable materials). Figure 2-1 shows the overall method of management for the waste. The fraction for each waste management sector was determined by analyzing annual tonnage reports for those facilities that reported accepting waste from Tioga County. Based on the information available to interpret, the majority of the waste was landfilled (36,268.28 tons or 62.09 percent) while the remainder was diverted (16,408 tons or 31.15 percent).

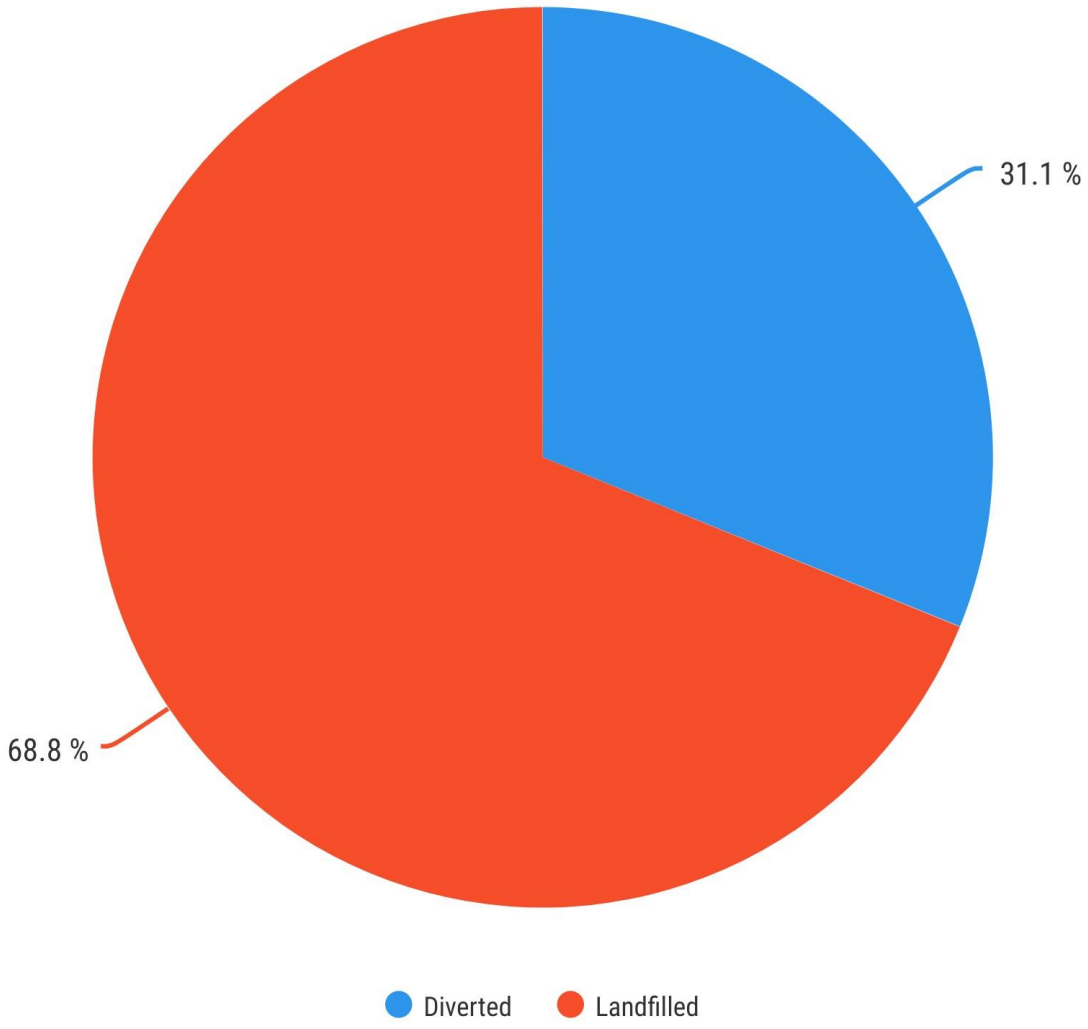


Figure 2-1: Estimated Waste Management Methods in Tioga County in 2020. Source: NYSDEC, Facility Annual Reports, 2020; Self-Reporting

Tioga County has four wastewater treatment facilities (WWTFs). Table 2-1 shows the method of sludge management utilized. The data in this table was generated from data gathered from the Current Descriptive Data of Municipal Wastewater Treatment Plants on NYS.DATA.GOV.

Table 2-1: Municipal Sewage Sludge Generation and Management Summary				
Treatment Plant	**Treatment Method**	**Dewatering Device**	**Tons/Year**	**Use/Disposal Method**
Nichols (T) STP	Not Specified	Unknown	Unknown	Unknown
Owego (T) Sewer District #1	Aerobic Digestion	Belt Filter Press	Unknown	Landfill
Owego (T) Water Pollution Control PLT #2	Anaerobic Digestion		Unknown	Landfill
Owego (V) STP	Anaerobic Digestion	Belt Filter Press & Gravity Belt	Unknown	Landspreading
Waverly (V) WWTP	Not Specified	Belt Filter Press & Gravity Belt	Unknown	Landspreading, Landfill & Scavenger
Total Sewage Sludge Used/Disposed On-site			**Unknown**	
Total Sewage Sludge Landfilled			**Unknown**	
Total Municipal Sewage Sludge Generated			**Unknown**	

Source: Current Descriptive Data of Municipal Wastewater Treatment Plants on NYS.DATA.GOV.

A complete breakdown of waste generated as a whole for Tioga County is not available due to the lack of comprehensive data available at this time. Tasks are included in the Implementation Schedule to investigate the implementation of a survey and reporting program as well as any other programs that might be useful and necessary to collect generation and recovery data in general accordance with this format. Table 2-2 provides a waste generation baseline, which will be expanded as data becomes more

Table 2-2: Estimation of Total 2020 Waste Tonnage by Management Method†			
	Amount (Tons)	**Percentage**	**% of Total**
Landfilled [1]			
MSW[1]	32,705.64	90.2	62.09
Construction and Demolition Debris[1]	3,462.64	9.5	6.57
Sewage Sludge[2]			
Industrial[1]	100	0.3	0.19
Total	**36,268.28**	**100.0**	**68.85**
Diverted			
Composted Sewage Sludge[2]			
Land Applied Sewage Sludge[2]			
Composted Yard Waste[1]	25	0.2	0.05
Recovered/Composted Food Scraps[2]			
Recycled[1]	3,619.28	22.1	6.87
E-Waste & Precious Metals[1]	73.33	0.4	0.14
Vehicle Scrap Metal[1]	12,690.4	77.3	24.09
Total	**16,408**	**100.0**	**31.15**
Total Waste Generation	**52,676.29**		

† MSW as quantified in this table excludes C&D debris, non-hazardous industrial wastes, asphalt, and sewage sludges.
1. The NYSDEC 2020 Recyclables Handling and Recovery Facility, self-reported.
2. No more recent data available.

readily available and can be incorporated into future waste generation analysis.

2.2.3 Estimation of Potential MSW Recovery

As previously discussed, an incomplete set of disposal and recovery data is available for the County to compile and review; therefore, with the assistance of the NYSDEC's waste composition and recovery projection tool, the following section provides Tioga County with an estimated MSW waste composition for future planning purposes. The complete tables are provided in Appendix B. MSW composition includes residential, commercial, and institutional waste generators; consequently, for the purposes of this analysis, the following are excluded from the MSW composition estimates: separately managed C&D debris, several organics streams (biosolids, septage, agricultural materials, etc.), and scrap metal managed outside of the MSW management structures.

Table 2-3 provides a detailed estimate of materials that could be recovered or diverted from a waste disposal location if the appropriate programs were in place. These numbers are based on the actual total tons of MSW generated within the county, as reported in Table 2-2. Based on annual reports, Tioga County diverted approximately 16,408 tons of material (31.15 percent) from the 52,676.27 tons of MSW generated from residential, commercial, and institutional generators in 2020.

Several materials identified below are collected and recovered at the recycling centers or other similar facilities in Tioga County; however, there are no mechanisms for gathering data for the individual materials at this time. Therefore, the NYSDEC MSW composition tool was applied to the actual waste generation totals to estimate quantities for more specific materials that are not tracked individually within waste streams.

2.2.4 Estimation of Potential C&D Waste Recovery

C&D debris can be assessed separately from MSW or industrial wastes. Using the NYSDEC's C&D debris composition and recovery projection tool, the following section provides Tioga County with an estimated C&D debris composition for future planning purposes. The complete tables are included in Appendix B. According to the NYSDEC, their analysis and the waste composition and recovery projection tool consider the variations in the C&D debris 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. waste composition and recovery projection tool consider the variations in the C&D debris 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.

Table 2- 3: Estimated MSW Recoverable Materials in Tioga County‡				
Material	**Estimated MSW Tons Generated (2023)**	**Estimated % of Total Tons Generated (2023)**	**Estimate of Actual MSW Tons Diverted (2023)**	**% of Each Material Diverted (2023)**
Newspaper	**1,591**	**3.8%**	**800**	**50.3%**
Corrugated Cardboard	**4,110**	**9.7%**	**930**	**22.6%**
Other Recyclable Paper (Total)	**4,552**	**10.8%**	**300**	**6.6%**
Other Compostable Paper	**2,834**	**6.7%**	**0**	**0.0%**
Total Paper	**13,087**	**30.9%**	**2,030**	**15.5%**
Ferrous/Aluminum Containers (Total)	**818**	**1.9%**	**220**	**26.9%**
Other Ferrous Metals	**2,242**	**5.3%**	**162**	**7.2%**
Other Non-Ferrous Metals (Total)	**545**	**1.3%**	**450**	**82.6%**
Total Metals	**3,605**	**8.5%**	**832**	**23.1%**
PET Containers	**399**	**0.9%**	**76**	**19.0%**
HDPE Containers	**368**	**0.9%**	**318**	**86.4%**
Other Plastic (3-7) Containers	**71**	**0.2%**	**22**	**31.0%**
Film Plastic	**2,430**	**5.7%**	**0**	**0.0%**
Other Plastic (Total)	**2,574**	**6.1%**	**1,047**	**40.7%**
Total Plastics	**5,843**	**13.8%**	**1,463**	**25.0%**
Glass Containers	**1,668**	**3.9%**	**166**	**10.0%**
Other Glass	**182**	**0.4%**	**0**	**0.0%**
Total Glass	**1,850**	**4.4%**	**166**	**9.0%**
Food Scraps	**5,593**	**13.2%**	**193**	**3.5%**
Yard Trimmings	**1,794**	**4.2%**	**534**	**29.8%**
Total Organics	**7,387**	**17.5%**	**727**	**9.8%**
Clothing Footwear, Towels, Sheets	**1,654**	**3.90%**	**300**	**18.1%**
Carpet	**596**	**1.4%**	**0**	**0.0%**
Total Textiles	**2,250**	**5.34%**	**300**	**13.3%**
Total Wood	**2,321**	**5.5%**	**0**	**0.0%**

‡ NYSDEC MSW Combined Composition Analysis and Projections.

Table 2- 3 continued: Estimated MSW Recoverable Materials in Tioga County				
Material	**Estimated MSW Tons Generated (2023)**	**Estimated % of Total Tons Generated (2023)**	**Estimate of Actual MSW Tons Diverted (2023)**	**% of Each Material Diverted (2023)**
DYI C&D	**2,840**	**6.7%**	**0**	**0.0%**
Diapers	**675**	**1.6%**	**0**	**0.0%**
Electronics	**599**	**1.4%**	**162**	**27.0%**
Tires	**737**	**1.7%**	**302**	**41.0%**
HHW	**145**	**0.3%**	**36.28**	**%**
Soils and Fines	**206**	**0.5%**	**0**	**0.0%**
Other Durables	**741**	**1.8%**	**0**	**0.0%**
Total Miscellaneous	**5,943**	**14.1%**	**500.28**	**8.4%**
Total	**42,286**	**100.0%**	**6,018.28**	**14.2%**

Variations within the building sector from new construction, renovation, and demolition activities are considered from both the residential and non-residential generating sectors.

Based on the data reported in the NYSDEC 2020 Facility Annual Reports, Table 2-4, below, provides an overview of the tons of C&D debris that could be recovered or diverted from a waste disposal location if the appropriate programs were in place.

Based on the quantities of potential divertible materials that were reported to the NYSDEC or estimated, Tioga County diverted approximately 2,365.0 tons of material (23.3 percent) from the C&D disposal stream in 2020. Table 2-4, above, indicates that 10,165 tons of C&D materials that could potentially be available for diversion from residential and non-residential construction, renovation or demolition projects. This A task has been added to the Implementation Schedule to evaluate and implement data

Table 2- 4: Estimated C&D Debris Recoverable in Clinton County‡				
Material	**Estimated Components of C&D Debris Tons Generated per NYSDEC Model**	**% of Total C&D Debris Generated (%)**	**Tons of C&D Debris Diverted per 2020 Data Obtained**	
			Tons Diverted	**% Diverted**
Concrete/Asphalt/Rock/Brick	3,597.6	35.4%	2,239.0	62.2%
Wood	1,504.2	14.8%	125	8.4%
Roofing	501	4.9%	0	0.0%
Drywall	258	2.5%	0	0.0%
Soil/Gravel	2,766.4	27.2%	0	0.0%
Metal	600.8	5.9%	0	0.0%
Plastic	40.3	0.4%	0	0.0%
Corrugated/Paper	203.2	2.0%	0	0.0%
Other	693.5	6.8%	0	0.0%
Total	**10,165.0**	**100.0%**	**2,365.0**	**23.3%**

‡ NYSDEC MSW Combined Composition Analysis and Projections.

collection efforts. Chapters 3 and 6 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.

3.0 Existing Program Description

3.1 Brief History

Tioga County's solid waste management system has consisted of two transfer stations, one privately owned (Taylor Garbage Services, Inc., Owego, NY) and the other owned and operated by the County (Barton Transfer Station, Barton, NY) since 1997.

In September 2011, Tioga County was devastated by Tropical Storm Lee. The National Weather Service recorded a maximum of 11 to 12 inches of rain falling in a 48-hour period over the County, with most of this rain falling over a 24-hour period

on September 7th & 8th. Apalachin, Town of Owego recorded rainfall amounts of up to 12 inches. The storm caused widespread flash flooding on the county's smaller streams on September 7th and historic flooding along the river corridor on September 8th. This storm caused massive destruction to local roads, bridges, businesses and private properties. It is estimated that for Tioga County alone there was $300 million in damages; $100 million in infrastructure and $200 million in property loss.

Over five (5) feet of floodwater was in the main office at the Transfer Station. Due to the damages caused by the flood and the continuing decrease in tonnage recorded there which resulted in declining revenue, it was decided to close the transfer station and put it out to bid for sale. Taylor Garbage Services, Inc. won the bid and currently owns and operates the Barton Transfer Station.

The County encourages proper disposal and recycling of tires, white goods, and bulk metal at one of Taylor Garbage's Transfer Stations. Tioga County also encourages its residents to properly dispose of their household hazardous waste (HHW) and electronics (E-Waste) through our program with Broome County in which residents may bring their HHW up to the Broome County Hazardous Waste Facility any of the scheduled 24 days from April through November.

There is a privately owned and operated single-stream material recovery facility (MRF), Taylor Garbage dba Southern Tier Recycler's, located in Apalachin, NY. Prior to 2021, Tioga County has contracted the county-wide curbside recycling pick up out for more than twenty years with Taylor Garbage dba Southern Tier Recycler's. This program weekly collected and processed the recycling for all the households in Tioga County.

3.2 Current Solid Waste Management System

3.2.1 Landfill Facilities

Tioga County currently does not own or operate any active landfills. There are landfills located outside of Tioga County which are available for the disposal of MSW and C&D. Chemung County landfill has accepted material from the Tioga County. Chemung County Landfill serves as the primary location for Tioga County material. Ontario County, Seneca Meadows and Hyland Landfills are three other landfills that could accept material from the Tioga County. Other landfills also exist throughout New York State; however, they may have disposal restrictions or are located outside a reasonable service area to accept waste generated in Tioga County. The out-of-county landfills accepting Tioga County waste are summarized in Table 3-1.

3.2.2 Transfer Stations or Drop-Offs

Tioga County currently does not own or operate any transfer stations. There are three privately owned transfer station in the Towns of Owego and Barton that accept both commercial and household materials and the Apalachin transfer station that is not open to the public. All three of the transfer stations are owned and operated by Taylor Garbage. In August of 2023, Taylor Garbage Services Inc. was sold to Casella Waste Systems, Inc.

The Town of Richford owns and operates a small transfer station which serves its residents and the surrounding Tioga County municipalities' residents.

Many residents and businesses contract with a private hauler for their MSW and recycling to be collected curbside, but they can elect to deliver their materials to one of the privately owned transfer stations or Town of Richford's transfer station (see Table 3-2).

Table 3-1: Out-of-County Solid Waste Landfills Servicing Tioga County Waste†					
Solid Waste Facility	**Facility Address**	**Permitted Capacity (cubic yards)**	**Expected Site Life (years)**	**Waste Types Accepted†**	**Operating Status**
Chemung County Landfill	1488 County Road 60, Elmira, NY 14901	6,308,239	10.8	C&D Debris; Industrial Waste; MSW (Residential/Institutional & Commercial); Sewage Treatment Plant Sludge	Publicly owned by Chemung County and privately operated by Casella Waste
Ontario County Landfill	1879 State Route 5 & 20, Stanley, NY 14561	6,419,439	8.0	Asbestos; C&D Debris; Industrial Waste; Sewage Treatment Plant Sludge; MSW (Residential/Institutional & Commercial)	Publicly owned by Ontario County and privately operated by Casella Waste Systems, Inc.
Seneca Meadows Landfill	1786 Salcman Road, Waterloo, NY 13165	10,024,038	3.9	Ash MSW Energy Recovery Fly; C&D Debris; Non-petroleum Contaminated Soil; Sewage Treatment Plant Sludge; Industrial; MSW (Residential/Institutional & Commercial); Waste Tires; Treated RMW; Grit & Screenings; Asbestos (Friable & Non-Friable)	Privately owned and operated by Seneca Meadows, Inc.
Hyland Landfill	6653 Herdman Road, Angelica, NY 14709	5,858,906	9.5	Asbestos (Friable); C&D Debris; Non-petroleum and petroleum contaminated soil; Sewage Treatment Plant Sludge; MSW (Residential/Institutional & Commercial)	Privately owned by Hyland Facility Associates and privately operated by Casella Waste Systems, Inc.

†NYSDEC Annual Facility Reports, 2020 and https://data.ny.gov/Energy-Environment/Landfill-Solid-Waste-Management-Facilities-Map/afg5-7i6u

Table 3-2: Solid Waste Facilities & MRF			
Facility	**Facility Type**	**Facility Address**	**Waste Types Accepted**
Taylor Garbage†	Owego Transfer Station	352 Glen Mary Dr Owego, NY 13827	MSW, C&D Debris, Waste Tires, Scrap Metal, Recycling
	Barton Transfer Station	1216 Route 17C Barton, NY 13732	MSW, C&D Debris, Waste Tires, Scrap Metal, Recycling
	Apalachin Transfer Station	5730 Route 434, Apalachin, NY 13734	Recycling
Town of Richford	Transfer Station	7 Town Barn Rd, Richford, NY	MSW, Recycling, Electronics
Weitsmans	Scrap Yard- large	15 W Main St, Owego, NY 13827	Scrap Metal

† In August of 2023, Taylor Garbage Services Inc. was sold to Casella Waste Systems, Inc.

The two privately owned transfer stations are equipped with truck scales and is a PAYT facility. Town of Richford has a small hand scale which they use to weigh the materials and charge a fee for their customers material.

3.2.3 Material Recovery Facility

In the fall of 2012, Taylor Garbage (now Casella Waste Systems, Inc.) constructed a state-of-the-art Material Recovery Facility located in Apalachin NY. On January 3rd, 2020, there was a devastating fire that totally destroyed the facility. Taylor Garbage rebuild upgrading much of the systems in particular the fire-retardant systems. The new facility was fully running by early 2022.

3.3 Waste Reduction Programs

Not all data is available for the residential recycling sector; therefore, Chapter 6 includes solid waste management program strategies to address data collection, education, outreach and enforcement needs, etc., for each facility or program that manages residential recyclables generated in Tioga County. The evaluations are to assess the effectiveness and/or needs of these facilities and programs and Tioga County's activities related to them, to determine what

improvements, partnerships, or other alternatives should be evaluated for implementation and what the future recovery goals should be.

3.3.1 Hazardous Waste Program

The Tioga County Hazardous Waste Program has had an inter-municipal agreement with Broome County Solid Waste since 2000 in which Tioga County residents may bring their Household Hazardous Waste (HHW) up to the Broome County's Permanent Hazardous Waste Facility located at the Broome County Landfill. As of December 2022, this program has provided a safe method for the County residents and agricultural generators to dispose of 749,825.85 lbs. or 374.91 tons of hazardous waste and electronics over the past twenty-three years at an average cost of $0.73 per pound. The electronic recycling portion of this program has recycled a total of 298,888 lbs. (149.4 tons) since this program included electronic waste in 2003.

3.3.2 Electronic Waste Program

Tioga County supports other outlets for our residents to recycle electronic waste besides the Hazardous Waste Program.

3.3.2.1 Municipalities

Town of Richford has now opened their electronic waste collection to all Tioga County residents (https://richfordny.com/solid-waste-recycling/). Some of the other municipalities hold cleanup events. The County has partnered with these municipalities to include electronic waste where the County pays for non-covered electronic waste.

3.3.2.2 Education & Outreach

The County has information on our website (https://tiogacountyny.gov/Sustainability) on alternatives of disposing/recycling electronic waste. A copy of the electronic waste

program column that are release to local newspapers/social media is included in Appendix D.

3.3.3 Partnerships with Municipalities Cleanup Events

In 2008, Upstate Shredding-Ben Weitsman & Son donated $50,000 over five years to Tioga County to initiate "tire clean up events" within Tioga County. Through these events, the County has provided a safe and economical method for both resident and municipalities to dispose of waste tires. To date, we have safely disposed of over 500 tons of tires.

During the fifth and final year of the program, Upstate Shredding-Ben Weitsman & Son agreed to donate another $50,000 over the next five years to continue this successful program and beautification of Tioga County.

The seventh annual tire and scrap metal collection program was held in 2014 which the following towns participated in: Barton, Owego, Candor, Spencer, and Tioga. Over 720 tons of tires have been cleaned up and properly disposed within Tioga County since the inception of this program.

Some of the municipalities have continued holding tire cleanup events and have partnered with Tioga County Solid Waste to include E-Waste where the County pays for non-covered e-waste. More details in the electronic waste program in the previous section.

3.3.4 Household Battery and Fluorescent Bulb Program

In addition to the Curbside Recycling Program, Tioga County has implemented a household battery and fluorescent bulb drop-off program. Tioga County partnered with Taylor Garbage (Tioga Waste Management Facility at 352 Glen Mary Drive, Owego) for year-round Battery and Fluorescent Bulb Drop-Off program, so residents may dispose of these items in a safe manner.

Tioga County Solid Waste has information on our website (http://tiogacountyny.gov/Sustainability) on safe handling, disposal and if need be cleanup of fluorescent bulbs. A copy of the household battery and fluorescent bulb program column that we release to local newspapers is included in Appendix D.

3.3.5 Mercury Program

It is well known that mercury is an extremely toxic substance that does not breakdown easily once released into the environment, and therefore its disposal needs to be controlled. Mercury containing devices have been accepted at Broome County's Hazardous Waste Facility through Tioga County's Household Hazardous Waste Program since the program's inception. The County has begun an educational program on proper handling and disposal methods of mercury containing products such as thermometer and thermostats. The goal of this program is to provide residents with a clear and safe method of how to dispose of these items and reduce the instances of improper disposal. An example column to be released to local newspapers is included in Appendix A. Our website for the mercury program can be viewed at http://tiogacountyny.gov/Sustainability.

3.3.6 Prescription Program

While prescription and over-the-counter medications can help people and animals when used appropriately, the same medicines can be dangerous to people, animals, and the environment when used, stored, or disposed of improperly. For the past two years, the Department of Public Health has held medication drop-off events and has recently been working with the Tioga County Sheriff's Department to locate a permanent New York State Medication Drop Box Program at the Tioga County Sheriff Lobby.

The Village of Waverly's (in the western part of the County) Police Department is now participating in the New York State Medication Drop Box

Program and has a box located at their station at 32 Ithaca Street, Waverly. Tioga County Solid Waste supports these programs and will educate the residents about these drop boxes.

4.0 Existing Administrative and Financial Structure

4.1 Staff in Charge of Implementing New System

Tioga County is responsible for the implementation of the program strategies described in Section 5.0. Specifically, the Sustainability Manager is responsible for the program administration, finances, outreach and education, data collection and evaluation, and LSWMP updates and reports. To accomplish this, the County works with stakeholders, including municipalities, businesses, organizations, and private sector waste managers to address the implementation of the program strategies.

On a biennial basis, the County will assess the status of the implementation of these strategies and update them as necessary to continue to fulfill the County's needs.

4.2 Financial Structure

The goal of financing the Department of Solid Waste budget is to enable the development, maintenance, and sustainability of an integrated solid waste management system that facilitates waste reduction, reuse, recycling, composting, and other diversion activities to the greatest extent possible. Where possible, the financing system is also designed to create incentives for diversion of materials from disposal. The revenue stream for Tioga County is obtained from the Tioga County property taxes and grant revenue from funds obtained through contracts with granting entities. Table 4-1 provides a summary for year-year for Tioga County Solid Waste from the 2023 Adopted Budget.

Table 4-1: 2021-2023 Tioga County Solid Waste Budget			
	2023 Adopted Budget	**2022 Actual Budget**	**2021 Actual Budget**
Revenue			
Grants/State Aid	$30,000	$16,894.27	$53,380.70
Expenses			
Personnel & Fringe	$87,354	$87,236.64	$85,427.13
Supplies	$13,000	$16,483.44	$1,461.28
Contractual	$175,000	$71,276.85	$62,377.25
Total Expenses	$275,354	$174,996.93	$149,265.66

Source: Adopted 2023 Budget for Tioga County

4.3 Laws, Regulations or Ordinances

4.3.1 Local Law

In 1992 Tioga County passed Local Law (Adopting Tioga County Recycling Law) which required the segregation of recyclables for which economic markets exist from the waste stream. The law was amended in2020 which established a new

Tioga County Source Separation Law and repealed this prior law. Generally, this local law:

- establishes the management structure for the solid waste management system within the county;
- prohibits the mixing of recyclables with solid waste;
- establishes the list of recyclable materials within the county;
- details prohibited disposal activities; and,
- sets enforcement policies and penalties.

The Tioga County does not employ any law enforcement to the County's recycling laws; however, the local law enforcement, sheriff deputies and EOC officers all work on ensuring that trucks transporting waste to the transfer stations are tarped/covered and responding to complaints of trash being illegally dumped.

4.3.2 Waste Importation and Flow Control

Tioga County does not currently have any laws relating to the import or export of waste to or from Tioga County.

4.4 Solid Waste Management Policies

Tioga County does not currently have formal solid waste management policies besides the Source Separation Law.

5.0 Alternative Technology Evaluation

The County evaluated various technologies that could possibly enhance existing solid waste management program elements or add new program elements to the planning unit as alternative programs. While expansions of the existing technology may be necessary to provide ongoing capacity, no significant technological changes from existing approaches are anticipated during the planning period. The County will transcend recycling by incorporating reuse and prevention into the approach in a holistic manner. As a result, many of the opportunities identified below will focus on expanding strategies for incorporating waste reduction and reuse in the Planning Unit. The Alternative Technology Analysis Tables of these opportunities are found in Appendix E. Over the 10-year planning period, the County will promote a circular economy, while focusing on opportunities to reduce, reuse, recycle, compost, and think prior to disposal.

5.1 Waste Reduction Programs

Waste prevention represents the largest opportunity to reduce waste by not creating it in the first place. This requires a departure from a single-use, disposable mindset that is pervasive in this country. Community engagement and education along with modifications to infrastructure and systems will all support such a shift. Through changes in production, operational processes, purchasing practices, and behavior, businesses, institutions, and individuals can reduce waste. Over the coming decade Tioga County will grow and expand waste reduction strategies with community partners.

5.1.1 Economics of Waste Reduction Plan

Tioga County will conduct an Economics of Waste Reduction Plan in Tioga County in 2024-2025. From this plan, the county will use it as a guideline for best practices for waste reduction and reuse and promotion of a circular economy.

5.1.2 Education & Engagement

Educational efforts can support increased awareness for, and a shift in behavior changes away from disposal to a waste reduction mindset. Public education campaigns may encompass a variety of media ranging from in-person and virtual workshops to printed or electronic guidance documents, toolkits, murals, social media posts, collaborative events, and videos. As a component of each educational campaign, Tioga County will identify a target audience, messaging, and tailored resources to meet their unique need. Topics may range from simple messages like "don't be like this" and "ask first" for reducing waste and recycling properly to alternatives to single-use products. Examples of these changes in product use might include choosing cleaning rags in favor of paper towels, dryer balls to replace dryer sheets, and other durable household and reusable items.

Community based social marketing techniques will be utilized to demonstrate community embracement of these strategies in a thoughtful manner. This might include public campaigns in which not-for-profits highlight waste reduction practices to prevent waste, and other strategies that demonstrate widespread adoption of techniques. Spotlights of success stories may be developed to spur increased activity and motivate participation.

5.1.3 Biosolids Management

As previously indicated in Table 2-1, sewage sludge is generated at 5 wastewater treatment plants in Tioga County. The management of these materials has been primarily handled at each facility with biosolids being landfilled. Tioga County will advocate for improved waste removal from biosolids and eventual land application of said biosolids.

5.2 Reuse Programs

After evaluating options for waste prevention, the County's next approach is to support initiatives to reuse materials. The following outlines proposed reuse strategies. It should be noted that the County will use the findings from the Economics of Waste Reduction Plan guide us with future waste reduction strategies to incorporate reuse by the nature of extending the lifespan of existing items to reduce waste and prevent the need for new materials.

Some reuse activities are directly managed by County staff and other initiatives are accomplished through public-private partnerships or solely by external organizations. Tioga County will work with partners across the county to support increased activity. The selected strategies were chosen because of their ability to integrate with existing programs while increasing diversion in the county, and many of these initiatives also include low-cost opportunities to build reuse.

5.2.1 Innovative Reuse & Education

Innovative reuse and reuse education are projected to continue over the planning period and may connect with initiatives of repair and sharing. These activities present an opportunity to further engage the community around this subject and promote shift in thinking about what waste is. Educational efforts can encourage individuals to use their imagination in keeping items out of the landfill.

Innovative reuse projects can give otherwise "useless" items new life, such as medical equipment, fabric and yarn scraps, damaged books and household items, etc. Secondhand stores offer reused materials that can be incorporated into projects and present the potential to demonstrate techniques for practicing innovative reuse. This viable economic skill can lead to the development of microenterprises, bolstering the economy and creating jobs.

Many local artists incorporate secondhand materials as feedstocks for new work. Opportunities exist to cultivate upcycled art exhibits, mural projects promoting reuse and community workshops that teach skills building for innovative reuse.

5.2.2 Paint and Hazardous Waste

While there is currently an informal process for paint reuse in the community, there is opportunity for additional infrastructure to support reuse. Tioga County participates with PaintCare through its HHW program in which the County contracts with Broome County. This provides additional advertising as a residential outlet for PaintCare-covered materials and covers the cost of recycling or disposal of the material. The County also promotes the PaintCare program on its website (https://tiogacountyny.gov/Sustainability) and advertising in local newspapers (See Appendix D).

5.2.3 Electronics

Electronic equipment has an increasingly short shelf-life as new products are rapidly developed and marketed. The County promotes electronic recycling options for residents including promoting local municipalities cleanup events that include electronic recycling; Town of Richford Electronic Recycling Program; and Household Hazardous Waste & Electronic Recycling Program.

"Right to Repair" legislation passed in NYS may impact this category; currently electronic reuse is constrained by availability of replacement parts and even access to test or repair components, especially for laptops, cellphones, and tablets. If legislative efforts are successful, there should be more demand for affordable repair options instead of replacement of higher-expense items like these. These efforts help to not only increase product life before recycling and disposal, but also support workforce development skills as well as widen distribution to community members across various income levels. As electronics become even more prevalent in the community, Tioga County will continue to promote and support these initiatives where possible.

5.2.4 Product Stewardship Framework

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 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. It is the long-term intent of Tioga County to adopt these product stewardship framework principles through a resolution when practical.

5.3 Recycling Programs

After the above options reduction and reuse have been considered, the County then encourages recycling. Program development is designed with convenience and accessibility in mind, offering options for both the residential and commercial sectors. Similar to the aforementioned categories, strategies can be direct or educational and may be achieved by County employees, partnerships, or external efforts. With longstanding recycling programs already established in Tioga County, many of the highlighted strategies are designed to build on existing infrastructure and programs. Tioga County will continue to monitor and evaluate options for partnerships to further diversion of new materials, as opportunities arise.

5.3.1 Recycling in Tioga County

In 2021, Tioga County privatized the collection of recycling due to rising costs. Not only does the Local Source Separation Law (Appendix C.1) dictate how waste and recycling is to be handled in Tioga County, but the County staff has developed good relationships with the private haulers to ensure a consistency of the recyclable materials being collected in the county and draws on the strengths of the private sector to market recyclable materials in all market environments at the private MRF (see Section 3.2.3 & Table 3-2) located in Apalachin. Tioga County will be modifying its Local Source Separation Law to include permitting of all private haulers working in the planning unit (see proposed modified law Appendix C.2). The modifications are in red.

5.3.1.1 Addressing Contamination in Collected Recycling

The County uses the "Recycle Right" campaign and included additional outreach and education efforts to residents reducing the amount of contamination. During this planning period the County will

access contamination and if necessary, initiate an enforcement plan similar to Tompkins County.

5.3.1.2 Additional Material Recovery

In addition to single stream recyclables such as paper and containers, other materials are recyclable in Tioga County. The following materials are currently accepted for recycling at though various outlets also exist for these and other recyclables:

- Batteries – Lithium Ion, Lead Acid, & Rechargeable
- Electronics
- Propane Tanks
- Scrap Metal
- Single Stream Recycling
- Textiles
- Tires
- Yard Waste

For more information, see the County's website tiogacountyny.gov/Sustainability for its Recycling Search Tool. This tool is a comprehensive search tool enabling residents and businesses to look up how to recycle or properly dispose of a wide variety of items.

5.3.2 Textile Reuse/Recycling

Textiles reuse initiatives in Tioga County are solutions based, offering drop-off methods, as well as education-based and raising awareness. Some initiatives are operated directly by County staff while others are implemented through partnerships or by separate organizations to offer residents a convenient means of reusing and recycling textiles.

Reusing or recycling your textiles can help save money by avoiding landfill tipping fees, conserve energy used in the manufacture of new products, save landfill space, and benefit people in need. As a recyclable material, textiles should not be tossed in the trash.

The County promotes textile reuse and recycling through newspaper columns and our website. The textile reuse/recycling program can be viewed on the County's webpage (https://tiogacountyny.gov/Sustainability). A copy of the column that was released to local newspapers is included in Appendix D.

During the coming planning period, current efforts will continue to be supported, and new opportunities will be evaluated for implementation as they arise. Tioga County staff will review other initiatives, such as to identify further strategies and their fit for implementation in the Planning Unit.

5.3.3 Borrow-A-Bin Program – Special Event Recycling

Tioga County proposed to initiate a Borrow-A-Bin program to loan out recycling bins for community events. See Table 1-8 (page 19, Section 1.4.5) lists the special events in the Planning Unit, along with conditions and impacts that affect implementation of this LSWMP and achievement of its goals. This data will be updated throughout the planning period as more information becomes available.

5.4 Reducing Food Waste & Organic Recovery

Educational efforts can support increased awareness for and a shift in behavior changes to reduce food waste as well as support food recovery. Public education campaigns may encompass a variety of media ranging from in-person and virtual workshops to printed or electronic guidance documents, toolkits, social media posts, collaborative events, and videos. As a component of each educational campaign, Tioga County will identify a target audience, messaging, and tailored resources to meet their unique need.

5.4.1 Backyard Composting Program

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 implement 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 to provide composting education and best practices.

5.5 Enforcement Programs

The Local Source Separation Law (Appendix C.1) offers the necessary framework to ensure that all stakeholders and operators within the solid waste system in Tioga County follow the same guidelines, providing an equitable starting point for competition, while documenting information that is needed to ensure compliance.

Tioga County is proposing to modify Local Source Separation Law (Appendix C.2, modifications in red) to include permitting of private haulers. This addition is designed to maintain public health and safety, environmental responsibility, and promote increased waste diversion.

During the next planning period, the County intends to conduct a review of its laws, as well as consult with outside sources, in order to ensure its local solid waste laws are up to date. As a first step, staff will ensure a thorough understanding of current and past practices relating to each law. Research will be conducted locally

and in other communities to understand best practices and opportunities to enhance each law for compliance with NYS Part 360 regulations, while maximizing waste diversion locally. As laws are revised, staffing needs will be evaluated to ensure adequate capacity to enforce updated rules and regulations.

Changes to the rules and regulations will be widely promoted through public outreach. As an effort to increase awareness and education about this strategy, Tioga County has the opportunity to increase publicity about mandatory recycling and its enforcement. Throughout the course of the planning period, Tioga County staff will seek out and evaluate opportunities to raise awareness about this issue.

5.6 Education & Outreach

Tioga County utilizes multiple methods to share information that both educates and informs the public about the department's programs and services, news, events, and more. These methods include, but are not limited to, the department website, advertisements, printed materials, in-person engagement, videos, email, phone, press releases, social media, and radio/tv.

The County's website, https://tiogacountyny.gov/Sustainability is the primary method of communication with the public. All other methods, including print materials, press releases, social media posts, etc., direct audiences back to the website and reiterate content found there. Tioga County staff will continue to improve the website, making it easy to navigate and creating clear, concise, accurate, audience appropriate content over the next 10-year planning period.

5.6.1 Website

The website for the department contains information about existing programs and services. It also provides a comprehensive search tool enabling residents to look up how to dispose/recycle of a wide variety of items. All other channels of communication reference and link back to the website

whenever possible. It also provides a quick and easy method to email the department to asks question or provide comments.

5.6.2 Printed Materials

Printed materials with information about Tioga County programs and services are created by County staff. Materials include, but are not limited to, brochures, magnets, posters, and programs.

5.6.3 In-Person Engagement & Outreach

Tioga County staff has opportunities to engage with the public throughout the year. Such opportunities include, but are not limited to, community events, presentations, and at legislative meetings. County staff creates interactive games to engage with the public at community events throughout Tioga County. Staff participate in many community events in Tioga County throughout the year which allows for direct engagement with residents, sharing of information about services and programs, and direct feedback from the community.

5.6.4 Social Media

Tioga County uses Economic Development & Planning (TeamTioga), Soil & Water and Public Health Departments Facebook accounts to post events and education material to the residents and businesses in Tioga County.

5.6.5 Advertisements

Advertisements are placed with local media outlets monthly and as needed throughout the year.

5.6.6 Videos

The County has had videos created contracted video/graphic designers focusing on waste reduction and recycling right. These videos are

shared on the department's website and with clips on social media. County is planning on creating more videos focusing on local waste reduction.

5.6.7 Press Releases

Press releases are written by staff and are approved by the Legislative Chair prior to releasing. Press releases focus on current issues and programs and services offered by Tioga County. Press releases are shared with local media and on the website as well as social media channels.

5.6.8 Radio/TV

On occasion, the Tioga County staff are asked to participate in interviews to be aired on local radio stations. The department also creates program or service specific Public Service Announcements.

5.6.9 Reports

Tioga County produces an annual report and other reports as required by Tioga County Legislature and NYDEC.

5.7 Data Collection & Evaluation

The County has a recycling program, with many materials being mandatory to recycle. While the County offers recycling options, the Annual Solid Waste and Recyclables Inventory produced by the County consistently reports recycling percentages below the County's recycling goals set forth in the original plan. It is the County's belief that this is due to the fact that reported recycling numbers are based solely on the materials that are handled through transfer stations and private curbside haulers in the County. Small and medium industries that could be producing significant amount of recyclables. As a result, these materials are not being accounted for in the County's recycling reports.

Tioga County will undertake several recycling data surveys over the course of the planning period, which will be distributed to various generators in the County in order to compile a more complete set of recycling data. These surveys will be

used to help assess what materials could be available for use in new programs such as organics composting and C&D material recycling. The survey will most likely be conducted in stages, with the largest waste producers being contacted first. The groups of generators could include: (1) retail businesses (groceries, restaurants, stores); (2) industries; (3) schools and institutions; (4) libraries, jails and nursing homes; (5) the public sector and special events. 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 Tioga County. This information will then be compiled to help the County more accurately 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. If response rates are low, the County will consider enforcement of the hauler licensing and reporting component of the law to obtain better data.

5.8 Debris Management

In 2013 Tioga County Department of Solid Waste completed a comprehensive Debris Management Plan that was accepted by the NYS Division of Homeland Security & Emergency Services. Tioga County will be updating this plan in 2025 and investigate contracting for the emergency services/debris monitoring and cleanup which would be renewed as needed.

5.9 C&D Reuse & Recovery

A Community Reuse Center would not only reduce waste but also create jobs and provide opportunities for unemployed job seekers to obtain highly marketable job skills through hands-on training in the sale and processing of used materials. Using the Economics of Waste Reduction Plan, the County will use best practices to support reuse and recovery of C&D deconstruction activities by both the private and not-for-profit sector.

6.0 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. For all of the implementation items, the expected impacts will be distributed throughout the entire planning period. The preliminary implementation schedule for the Plan is outlined in Appendix F. 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 LSWMP Compliance Reports, which are planned to be issued by the County every 2 years per NYSDEC requirements. An example outline of an LSWMP biennial compliance report is included in Appendix G.

7.0 Waste Stream Projections

Previous sections of this Plan discussed the quantities of waste generated, disposed of, and diverted from the waste stream. This section will present the projected MSW diversion rates as well as the projected C&D debris diversion rates for the duration of the planning period. Recycling rate projections increase over the course of the planning period. These future waste generation projections are depicted in the tables provided in Appendix B.

As previously indicated, the data reported in this Plan was based on the best available data at the time this report was prepared. Future tasks to be considered in the Implementation Schedule include improving data gathering methods and reporting to improve upon the County's known data. With the help of improved data, the County will have a clearer picture of the programs that should be evaluated and implemented.

7.1 Anticipated Changes to the Local Planning Unit

Tioga County has generally experienced strong population growth over the last 50 years, with a decline in the last two decades from 52,337 in 1990 to 48,567 in 2021. In 1940 population was 27,072, increasing 11% to 30,166 in 1950. This growth trend

continued throughout the 1950's and rose to 37,800 in 1960; this was a 25.2% growth rate. From 1960 to 1970 the population gained another 23% reaching 46,500 residents. The rate of growth slowed in the 1970's to 7.1% or 49,800. The 1980's saw a 5% gain reaching the population to a peak of 52,300 in 1990. The 1990's saw the county's first decline in population since 1920. The population has continued to decline since 1990 and was reported by the 2021 American Community Survey as 48,567 which is a 7.2% decline.

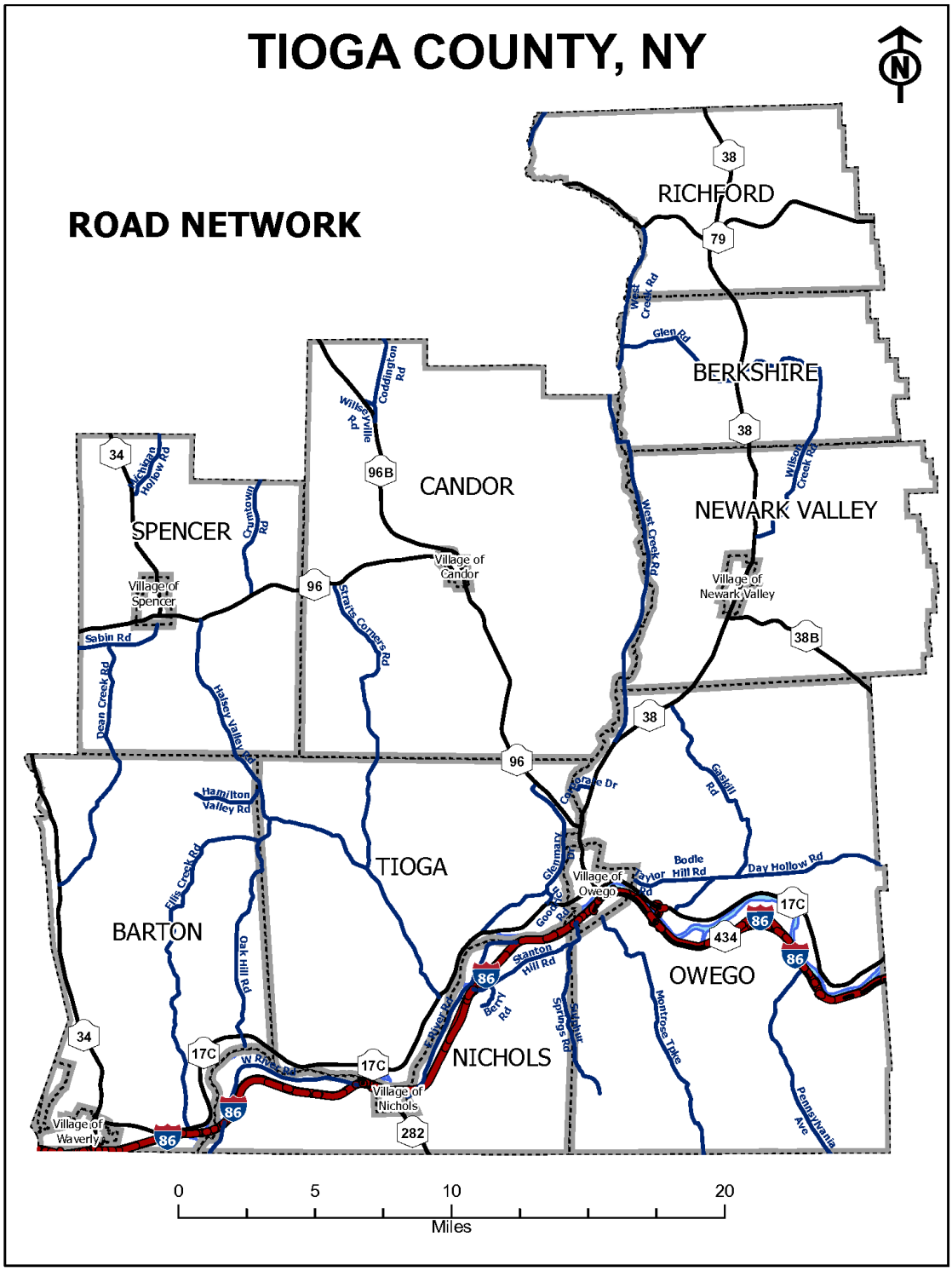
7.2 Anticipated Changes to the Waste Stream

Over the course of the previous planning period, changes to the waste stream have occurred nationally, which includes local trends in Tioga County as well. Consumers have moved towards a throw-away society where one-time use products and convenience are preferred instead of environmental concerns. Consumer products are quickly replaced with newer models or better versions. Household items including thermostats, electronics, and batteries contain harmful chemicals such as mercury, Freon, and heavy metals. Proper disposal and diversion are key aspects of solid waste management today. Education is an integral component to changing materials management practices nationally, as well as locally.

Based on the declining population projection trends referenced in Section 7.1, it is the opinion of the County that the amount of waste produced within its borders will parallel the population's projected downward trend. It is also anticipated that with the implementation of this Plan, more data will be collected to inform potential waste diversion programs that can be made available to the community. This, in addition to better data capture for private facilities, should increase the County's waste diversion percentage. Section 5.0 describes the various programs that will be made available to county residents and how these tasks and goals will be implemented.

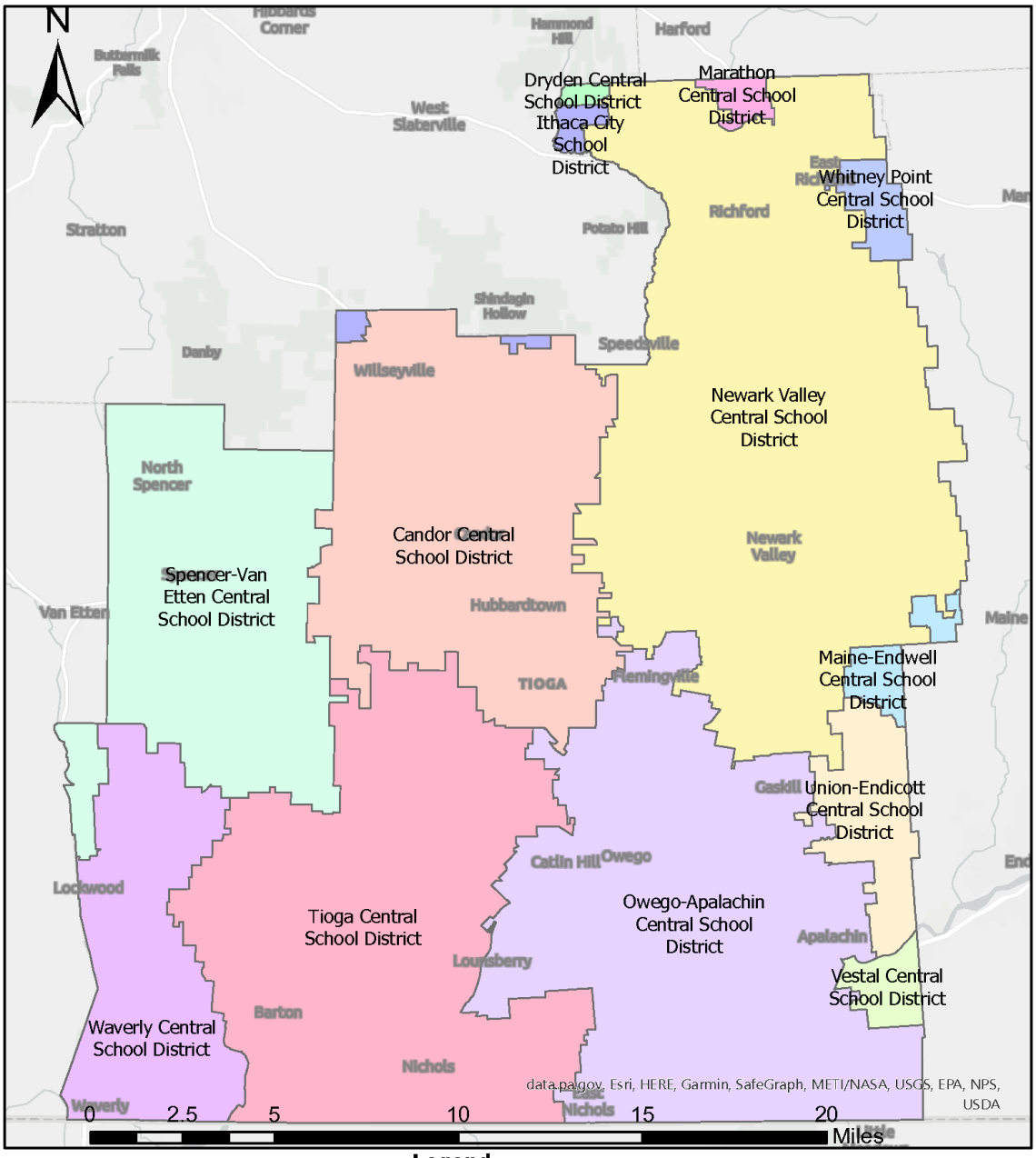
Appendix A

Resource Maps



Tioga County transportation corridor and municipalities. Tioga County Planning

Tioga County School Districts



Legend

School Districts

NAME

- Candor Central School District
- Dryden Central School District
- Ithaca City School District
- Maine-Endwell Central School District
- Marathon Central School District
- Newark Valley Central School District
- Owego-Apalachin Central School District
- Spencer-Van Etten Central School District
- Tioga Central School District
- Union-Endicott Central School District
- Vestal Central School District
- Waverly Central School District
- Whitney Point Central School District
- <all other values>

Appendix B

Detailed Waste Composition Spreadsheets

Appendix B.1

Municipal Solid Waste

Combined Composition Analysis and Projections

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.

Planning Unit	Tioga County
Planning Period	2024-2033

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.

Tioga 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):
- ( ) 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 disposed here: 36,268

Enter tons diverted here: 6,018

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 overtime, 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 …

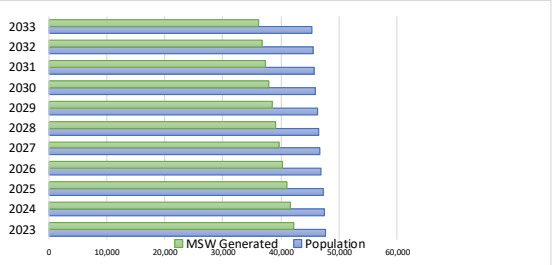
An **Annual Factor of Reduction (%)** should be calculated, defined, and selected by the planning unit. This factor will be the numerical representation of one of the planning unit's **goals** for the planning period. Once calculated, the Annual Factor of Reduction can be chosen from the drop down list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

Tioga County 2024-2033

Current Data	
2020 Population Census	48,455
2023 Population	47,700
2023 MSW Generated (Tons/yr)	42,286
2023 MSW generation rate (Lb/person/day)	4.17
2023 MSW Disposed (Tons/yr)	36,268
2023 MSW Diverted (Tons/yr)	6,018



Annual rate of population growth (%)	-0.52%

Population Projection												
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
47,700	47,451	47,203	46,956	46,711	46,467	46,224	45,983	45,743	45,504	45,266	45,030	44,795

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

- ○ 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 ...

Reduction Factor (per year)	1.0%

MSW generation rate (Lb/person/day)	4.85

MSW Generation Projection													
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
4.85	4.80	4.75	4.71	4.66	4.61	4.57	4.52	4.47	4.43	4.39	4.34	4.30	(Lb/person/day)
42,213	41,573	40,942	40,321	39,709	39,107	38,514	37,930	37,354	36,787	36,229	35,680	35,139	Tons/yr

Step 4. Municipal Solid Waste (MSW) Detailed Composition Analysis

The next step is to *Identify the Materials Composition of the Waste Stream*, based on population density, and demographic characteristics of the Planning Unit.
This tab will provide the PU with a more detailed estimate of the materials present in the waste stream, which could be crucial when prioritizing the initiatives and programs of the LSWMP.

The population density distribution has been calculated based on the 2010 Census data and will be auto populated when a planning unit is selected. The following parameters were used:

- Rural: <325 persons/mi^2
- Suburban: >325 and <5,000 persons/mi^2
- Urban: >5,000 persons/mi^2

Under **Density Population Distribution**, the user has the option to modify the percentage values for the **Sector** *(Residential and Commercial/Institutional)* based on land use and specific characteristics of each planning unit. For example: A rural population in Westchester County could be 64% Residential and 36% Commercial / Institutional, while in Wyoming County might be 50% Residential and 50% Commercial / Institutional.

The results are presented on the last right column under **MSW Materials Composition.** Be aware of color changes on the cells, whenever a category represents over 15% of the total waste generation, the cell will turn red to easily identify key categories of the waste stream. It will also facilitate the selection of initiatives, programs, and infrastructure for the solid waste management system.

Note: If no data exists, use the pre-populated information in the worksheet.

Tioga County **2024-2033**

Density Population Distribution		Rural			Suburban			Urban			MSW Materials Composition (%)
		75.37%			24.63%			0.00%			
		Residential	Comm/Inst.	Combined	Residential	Comm/Inst.	Combined	Residential	Comm/Inst.	Combined	
		58.00%	42.00%	100.00%	55.00%	45.00%	100.00%	58.00%	42.00%	100.00%	100.00%
Material	Newspaper	5.20%	1.90%	3.81%	5.00%	1.90%	3.61%	6.60%	2.00%	4.67%	3.76%
	Corrugated Cardboard	6.60%	13.90%	9.67%	6.60%	13.90%	9.89%	6.90%	13.70%	9.76%	9.72%
	Other Recyclable Paper – Paperboard	3.20%	1.10%	2.32%	3.30%	1.00%	2.27%	3.60%	0.90%	2.47%	2.30%
	Other Recyclable Paper – Office Paper	0.80%	3.80%	2.06%	0.90%	4.20%	2.39%	1.10%	5.80%	3.07%	2.14%
	Other Recyclable Paper – Junk Mail	3.00%	0.70%	2.03%	3.20%	0.70%	2.06%	3.50%	0.70%	2.32%	2.04%
	Other Recyclable Paper – Other Commercial Printing	1.70%	2.30%	1.95%	1.70%	2.40%	2.02%	2.30%	2.60%	2.45%	1.97%
	Other Recyclable Paper – Magazines	1.10%	0.90%	1.02%	1.00%	0.80%	0.91%	1.10%	1.00%	1.06%	0.99%
	Other Recyclable Paper – Books	0.50%	0.30%	0.42%	0.50%	0.30%	0.41%	0.60%	0.40%	0.52%	0.41%
	Other Recyclable Paper – Paper Bags	0.50%	0.20%	0.37%	0.50%	0.20%	0.37%	0.60%	0.20%	0.43%	0.37%
	Other Recyclable Paper – Phone Books	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.20%	0.26%	0.30%
	Other Recyclable Paper – Poly-Coated	0.20%	0.30%	0.24%	0.20%	0.20%	0.20%	0.30%	0.20%	0.26%	0.23%
	Other Recyclable Paper (Total)	11.30%	9.90%	10.71%	11.60%	10.10%	10.93%	13.40%	12.00%	12.81%	10.76%
	Other Compostable Paper	6.80%	6.80%	6.80%	6.40%	6.40%	6.40%	6.80%	6.80%	6.80%	6.70%
	Total Paper	***29.90%***	***32.50%***	***30.99%***	***29.60%***	***32.30%***	***30.82%***	***33.70%***	***34.50%***	***34.04%***	***30.95%***
	Ferrous/Aluminum Containers – Ferrous Containers	1.90%	1.00%	1.52%	1.20%	0.70%	0.98%	1.40%	0.70%	1.11%	1.39%
	Ferrous/Aluminum Containers – Aluminum Containers	0.70%	0.40%	0.57%	0.60%	0.30%	0.47%	0.50%	0.40%	0.46%	0.55%
	Ferrous/Aluminum Containers (Total)	2.60%	1.40%	2.10%	1.80%	1.00%	1.44%	1.90%	1.10%	1.56%	1.93%
	Other Ferrous Metals	5.20%	5.40%	5.28%	5.00%	5.80%	5.36%	3.30%	3.70%	3.47%	5.30%
	Other Non-Ferrous Metals – Other aluminum	0.20%	0.30%	0.24%	0.20%	0.30%	0.25%	0.20%	0.30%	0.24%	0.24%
	Other Non-Ferrous Metals – Automotive batteries	0.80%	0.50%	0.67%	0.70%	0.40%	0.57%	0.20%	0.20%	0.20%	0.65%
	Other Non-Ferrous Metals – Other non-aluminum	0.50%	0.30%	0.42%	0.30%	0.40%	0.35%	0.40%	0.20%	0.32%	0.40%
	Other Non-Ferrous Metals (Total)	1.50%	1.10%	1.33%	1.20%	1.10%	1.16%	0.80%	0.70%	0.76%	1.29%
	Total Metals	***9.30%***	***7.90%***	***8.71%***	***8.00%***	***7.90%***	***7.96%***	***6.00%***	***5.50%***	***5.79%***	***8.53%***
	PET Containers	1.10%	0.80%	0.97%	0.90%	0.80%	0.86%	1.20%	1.00%	1.12%	0.94%
	HDPE Containers	1.10%	0.60%	0.89%	0.90%	0.70%	0.81%	1.00%	0.70%	0.87%	0.87%
	Other Plastic (3-7) Containers	0.20%	0.10%	0.16%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.17%
	Film Plastic	5.70%	5.90%	5.78%	5.50%	5.80%	5.64%	5.80%	5.80%	5.80%	5.75%
	Other Plastic – Durables	3.10%	3.20%	3.14%	3.00%	3.20%	3.09%	3.20%	3.30%	3.24%	3.13%
	Other Plastic – Non-Durables	1.60%	1.80%	1.68%	1.60%	1.80%	1.69%	1.80%	1.90%	1.84%	1.69%
	Other Plastic – Packaging	1.40%	1.10%	1.27%	1.40%	1.10%	1.27%	1.50%	1.10%	1.33%	1.27%
	Other Plastic (Total)	6.10%	6.10%	6.10%	6.00%	6.10%	6.05%	6.50%	6.30%	6.42%	6.09%
	Total Plastics	***14.20%***	***13.50%***	***13.91%***	***13.50%***	***13.60%***	***13.55%***	***14.70%***	***14.00%***	***14.41%***	***13.82%***
	Glass Bottles, Jars and Containers	4.10%	3.80%	3.97%	3.90%	3.80%	3.86%	4.30%	3.80%	4.09%	3.94%
	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.50%	0.40%	0.46%	0.30%	0.40%	0.35%	0.40%	0.40%	0.40%	0.43%
	Total Glass	***4.60%***	***4.20%***	***4.43%***	***4.20%***	***4.20%***	***4.20%***	***4.70%***	***4.20%***	***4.49%***	***4.37%***
	Food Scraps	12.70%	13.30%	12.95%	12.90%	15.50%	14.07%	17.20%	25.20%	20.56%	13.23%
	Leaves and Grass / Pruning and Trimmings	3.10%	1.10%	2.26%	11.30%	9.10%	10.31%	4.20%	1.50%	3.07%	4.24%
	Total Organics	***15.80%***	***14.40%***	***15.21%***	***24.20%***	***24.60%***	***24.38%***	***21.40%***	***26.70%***	***23.63%***	***17.47%***
	Clothing Footwear, Towels, Sheets	4.60%	3.00%	3.93%	4.40%	3.20%	3.86%	4.80%	2.50%	3.83%	3.91%
	Carpet	1.40%	1.30%	1.36%	1.70%	1.40%	1.57%	1.70%	0.90%	1.36%	1.41%
	Total Textiles	***6.00%***	***4.30%***	***5.29%***	***6.10%***	***4.60%***	***5.43%***	***6.50%***	***3.40%***	***5.20%***	***5.32%***
	Total Wood (Pallets, crates, adulterated and non-adulterated wood)	***4.10%***	***9.00%***	***6.16%***	***2.90%***	***4.10%***	***3.44%***	***2.00%***	***3.50%***	***2.63%***	***5.49%***
	DIY - Construction & Renovation Materials	8.00%	7.60%	7.83%	3.80%	2.70%	3.31%	4.40%	3.80%	4.15%	6.72%
	Diapers	1.90%	1.10%	1.56%	2.10%	1.20%	1.70%	2.30%	1.10%	1.80%	1.60%
	Electronics	1.30%	1.40%	1.34%	1.60%	1.70%	1.65%	1.30%	1.30%	1.30%	1.42%
	Tires	1.80%	1.80%	1.80%	1.70%	1.40%	1.57%	0.50%	0.40%	0.46%	1.74%
	HHW	0.60%	0.00%	0.35%	0.60%	0.00%	0.33%	0.50%	0.00%	0.29%	0.34%
	Soils and Fines	0.60%	0.60%	0.60%	0.10%	0.20%	0.15%	0.10%	0.10%	0.10%	0.49%
	Other Composite Materials - Durable and/or Inert	1.90%	1.70%	1.82%	1.60%	1.50%	1.56%	1.90%	1.50%	1.73%	1.75%
	Total Miscellaneous	***16.10%***	***14.20%***	***15.30%***	***11.50%***	***8.70%***	***10.24%***	***11.00%***	***8.20%***	***9.82%***	***14.06%***
	Total	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***

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

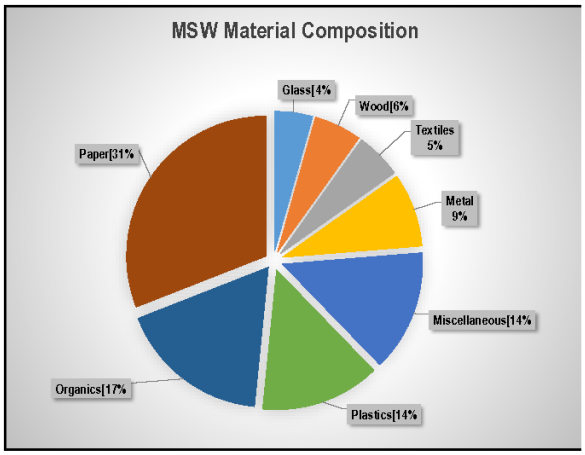
On this tab, the composition of the municipal waste stream will be estimated based on the amount of material generated in the planning unit and the state average of the different waste materials. A pie chart will be generated to clearly show the composition of the waste stream and to identify key categories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

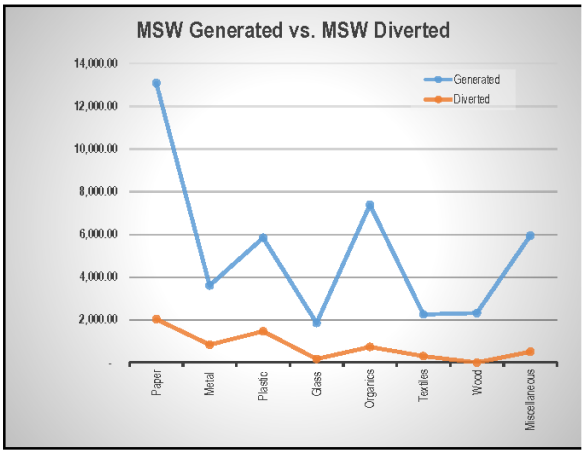
The total tons of MSW diverted per year will be auto populated based on previous data inputs, while the amount tons diverted for each material by category should be populated by the user. Purple cells should be used for amounts of diverted waste by type of material, and a totaled number by category (e.g. 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.

Tioga County **2024-2033**

		2023		
		MSW Materials Composition (%)	MSW Generated (Tons)	MSW Diverted (Tons)
	Material	100.0%	42,286	6,018.28
Paper	Newspaper	3.8%	1,591	800.00
	Corrugated Cardboard	9.7%	4,110	930.00
	Other Recyclable Paper (Total)	10.8%	4,552	300.00
	Other Compostable Paper	6.7%	2,834	0.00
	Total Paper	30.9%	13,087	2,030.00
Metal	Ferrous/Aluminum Containers (Total)	1.9%	818	220.00
	Other Ferrous Metals	5.3%	2,242	162.00
	Other Non-Ferrous Metals (Total)	1.3%	545	450.00
	Total Metals	8.5%	3,605	832.00
Plastic	PET Containers	0.9%	399	76.00
	HDPE Containers	0.9%	368	318.00
	Other Plastic (3-7) Containers	0.2%	71	22.00
	Film Plastic	5.7%	2,430	0.00
	Other Plastic (Total)	6.1%	2,574	1,047.00
	Total Plastics	13.8%	5,843	1,463.00
Glass	Glass Bottles, Jars and Containers	3.9%	1,668	166.00
	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.4%	182	0.00
	Total Glass	4.4%	1,850	166.00
Organics	Food Scraps	13.2%	5,593	193.00
	Leaves and Grass / Pruning and Trimmings	4.2%	1,794	534.00
	Total Organics	17.5%	7,387	727.00
Textiles	Clothing Footwear, Towels, Sheets	3.9%	1,654	300.00
	Carpet	1.4%	596	0.00
	Total Textiles	5.3%	2,250	300.00
Wood	*Total Wood* (Pallets, crates, adulterated and non-adulterated wood)	5.5%	2,321	
Miscellaneous	DIY Construction & Renovation Materials	6.7%	2,840	0.00
	Diapers	1.6%	675	0.00
	Electronics	1.4%	599	162.00
	Tires	1.7%	737	302.00
	HHW	0.3%	145	36.28
	Soils and Fines	0.5%	206	0.00
	Other Composite Materials - Durable and/or inert	1.8%	741	0.00
	Total Miscellaneous	14.1%	5,943	500.28
	Total	100.0%	42,286	6,018.28





Step 6. Municipal Solid Waste (MSW) Diversion Projections

This tab will be used to create goals for the amount of material 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 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.

Tioga County 2024-2033

Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Projected MSW Generation (Tons/yr)	42,213	41,573	40,942	40,321	39,709	39,107	38,514	37,930	37,354	36,787	00,000	00,000
MSW Diverted (Tons/yr)	6,641	7,475	8,410	9,507	10,471	11,453	12,110	12,918	13,625	14,331	14,729	17,925

	Material	MSW Materials Composition (%)	2023 MSW Generated (Tons)	2023 MSW Diverted (Tons)	2023 % MSW Diverted	2024 % MSW Diverted	2025 % MSW Diverted	2026 % MSW Diverted	2027 % MSW Diverted	2028 % MSW Diverted	2029 % MSW Diverted	2030 % MSW Diverted	2031 % MSW Diverted	2032 % MSW Diverted	2033 % MSW Diverted	2034 % MSW Diverted	2035 % MSW Diverted
		100.0%	42,286	6,018	14.2%	15.7%	18.0%	20.5%	23.6%	26.4%	29.3%	31.4%	34.1%	36.5%	39.0%	40.7%	50.2%
Paper	Newspaper	3.8%	1,591	800	50.3%	53.3%	56.2%	58.9%	60.5%	62.0%	65.9%	66.9%	68.7%	70.7%	74.1%	76.3%	78.0%
Paper	Corrugated Cardboard	9.7%	4,110	930	22.6%	33.0%	34.0%	35.0%	36.0%	37.0%	38.0%	39.0%	40.0%	41.0%	42.0%	43.0%	78.0%
Paper	Other Recyclable Paper (Total)	10.8%	4,552	300	6.6%	8.0%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%	26.0%	28.0%	60.0%
Paper	Other Compostable Paper	6.7%	2,834	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Paper	*Total Paper*	30.9%	13,087	2,030	15.5%	20.1%	21.6%	23.2%	24.6%	26.0%	27.7%	29.1%	30.5%	32.0%	33.6%	35.1%	57.6%
Metal	Ferrous/Aluminum Containers (Total)	1.9%	818	220	26.9%	28.9%	30.0%	35.5%	43.2%	49.0%	55.7%	59.0%	64.9%	70.3%	82.4%	90.8%	91.6%
Metal	Other Ferrous Metals	5.3%	2,242	162	7.2%	9.2%	11.0%	17.4%	25.8%	37.0%	49.2%	54.8%	67.2%	76.4%	84.1%	90.1%	90.1%
Metal	Other Non-Ferrous Metals (Total)	1.3%	545	450	82.6%	85.9%	87.0%	88.1%	89.3%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%
Metal	*Total Metals*	8.5%	3,605	832	23.1%	25.3%	26.8%	32.2%	39.3%	47.8%	56.9%	61.1%	70.2%	77.1%	84.7%	90.3%	90.5%
Plastic	PET Containers	0.9%	399	76	19.0%	20.4%	28.3%	36.1%	47.3%	50.6%	52.0%	53.1%	54.8%	59.1%	62.6%	69.1%	72.9%
Plastic	HDPE Containers	0.9%	368	318	86.4%	86.9%	88.0%	89.7%	89.7%	89.7%	89.8%	89.8%	89.8%	89.9%	89.9%	90.1%	90.2%
Plastic	Other Plastic (3-7) Containers	0.2%	71	22	30.9%	31.9%	34.0%	39.1%	46.3%	52.9%	56.1%	57.3%	59.5%	62.7%	63.4%	65.1%	66.2%
Plastic	Film Plastic	5.7%	2,430	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Plastic	Other Plastic (Total)	6.1%	2,574	1,047	40.7%	7.1%	8.2%	10.2%	11.7%	13.8%	15.3%	16.8%	18.1%	19.8%	21.5%	23.1%	25.8%
Plastic	*Total Plastics*	13.8%	5,843	1,463	25.0%	11.2%	12.8%	14.8%	16.7%	18.3%	19.5%	20.7%	21.8%	23.3%	24.8%	26.4%	28.2%
Glass	Glass Bottles, Jars and Containers	3.9%	1,668	166	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	20.0%	21.0%	22.0%
Glass	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.4%	182	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Glass	*Total Glass*	4.4%	1,850	166	9.0%	10.1%	11.1%	12.1%	13.1%	14.1%	15.1%	16.1%	17.1%	18.1%	19.1%	20.1%	21.1%
Organics	Food Scraps	13.2%	5,593	193	3.5%	10.0%	14.0%	18.0%	24.0%	28.0%	32.0%	35.0%	38.0%	41.0%	44.0%	47.0%	50.0%
Organics	Leaves and Grass / Pruning and Trimmings	4.2%	1,794	534	29.8%	35.7%	37.0%	39.0%	41.0%	43.0%	45.0%	47.0%	49.0%	51.0%	53.0%	55.0%	57.0%
Organics	*Total Organics*	17.5%	7,387	727	9.8%	16.2%	19.6%	23.1%	28.1%	31.6%	35.2%	37.9%	40.7%	43.4%	46.2%	48.9%	51.7%
Textiles	Clothing Footwear, Towels, Sheets	3.9%	1,654	300	18.1%	22.4%	28.9%	32.8%	35.6%	41.2%	44.3%	48.9%	54.5%	61.5%	68.3%	76.4%	82.6%
Textiles	Carpet	1.4%	596	0	0.0%	2.0%	4.0%	6.0%	8.0%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%
Textiles	*Total Textiles*	5.3%	2,250	300	13.3%	17.0%	22.3%	25.7%	28.3%	32.9%	35.7%	39.7%	44.3%	50.0%	55.5%	62.0%	67.1%
Wood	*Total Wood* (Pallets, crates, adulterated and non-adulterated wood)	5.5%	2,321	0	0.0%	2.0%	4.0%	6.0%	8.0%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%
Miscellaneous	DIY Construction & Renovation Materials	6.7%	2,840	0	0.0%	2.0%	4.0%	6.0%	8.0%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%
Miscellaneous	Diapers	1.6%	675	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Miscellaneous	Electronics	1.4%	599	162	27.0%	32.0%	44.2%	49.8%	55.8%	63.0%	71.9%	80.9%	89.1%	90.7%	91.1%	91.5%	91.8%
Miscellaneous	Tires	1.7%	737	302	41.0%	44.0%	46.0%	52.8%	68.4%	74.2%	85.6%	89.0%	90.2%	90.8%	91.1%	92.0%	92.9%
Miscellaneous	HHW	0.3%	145	36	25.0%	28.0%	32.6%	39.8%	46.2%	50.1%	59.7%	64.5%	77.9%	83.8%	89.9%	90.2%	91.9%
Miscellaneous	Soils and Fines	0.5%	206	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Miscellaneous	Other Composite Materials - Durable and/or inert	1.8%	741	0	0.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%
Miscellaneous	*Total Miscellaneous*	14.1%	5,943	500	8.4%	10.9%	13.7%	16.5%	20.4%	23.2%	27.0%	29.6%	32.2%	33.8%	35.2%	36.8%	38.0%

Step 7. Municipal Solid Waste (MSW) Generation and Di

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

Tioga County

			2023			2024			2025			2026			2027			2028			2029		
		MSW Materials Composition (%)	MSW Generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted
	Material	100.00%	42,286	6,018	14.2%	42,213	6,641	15.7%	41,573	7,475	18%	40,942	8,410	20.5%	40,321	9,507	23.6%	39,709	10,913	27.5%	39,107	11,453	29.3%
Paper	Newspaper	3.76%	1,591	800	50.3%	1,588	847	53.3%	1,564	879	56%	1,540	907	58.9%	1,517	918	60.5%	1,494	926	62.0%	1,471	970	65.9%
	Corrugated Cardboard	9.72%	4,110	930	22.6%	4,103	1,354	33.0%	4,041	1,374	34%	3,980	1,393	35.0%	3,919	1,411	36.0%	3,860	1,428	37.0%	3,801	1,444	38.0%
	Other Recyclable Paper (Total)	10.76%	4,552	300	6.6%	4,544	364	8.0%	4,475	448	10%	4,407	529	12.0%	4,340	608	14.0%	4,275	684	16.0%	4,210	758	18.0%
	Other Compostable Paper	6.70%	2,834	0	0.0%	2,829	57	2.0%	2,786	84	3%	2,744	110	4.0%	2,702	135	5.0%	2,661	160	6.0%	2,621	183	7.0%
	Total Paper	30.95%	13,087	2,030	15.5%	13,064	2,621	20.1%	12,866	2,784	22%	12,671	2,939	23.2%	12,479	3,072	24.6%	12,289	3,198	26.0%	12,103	3,355	27.7%
Metal	Ferrous/Aluminum Containers (Total)	1.93%	818	220	26.9%	817	236	28.9%	804	241	30%	792	281	35.5%	780	337	43.2%	768	376	49.0%	756	421	55.7%
	Other Ferrous Metals	5.30%	2,242	162	7.2%	2,238	206	9.2%	2,204	242	11%	2,171	378	17.4%	2,138	552	25.8%	2,106	779	37.0%	2,074	1,020	49.2%
	Other Non-Ferrous Metals (Total)	1.29%	545	450	82.6%	544	467	85.9%	536	466	87%	528	465	88.1%	519	464	89.3%	512	463	90.5%	504	456	90.5%
	Total Metals	8.53%	3,605	832	23.1%	3,599	909	25.3%	3,544	950	27%	3,491	1,124	32.2%	3,438	1,353	39.3%	3,385	1,619	47.8%	3,334	1,898	56.9%
Plastic	PET Containers	0.94%	399	76	19.0%	399	81	20.4%	393	111	28%	387	140	36.1%	381	180	47.3%	375	190	50.6%	369	192	52.0%
	HDPE Containers	0.87%	368	318	86.4%	367	319	86.9%	362	318	88%	356	320	89.7%	351	315	89.7%	346	48	13.9%	340	306	89.8%
	Other Plastic (3-7) Containers	0.17%	71	22	30.9%	71	23	31.9%	70	24	34%	69	27	39.1%	68	31	46.3%	67	33	49.0%	66	37	56.1%
	Film Plastic	5.75%	2,430	0	0.0%	2,426	49	2.0%	2,389	72	3%	2,353	94	4.0%	2,317	116	5.0%	2,282	844	37.0%	2,248	157	7.0%
	Other Plastic (Total)	6.09%	2,574	1,047	40.7%	2,569	182	7.1%	2,530	207	8%	2,492	254	10.2%	2,454	287	11.7%	2,417	334	13.8%	2,380	364	15.3%
	Total Plastics	13.82%	5,843	1,463	25.0%	5,833	654	11.2%	5,744	732	13%	5,657	834	14.8%	5,571	929	16.7%	5,487	1,448	26.4%	5,403	1,056	19.5%
Glass	Glass Bottles, Jars and Containers	3.94%	1,668	166	10.0%	1,665	183	11.0%	1,640	197	12%	1,615	210	13.0%	1,591	223	14.0%	1,566	235	15.0%	1,543	247	16.0%
	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.43%	182	0	0.0%	182	4	2.0%	179	5	3%	176	7	4.0%	173	9	5.0%	171	10	6.0%	168	12	7.0%
	Total Glass	4.37%	1,850	166	9.0%	1,847	187	10.1%	1,819	202	11%	1,791	217	12.1%	1,764	231	13.1%	1,737	245	14.1%	1,711	259	15.1%
Organic	Food Scraps	13.23%	5,593	193	3.5%	5,584	558	10.0%	5,499	770	14%	5,416	975	18.0%	5,333	1,280	24.0%	5,253	1,471	28.0%	5,173	1,655	32.0%
	Leaves and Grass / Pruning and Trimmings	4.24%	1,794	534	29.8%	1,791	639	35.7%	1,764	653	37%	1,737	677	39.0%	1,711	701	41.0%	1,685	724	43.0%	1,659	747	45.0%
	Total Organics	17.47%	7,387	727	9.8%	7,375	1,198	16.2%	7,263	1,422	20%	7,153	1,652	23.1%	7,044	1,981	28.1%	6,937	2,195	31.6%	6,832	2,402	35.2%
Textiles	Clothing Footwear, Towels, Sheets	3.91%	1,654	300	18.1%	1,651	370	22.4%	1,626	470	29%	1,601	525	32.8%	1,577	561	35.6%	1,553	640	41.2%	1,530	678	44.3%
	Carpet	1.41%	596	0	0.0%	595	12	2.0%	586	23	4%	577	35	6.0%	568	45	8.0%	560	56	10.0%	551	66	12.0%
	Total Textiles	5.32%	2,250	300	13.3%	2,246	382	17.0%	2,212	493	22%	2,178	560	25.7%	2,145	607	28.3%	2,113	696	32.9%	2,081	744	35.7%
Wood	*Total Wood* (Pallets, crates, adulterated and non-adulterated)	5.49%	2,321	0	0.0%	2,317	46	2.0%	2,282	91	4%	2,247	135	6.0%	2,213	177	8.0%	2,179	218	10.0%	2,146	258	12.0%
Miscellaneous	DIY Construction & Renovation Materials	6.72%	2,840	0	0.0%	2,835	57	2.0%	2,792	112	4%	2,750	165	6.0%	2,708	217	8.0%	2,667	267	10.0%	2,627	315	12.0%
	Diapers	1.60%	675	0	0.0%	674	13	2.0%	664	20	3%	654	26	4.0%	644	32	5.0%	634	38	6.0%	624	44	7.0%
	Electronics	1.42%	599	162	27.0%	598	191	32.0%	589	260	44%	580	289	49.8%	571	319	55.8%	563	354	63.0%	554	398	71.9%
	Tires	1.74%	737	302	41.0%	735	324	44.0%	724	333	46%	713	377	52.8%	702	480	68.4%	692	513	74.2%	681	583	85.6%
	HHW	0.34%	145	36	25.0%	145	41	28.0%	143	47	33%	141	56	39.8%	139	64	46.2%	136	68	50.1%	134	80	59.7%
	Soils and Fines	0.49%	206	0	0.0%	206	4	2.0%	203	6	3%	200	8	4.0%	197	10	5.0%	194	12	6.0%	191	13	7.0%
	Other Composite Materials - Durable and/or inert	1.75%	741	0	0.0%	739	15	2.0%	728	22	3%	717	29	4.0%	706	35	5.0%	696	42	6.0%	685	48	7.0%
	Total Miscellaneous	14.06%	5,943	500	8.4%	5,933	645	10.9%	5,843	800	14%	5,755	949	16.5%	5,667	1,157	20.4%	5,581	1,294	23.2%	5,497	1,482	27.0%

	2023	2024	2025	2026	2027	2028	2029
Population	47,700	47,700	47,451	47,203	46,956	46,711	46,467
MSW Generated (tons)	42,286.28	42,213	41,573	40,942	40,321	39,709	39,107
Per Capita MSW Generated (lbs/person/year)	1,773	1,770	1,752	1,735	1,717	1,700	1,683

MSW Diverted (tons)	6,018.28	6,641	7,475	8,410	9,507	10,913	11,453
Per Capita MSW Diverted (lbs/person/year)	252	278	315	356	405	467	493

MSW Disposed (tons)	36,268.00	35,572	34,098	32,532	30,814	28,796	27,654
Per Capita MSW Disposed (lbs/person/year)	1,521	1,491	1,437	1,378	1,312	1,233	1,190
Per Capita MSW Disposed (lbs/person/day)	4.17	4.09	3.94	3.78	3.60	3.38	3.26

version - Detailed Projections

the current year regarding waste generated and
s these percentages will divert for recycling. Total

2024-2033

2030			2031			2032			2033			2034			2035		
MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted
38,514	12,110	31.4%	37,930	12,918	34.1%	37,354	13,625	36.5%	36,787	14,331	39.0%	36,229	15,393	42.5%	35,680	18,068	50.6%
1,449	969	66.9%	1,427	980	68.7%	1,405	994	70.7%	1,384	1,026	74.1%	1,363	1,040	76.3%	1,342	1,047	78.0%
3,744	1,460	39.0%	3,687	1,475	40.0%	3,631	1,489	41.0%	3,576	1,502	42.0%	3,631	1,561	43.0%	3,468	2,705	78.0%
4,146	829	20.0%	4,083	898	22.0%	4,021	965	24.0%	3,960	1,030	26.0%	4,021	1,126	28.0%	3,841	2,304	60.0%
2,581	206	8.0%	2,542	229	9.0%	2,503	250	10.0%	2,465	271	11.0%	2,503	300	12.0%	2,391	311	13.0%
11,919	3,465	29.1%	11,739	3,582	30.5%	11,561	3,698	32.0%	11,385	3,828	33.6%	11,518	4,028	35.0%	11,042	6,367	57.7%
745	440	59.0%	734	476	64.9%	723	508	70.3%	712	586	82.4%	723	656	90.8%	712	652	91.6%
2,042	1,119	54.8%	2,011	1,352	67.2%	1,981	1,513	76.4%	1,951	1,641	84.1%	1,981	1,785	90.1%	1,951	1,758	90.1%
496	449	90.5%	489	442	90.5%	481	436	90.5%	474	429	90.5%	481	436	90.5%	474	429	90.5%
3,284	2,008	61.1%	3,234	2,270	70.2%	3,185	2,457	77.1%	3,136	2,656	84.7%	3,185	2,876	90.3%	3,136	2,838	90.5%
364	193	53.1%	358	196	54.8%	353	209	59.1%	348	218	62.6%	353	244	69.1%	348	253	72.9%
335	301	89.8%	330	296	89.8%	325	292	89.9%	320	288	89.9%	325	293	90.1%	320	289	90.2%
65	37	57.3%	64	38	59.5%	63	39	62.7%	62	39	63.4%	63	41	65.1%	62	41	66.2%
2,214	177	8.0%	2,180	196	9.0%	2,147	215	10.0%	2,114	233	11.0%	2,147	258	12.0%	2,114	275	13.0%
2,344	394	16.8%	2,309	418	18.1%	2,274	450	19.8%	2,239	481	21.5%	2,274	525	23.1%	2,239	578	25.8%
5,321	1,102	20.7%	5,241	1,145	21.8%	5,161	1,205	23.3%	5,083	1,259	24.8%	5,161	1,360	26.4%	5,083	1,436	28.2%
1,519	258	17.0%	1,496	269	18.0%	1,474	280	19.0%	1,451	290	20.0%	1,474	309	21.0%	1,451	319	22.0%
166	13	8.0%	163	15	9.0%	161	16	10.0%	158	17	11.0%	161	19	12.0%	158	21	13.0%
1,685	272	16.1%	1,659	284	17.1%	1,634	296	18.1%	1,609	308	19.1%	1,634	329	20.1%	1,609	340	21.1%
5,094	1,783	35.0%	5,017	1,906	38.0%	4,941	2,026	41.0%	4,866	2,141	44.0%	4,941	2,322	47.0%	4,866	2,433	50.0%
1,634	768	47.0%	1,609	789	49.0%	1,585	808	51.0%	1,561	827	53.0%	1,585	872	55.0%	1,561	890	57.0%
6,728	2,551	37.9%	6,626	2,695	40.7%	6,526	2,834	43.4%	6,427	2,968	46.2%	6,526	3,194	48.9%	6,427	3,323	51.7%
1,506	737	48.9%	1,484	809	54.5%	1,461	899	61.5%	1,439	983	68.3%	1,461	1,116	76.4%	1,439	1,188	82.6%
543	76	14.0%	534	86	16.0%	526	95	18.0%	518	104	20.0%	526	116	22.0%	518	124	24.0%
2,049	813	39.7%	2,018	894	44.3%	1,987	993	50.0%	1,957	1,086	55.5%	1,987	1,232	62.0%	1,957	1,313	67.1%
2,114	296	14.0%	2,082	333	16.0%	2,050	369	18.0%	2,019	404	20.0%	2,050	451	22.0%	2,019	485	24.0%
2,587	362	14.0%	2,548	408	16.0%	2,509	452	18.0%	2,471	494	20.0%	2,509	552	22.0%	2,471	593	24.0%
615	49	8.0%	605	54	9.0%	596	60	10.0%	587	65	11.0%	596	72	12.0%	587	76	13.0%
546	441	80.9%	537	479	89.1%	529	480	90.7%	521	475	91.1%	529	484	91.5%	521	478	91.8%
671	597	89.0%	661	596	90.2%	651	591	90.8%	641	584	91.1%	651	599	92.0%	641	595	92.9%
132	85	64.5%	130	102	77.9%	128	108	83.8%	126	114	89.9%	128	116	90.2%	126	116	91.9%
188	15	8.0%	185	17	9.0%	182	18	10.0%	179	20	11.0%	182	22	12.0%	179	23	13.0%
675	54	8.0%	664	60	9.0%	654	65	10.0%	644	71	11.0%	654	79	12.0%	644	84	13.0%
5,413	1,604	29.6%	5,331	1,715	32.2%	5,250	1,773	33.8%	5,171	1,822	35.2%	5,250	1,923	36.6%	5,171	1,966	38.0%

2030	2031	2032	2033	2034	2035
46,224	45,983	45,743	45,504	45,266	45,030
38,514	37,930	37,354	36,787	36,229	35,680
1,666	1,650	1,633	1,617	1,601	1,585

12,110	12,918	13,625	14,331	15,393	18,068
524	562	596	630	680	802

26,403	25,012	23,729	22,457	20,837	17,612
1,142	1,088	1,037	987	921	782
3.13	2.98	2.84	2.70	2.52	2.14

Appendix B.2

Construction and Demolition Debris

Combined Composition Analysis and Projections

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.

Planning Unit	Tioga County
Planning Period	2024-2033

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 the purple cells.

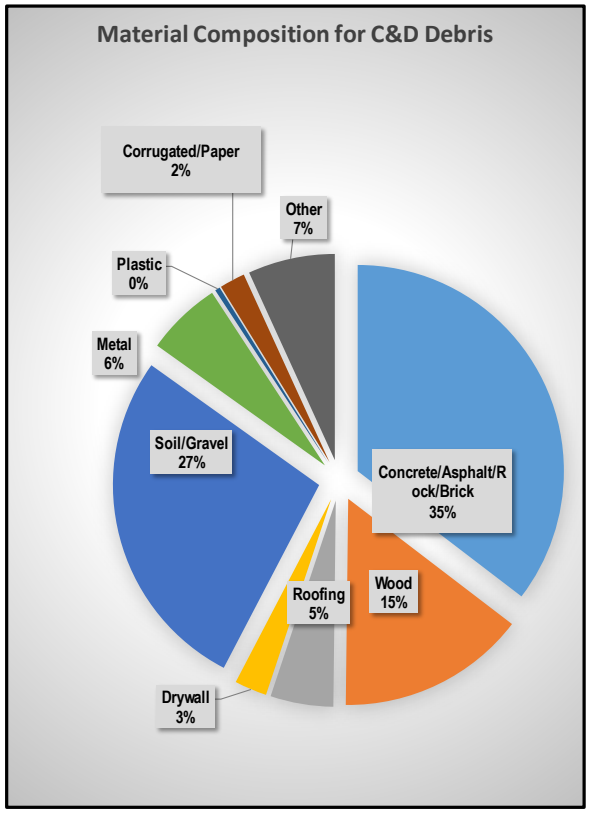
The results are presented on the last right column under C&D Debris Waste Stream Composition. Be aware of color changes on the cells, whenever a category represents over 15% of the total generation, the cell will turn red to easy identify key categories on the waste stream. It will also aid with the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

Tioga County | **2024-2033**

Materials	Generation source: Residential				Non- Residential (commercial-institutional)				Other Municipal Infras-tructure	C&D Debris Materials Composition (%)
	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%	100.00%
Concrete/ Asphalt /Rock/Brick	9.80%	16.10%	21.50%	18.65%	30.70%	19.10%	23.10%	22.17%	46.00%	35.39%
Wood	29.90%	19.10%	25.70%	24.25%	22.70%	12.40%	24.20%	18.34%	10.50%	14.80%
Roofing	6.00%	22.00%	6.10%	10.70%	2.10%	21.20%	5.10%	12.44%	0.00%	4.93%
Drywall	15.60%	7.90%	5.10%	7.07%	4.60%	6.40%	4.30%	5.35%	0.00%	2.54%
Soil/Gravel	11.30%	7.10%	18.50%	14.40%	13.10%	6.50%	15.60%	10.91%	38.00%	27.22%
Metal	5.30%	11.30%	5.20%	6.98%	12.00%	15.50%	11.10%	13.33%	2.40%	5.91%
Plastic	1.50%	0.70%	0.30%	0.55%	0.50%	0.70%	0.30%	0.52%	0.30%	0.40%
Corrugated cardboard /Paper	9.30%	2.90%	3.10%	3.72%	7.10%	4.60%	4.20%	4.77%	0.30%	2.00%
Other	11.30%	12.90%	14.50%	13.68%	7.20%	13.60%	12.10%	12.18%	2.50%	6.82%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	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, **#N/A** and an estimate of what will be generated for each year of the planning period, **2024-2033**

Tioga County | **2024-2033**

			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		C&D Debris Materials Composition (%)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)	C&D Debris Generated (Tons)
Materials	Concrete/Asphalt /Rock/Brick	35.4%	3,597.6	3,893.1	4,247.0	4,601.0	4,954.9	5,308.8	5,662.7	6,016.6	6,370.6	6,724.5	7,078.4
	Wood	14.8%	1,504.2	1,627.7	1,775.7	1,923.7	2,071.6	2,219.6	2,367.6	2,515.6	2,663.5	2,811.5	2,959.5
	Roofing	4.9%	501.0	542.1	591.4	640.7	690.0	739.3	788.6	837.8	887.1	936.4	985.7
	Drywall	2.5%	258.0	279.2	304.6	330.0	355.3	380.7	406.1	431.5	456.9	482.2	507.6
	Soil/Gravel	27.2%	2,766.4	2,993.7	3,265.8	3,538.0	3,810.1	4,082.3	4,354.4	4,626.6	4,898.7	5,170.9	5,443.0
	Metal	5.9%	600.8	650.2	709.3	768.4	827.5	886.6	945.7	1,004.8	1,064.0	1,123.1	1,182.2
	Plastic	0.4%	40.3	43.6	47.6	51.6	55.5	59.5	63.5	67.4	71.4	75.4	79.3
	Corrugated cardboard/Paper	2.0%	203.2	219.9	239.9	259.9	279.9	299.9	319.9	339.9	359.9	379.9	399.9
	Other	6.8%	693.5	750.4	818.6	886.9	955.1	1,023.3	1,091.5	1,159.7	1,228.0	1,296.2	1,364.4
	Total	100.0%	10,165.0	11,000.0	12,000.0	13,000.0	14,000.0	15,000.0	16,000.0	17,000.0	18,000.0	19,000.0	20,000.0

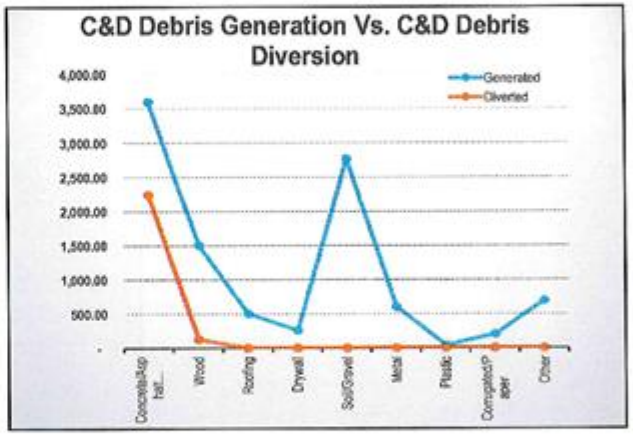
† Note years going across should be 2023 -2033, calculator would not correct "#N/A's"

Step 4. Construction & Demolition (C&D) Debris Divertion 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.

Tioga County | **2024-2033**

Materials	C&D Debris Materials Composition (%)	#N/A C&D Debris Generated (Tons)	C&D Debris Diverted (Tons)	% C&D Diverted
Concrete/Asphalt /Rock/Brick	35.4%	3,597.6	2,239.0	62.2%
Wood	14.8%	1,504.2	126.0	8.4%
Roofing	4.9%	501.0	0.0	0.0%
Drywall	2.5%	258.0	0.0	0.0%
Soil/Gravel	27.2%	2,766.4	0.0	0.0%
Metal	5.9%	600.8	0.0	0.0%
Plastic	0.4%	40.3	0.0	0.0%
Corrugated cardboard/Paper	2.0%	203.2	0.0	0.0%
Other	6.8%	693.5	0.0	0.0%
Total	100.0%	10,165.0	2,365.0	23.3%



† Note year should be 2023, calculator would not correct "#N/A"

Step 5. Construction and Demolition (C&D) Debris Generatic

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 goa
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 plai

Tioga County

			#N/A			#N/A			#N/A			#N/A			#N/A			#N/A			
		C&D Debris Materials Composition (%)	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)
Materials	Concrete/Asphalt /Rock/Brick	35.4%	3,597.6	2,239.0	62.2%	3,893.1	1,751.9	45.0%	4,247.0	3,610.0	85.0%	4,601.0	3,910.8	85.0%	4,954.9	4,211.6	85.0%	5308.8	4777.9	90.0%	5,662.7
	Wood	14.8%	1,504.2	126.0	8.4%	1,627.7	651.1	40.0%	1,775.7	710.3	40.0%	1,923.7	769.5	40.0%	2,071.6	828.7	40.0%	2219.6	998.8	45.0%	2,367.6
	Roofing	4.9%	501.0	0.0	0.0%	542.1	54.2	10.0%	591.4	88.7	15.0%	640.7	96.1	15.0%	690.0	103.5	15.0%	739.3	184.8	25.0%	788.6
	Drywall	2.5%	258.0	0.0	0.0%	279.2	27.9	10.0%	304.6	45.7	15.0%	330.0	49.5	15.0%	355.3	53.3	15.0%	380.7	76.1	20.0%	406.1
	Soil/Gravel	27.2%	2,766.4	0.0	0.0%	2,993.7	598.7	20.0%	3,265.8	816.5	25.0%	3,538.0	884.5	25.0%	3,810.1	1,143.0	30.0%	4082.3	1428.8	35.0%	4,354.4
	Metal	5.9%	600.8	0.0	0.0%	650.2	604.7	93.0%	709.3	659.7	93.0%	768.4	722.3	94.0%	827.5	777.9	94.0%	886.6	842.3	95.0%	945.7
	Plastic	0.4%	40.3	0.0	0.0%	43.6	4.4	10.0%	47.6	4.8	10.0%	51.6	5.2	10.0%	55.5	8.3	15.0%	59.5	8.9	15.0%	63.5
	Corrugated /Paper	2.0%	203.2	0.0	0.0%	219.9	33.0	15.0%	239.9	48.0	20.0%	259.9	52.0	20.0%	279.9	70.0	25.0%	299.9	90.0	30.0%	319.9
	Other	6.8%	693.5	0.0	0.0%	750.4	75.0	10.0%	818.6	102.3	12.5%	886.9	133.0	15.0%	955.1	167.1	17.5%	1023.3	204.7	20.0%	1,091.5
	Total	100.0%	10,165.0	2,365.0	23.3%	11,000.0	3,800.9	34.6%	12,000.0	6,085.8	50.7%	13,000.0	6,622.8	50.9%	14,000.0	7,363.4	52.6%	15000.0	8612.4	57.4%	16,000.0

† Note years going across should be 2023 -2028, calculator would not correct "#N/A's"

ɔn and Diversion Projections

ls will be entered as percentages, based on how much of the

nning period.

2024-2033

#N/A		#N/A			#N/A			#N/A			#N/A		
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
5,096.4	90.0%	6,016.6	5,415.0	90.0%	6,370.6	5,733.5	90.0%	6,724.5	6,052.0	90.0%	7,078.4	6,370.6	90.0%
1,065.4	45.0%	2,515.6	1,257.8	50.0%	2,663.5	1,331.8	50.0%	2,811.5	1,405.8	50.0%	2,959.5	1,479.7	50.0%
197.1	25.0%	837.8	251.4	30.0%	887.1	266.1	30.0%	936.4	280.9	30.0%	985.7	295.7	30.0%
81.2	20.0%	431.5	86.3	20.0%	456.9	114.2	25.0%	482.2	120.6	25.0%	507.6	126.9	25.0%
1,524.0	35.0%	4,626.6	1,619.3	35.0%	4,898.7	1,959.5	40.0%	5,170.9	2,068.3	40.0%	5,443.0	2,177.2	40.0%
898.4	95.0%	1,004.8	954.6	95.0%	1,064.0	1,010.8	95.0%	1,123.1	1,066.9	95.0%	1,182.2	1,123.1	95.0%
9.5	15.0%	67.4	10.1	15.0%	71.4	14.3	20.0%	75.4	15.1	20.0%	79.3	15.9	20.0%
96.0	30.0%	339.9	102.0	30.0%	359.9	108.0	30.0%	379.9	133.0	35.0%	399.9	159.9	40.0%
245.6	22.5%	1,159.7	289.9	25.0%	1,228.0	337.7	27.5%	1,296.2	388.9	30.0%	1,364.4	477.5	35.0%
9,213.8	57.6%	**17,000.0**	9,986.3	58.7%	**18,000.0**	10,875.8	60.4%	**19,000.0**	11,531.4	60.7%	**20,000.0**	12,226.5	**61.1%**

† Note years going across should be 2029 -2033, calculator would not correct "#N/A's

Appendix C

Local Sources Separation Law

Appendix C.1

Copy of the Local Source Separation Law

Local Law Filing	New York State Department of State 41 State Street, Albany, NY 12231

County of Tioga

Local Law No. 1 of the Year 2020.

A Local Law establishing the Tioga County Mandatory Source Separation Law and repealing Local Law No. 2 of the Year 1992 entitled Tioga County Recycling and Source Separation Law.

Be It Enacted by the Legislature of the County of Tioga as follows:

SECTION 1: TITLE
Local Law No. 2 of the Year 1992 entitled Tioga County Recycling and Source Separation Law is hereby REPEALED and REPLACED with the establishment of Local Law No. 1 of the Year 2020 entitled Tioga County Mandatory Source Separation Law.

SECTION 2: PURPOSE
The purpose of this article is to encourage, facilitate, and mandate the source separation of recyclable materials on the part of each and every household, business, and institution within Tioga County. The Tioga County Legislature acknowledges that control of the collection, transportation, disposal of solid waste and recycling with emphasis on source reduction and reuse in the county is essential to the economy and general welfare of the citizens of Tioga County. The current version is intended to replace Local Law No. 2 of 1992 entitled Tioga County Recycling and Source Separation Law.

SECTION 3: AUTHORITY
This Local Law is hereby enacted pursuant to the authority granted by Section 10 of the Municipal Home Rule Law and Section 120-aa of the General Municipal Law of the State of New York.

SECTION 4: DEFINITIONS
A. Terms as used or referred to in this article, unless a different meaning clearly appears from the context, are as defined in Title 6 Part 360 of the New York Codes, Rules and Regulations, Solid Waste Management Facilities, as amended.
B. As used in this article, the following additional terms shall have the meanings indicated:

1

MATERIALS RECOVERY FACILITY (MRF) – A facility approved by the New York State Department of Environmental Conservation for receiving and processing recyclable materials into marketable commodities.

PUBLIC FACILITY — Any facility allowing public access, including but not limited to parks, recreational facilities, shopping centers, shopping malls, office buildings, restaurants, hospitals, schools and churches.

SOURCE SEPARATION — That recyclables shall be maintained and placed for collection separately from refuse intended for disposal.

SOLID WASTE - All materials discarded as being spent, useless, worthless or in excess to the owners at the time of discard or rejection, including but not limited to garbage or refuse, but shall not include Recyclables, Yard and Garden Waste, human wastes, rendering wastes, major appliances, regulated medical waste, construction and demolition wastes, residue from incinerators or other destructive systems for processing waste, junked automobiles, pathological, toxic, explosive, liquid, radioactive material or other waste material which, under existing or future federal, state or local laws, require special handling in its collection or disposal.

SUSTAINABILITY MANAGER - The manager of the Solid Waste Department appointed by the Commissioner of Public Works and/or the Tioga County Legislature.

WASTE COLLECTION SERVICES – Any person, company partnership or other entity providing collection or transfer of refuse and/or solid waste to a solid waste management facility.

WASTE HAULER – Any person, company, partnership or other entity engaged in the business of providing Collection Service pursuant to any contract, agreement, or other arrangement with any Waste Generator, where Solid Waste is collected for disposal at a permitted solid waste disposal or transfer facility, or a municipal department or other governmental division responsible for collection of Solid Waste from some or all Waste Generators in Tioga County.

SECTION 5: SOURCE SEPARATION REQUIREMENT

A. Every Waste Generator shall Source Separate, which means the segregation of County Recyclable Materials from non-recyclable Solid Waste at the point of generation by Waste Generators, and the placement of County Recyclable Materials into Recycling Receptacles for collection and delivery to a Materials Recovery Facility or Recycling Facility.

B. Materials that must be source separated include paper, corrugated cardboard, glass, metals, plastics, leaves, yard wastes, tires, batteries (wet and dry cell) and household hazardous waste. A detailed published list of materials to be curbside recycled will be on file with the Tioga County Legislature and may be updated from time to time.
C. For the purpose of this article, the term "recyclable material" shall mean those materials that must be source-separated, as defined in B, with the exception of household hazardous waste.
D. Each and every waste hauler, public and private, providing waste collection services in the County of Tioga shall be required to provide curbside collection of source-separated recyclables for all units serviced by the hauler.
E. All public and private haulers are prohibited from commingling source-separated recyclables with solid waste.
F. Every Waste Generator shall deliver or arrange for the delivery of County Recyclable Materials to a Recycling Facility or make source-separated County Recyclable Materials available for collection by a Waste Hauler/Recyclables Collector and ultimate delivery to a Materials Recovery Facility or Recycling Facility.

SECTION 6: PREPARATION OF RECYCLABLES AND OTHER SOURCE SEPARATED MATERIALS FOR CURBSIDE COLLECTION

A. Nothing in this article is intended to prevent any waste generator from making arrangements for the reuse, private collection, sale or donation of recyclables; provided, however, that records shall be kept of all such collection of recyclables.
B. From the time any person places any recyclable materials at or near any curb, sidewalk or street for purposes of collection by a waste hauler, those recyclable materials shall be considered the property of the waste hauler. No other person shall collect, pick up, remove or cause to be collected, picked up or removed any recyclable materials so placed for collection. Each such unauthorized collection, pickup or removal shall constitute a separate violation of this article.
C. In the event that a hauler has refused to collect certain recyclable materials because they have not been placed or treated in accordance with the provisions of this article, the person responsible for initially placing those materials for collection may and shall remove those materials from any curb, sidewalk or street in accord with the provisions of this article.
D. Placement of Recyclables
    1. Recyclable materials shall be placed separately from any non-recyclable solid waste placed for collection. Recyclable materials should be prepared in conformance with County practices and standards established pursuant to this section.

2. No person shall place any recyclable materials at or near any curb, sidewalk or street for purposes of collection unless the materials are prepared in conformance with County practices and standards established pursuant to this section.
3. The Tioga County Sustainability Manager is hereby authorized and directed to designate, by written statement, from time to time, the practices and standards for preparation of recyclables for collection. Such written designation shall be filed with the Clerk of the County Legislature and shall become effective 90 days after filing. The Tioga County Sustainability Manager may solicit information and input from solid waste collectors, solid waste management facility operator, and other concerned parties prior to designating revised rules for preparation of materials.

E. Waste haulers shall not be responsible for collection of waste materials, which have not been placed or prepared in accord with this article. In the event of non-collection of waste or recyclable materials, the hauler shall provide written notification of reason for non-collection.
F. The responsible generator shall immediately remove and properly prepare and dispose of all materials refused for collection, taking all measures necessary to properly and legally restore all disturbed land and surface to the condition existing prior to deposition or reimburse the County or other municipal entity for the same.

Multifamily buildings and complexes.

A. Apartment complexes, condominium complexes, cooperative apartments, hotels, motels and bungalow or resort colonies shall be required to establish a private drop off program for the source separation of recyclable materials for collection and transportation to a recycling facility where curbside collection is not practiced or desired.
B. The owner and/or manager of every multifamily apartment building or condominium within the County shall provide and maintain, in a neat and sanitary condition, recycling drop off(s) to receive all recyclable materials generated by residents of the building or complex. In cases where a condominium association exists, the condominium association shall be responsible for provision and maintenance of the recycling drop off(s). It shall be the tenant's responsibility to separate designated recyclable materials from the solid waste and deposit the recyclables in the drop off(s) in the manner prescribed by facility management.
C. The owner or manager of every multifamily building or complex shall arrange for the collection and/or transportation of all recyclable materials to a material recovery facility or secondary materials market.

Residential/commercial (institutional) and industrial waste and recyclables.

A. All residential solid waste collected by either municipal or private haulers shall be source-separated and delivered to an appropriate facility for disposition, as may be designated by the County.
B. All commercial/industrial/institutional solid waste collected by either municipal or private haulers shall be source-separated and delivered to an appropriate facility for disposition, as may be designated by the County.
C. All recyclable commercial/industrial/institutional by-products shall be source-separated and delivered to an appropriate facility for the express purpose of processing for sale to a secondary materials market. Nothing in this section shall prevent waste generators from marketing these materials directly to an end-use market, secondary materials market or secondary materials broker.

SECTION 7: PENALTIES

Penalties for Waste Generators.

A. Failure to comply with this article by any person shall be an offense punishable as provided.
B. Each day of violation of this article shall constitute a separate offense.
C. The waste hauler shall maintain the right to refuse collection of solid waste and/or recyclables due to a lack of source separation or proper preparation on the part of the waste generator. In such a case, the hauler shall affix a notice to the waste material, which clearly states the reason for non-collection.
D. Individuals convicted of a first offense under this article shall be subject to a fine of not less than $25 and not more than $50. Conviction of a second offense within one year of the first offense shall be punishable by a fine of not less than $50 and not more than $100. Conviction of subsequent offense(s) within one year of the first offense shall be punishable by a fine of at least $100 and not more than $200. In addition to the penalties listed above, anyone convicted of an offense under the provisions of this article shall be subject to a civil penalty to recover cost of enforcement and prosecution, including but not limited to attorneys' fees, court costs and site cleanup cost, if applicable.
E. Any company, partnership, corporation, municipality or entity other than an individual person convicted of a first offense as provided for by this article shall be subject to a fine of not less than $200 and not more than $1,000. Conviction of subsequent offenses shall be punishable by a fine of not less than $1,000 and not more than $2,000. Any such entity convicted of an offense under the provisions of this article shall also be subject to a civil penalty to recover the cost of enforcement and prosecution, including but not limited to attorneys' fees, court costs and

site cleanup costs, if applicable. In addition, the County Attorney may also maintain an action or proceeding in the name of Tioga County in a court of competent jurisdiction to compel compliance with or to restrain by injunction such violation.

Penalties for Waste Haulers.

A. Failure of any hauler to comply with this article shall be an offense punishable as provided.
B. Each day of violation of this article shall constitute a separate offense.
C. Violation of any section of this article shall be punishable by a fine not in excess of $1,000. In addition, the violation of any section of this article shall be subject to a civil penalty imposed by the County to recover cost associated with enforcement and prosecution, including but not limited to reasonable attorneys' fees, court costs and site cleanup costs, if applicable. And, in addition, Tioga County may also maintain an action or proceeding in a court of competent jurisdiction to compel compliance with or to restrain by injunction any violation of this article.

SECTION 8: SOLID WASTE DISPOSAL ON PUBLIC FACILITIES AND PROPERTY

A. All public facilities within Tioga County shall provide public refuse receptacles for solid waste disposal by facility users and employees. These receptacles shall only be utilized for solid waste generated onsite.
B. There shall be provided separate public receptacles for recyclables. Such containers shall be clearly marked RECYCLE, and a list of recyclable items shall accompany said public refuse receptacle. There shall be an adequate number of clearly marked and accessible public receptacles for recyclable materials in order to facilitate recycling. These receptacles shall only be utilized for recyclables generated onsite.
C. All recyclable materials shall be placed in separate public recycling receptacles. The responsibility to separate recyclables from non-recyclables shall be placed on the facility user.
   1. Parks may, in lieu of providing separate public receptacles for recyclables, require that park patrons take their recyclable materials with them upon leaving the park. The municipalities shall post signs at all park entrances advising the public of the rule. Park patrons shall be responsible for removing recyclables from the park and disposing of them in accordance with this article
   2. Notwithstanding the provisions of the subsection, concession stands within the park providing food or other items packaged in recyclable containers shall provide both refuse and recyclable containers to conform to this section.
D. It shall be a violation of this article for any person to place or to cause to be placed any material other than a recyclable in or near a public receptacle designated for recyclable materials.

E. It shall also be a violation of this article for any person to place or to cause to be placed any recyclable material in or near a public refuse receptacle designated for non-recyclable materials.
F. Any person, including employees of public facilities, convicted of a violation of this section shall be subject to a fine of up to $50 or community service.
G. The proprietor of any public facility convicted of a violation of this section shall be subject to a fine of up to $200 or community service. Each day of violation shall constitute a separate offense.

SECTION 9: ENFORCEMENT
All provisions of this article shall be enforced by a municipal code enforcement official or other appropriate enforcement agencies.

SECTION 10: REPORTING TO TIOGA COUNTY SUSTAINABILITY MANAGER
A. All waste haulers, and any other person or entity that collects, transports and/or markets recyclables, must maintain monthly records of all recyclable material. These records must include the following:
    1. The total tonnage, by material, of recyclable material collected.
        a) The total tonnage, by material, of recyclable material delivered to each and every materials recovery facility, secondary materials market, secondary materials broker or end-use market.
        b) Weight slips from the broker or end-use market will fulfill this requirement.
B. Reports containing the information required in this section shall be compiled and delivered to the Sustainability Manager on an annual basis. Reports shall be filed with the Sustainability Manager no later than January 31 of the subsequent year of filing.
C. Each waste hauler shall retain for no less than five years the records and documents required pursuant to this article and shall make such documents available upon the request of the Sustainability Manager or law enforcement officers.

SECTION 11: PRIORITY
Pursuant to Section 1 of Chapter 675 of the Laws of 1982 of the State, this article takes precedence over and shall supersede any inconsistent provisions of any local law enacted by any municipality within the County.

SECTION 12: EFFECTIVE DATE
This Local law shall take effect January 1, 2021.

Appendix C.2

Proposed Modification of the Local Source Separation Law

Local Law Filing	New York State Department of State 41 State Street, Albany, NY 12231

County of Tioga

Local Law No. X of the Year 2023.

A Local Law establishing the Tioga County Mandatory Source Separation Law and repealing Local Law No. 1 of the Year 2020 entitled Tioga County Mandatory Source Separation Law.

Be It Enacted by the Legislature of the County of Tioga as follows:

SECTION 1: TITLE
Local Law No. 1 of the Year 2020 entitled Tioga County Mandatory Source Separation Law is hereby REPEALED and REPLACED with the establishment of Local Law No. X of the Year 2023 entitled Tioga County Mandatory Source Separation Law.

SECTION 2: PURPOSE
The purpose of this article is to encourage, facilitate, and mandate the source separation of recyclable materials on the part of each and every household, business, and institution within Tioga County. The Tioga County Legislature acknowledges that control of the collection, transportation, disposal of solid waste and recycling with emphasis on source reduction and reuse in the county is essential to the economy and general welfare of the citizens of Tioga County. The current version is intended to replace Local Law No. 1 of 2020 entitled Tioga County Mandatory Source Separation Law.

SECTION 3: AUTHORITY
This Local Law is hereby enacted pursuant to the authority granted by Section 10 of the Municipal Home Rule Law and Section 120-aa of the General Municipal Law of the State of New York.

SECTION 4: DEFINITIONS
A. Terms as used or referred to in this article, unless a different meaning clearly appears from the context, are as defined in Title 6 Part 360 of the New York Codes, Rules and Regulations, Solid Waste Management Facilities, as amended.
B. As used in this article, the following additional terms shall have the meanings indicated:

MATERIALS RECOVERY FACILITY (MRF) – A facility approved by the New York State Department of Environmental Conservation for receiving and processing recyclable materials into marketable commodities.

PUBLIC FACILITY — Any facility allowing public access, including but not limited to parks, recreational facilities, shopping centers, shopping malls, office buildings, restaurants, hospitals, schools, and churches.

SOURCE SEPARATION — That recyclables shall be maintained and placed for collection separately from refuse intended for disposal.

SOLID WASTE - All materials discarded as being spent, useless, worthless or in excess to the owners at the time of discard or rejection, including but not limited to garbage or refuse, but shall not include Recyclables, Yard and Garden Waste, human wastes, rendering wastes, major appliances, regulated medical waste, construction and demolition wastes, residue from incinerators or other destructive systems for processing waste, junked automobiles, tires, pathological, toxic, explosive, liquid, radioactive material or other waste material which, under existing or future federal, state or local laws, require special handling in its collection or disposal.

SUSTAINABILITY MANAGER - The manager of the Solid Waste Department appointed by the Economic Development & Planning Director, Economic Development & Planning Deputy Director, and/or the Tioga County Legislature.

WASTE COLLECTION SERVICES – Any person, company partnership or other entity providing collection or transfer of refuse and/or solid waste, including tires to a solid waste management facility.

WASTE GENERATOR – Any entity which generates solid waste.

WASTE HAULER – Any person, company, partnership or other entity engaged in the business of providing Collection Service pursuant to any contract, agreement, or other arrangement with any Waste Generator, where Solid Waste is collected for disposal at a permitted solid waste disposal or transfer facility, or a municipal department or other governmental division responsible for collection of Solid Waste from some or all Waste Generators in Tioga County.

SECTION 5: SOURCE SEPARATION REQUIREMENT

A. Every Waste Generator shall Source Separate, which means the segregation of County Recyclable Materials from non-recyclable Solid Waste at the point of generation by Waste Generators, and the

placement of County Recyclable Materials into Recycling Receptacles for collection and delivery to a Materials Recovery Facility or Recycling Facility.

Materials that must be source-separated include paper, corrugated cardboard, glass, metals, plastics, leaves, yard wastes, tires, batteries (wet and dry cell) and household hazardous waste. A detailed published list of materials to be curbside recycled will be on file with the Tioga County Legislature and may be updated from time to time.

B. For the purpose of this article, the term "recyclable material" shall mean those materials that must be source separated, as defined in B, with the exception of household hazardous waste.
C. Each and every waste hauler, public and private, providing waste collection services in the County of Tioga shall be required to provide curbside collection of source separated recyclables for all units serviced by the hauler.
D. All public and private haulers are prohibited from commingling source separated recyclables with solid waste.
E. Every Waste Generator shall deliver or arrange for the delivery of County Recyclable Materials to a Recycling Facility or make source separated County Recyclable Materials available for collection by a Waste Hauler/Recyclables Collector and ultimate delivery to a Materials Recovery Facility or Recycling Facility.

SECTION 6: PREPARATION OF RECYCLABLES AND OTHER SOURCE SEPARATED MATERIALS FOR CURBSIDE COLLECTION

A. Nothing in this article is intended to prevent any waste generator from making arrangements for the reuse, private collection, sale or donation of recyclables; provided, however, that records shall be kept of all such collection of recyclables.
B. From the time any person places any recyclable materials at or near any curb, sidewalk or street for purposes of collection by a waste hauler, those recyclable materials shall be considered the property of the waste hauler. No other person shall collect, pick up, remove or cause to be collected, picked up or removed any recyclable materials so placed for collection. Each such unauthorized collection, pickup or removal shall constitute a separate violation of this article.
C. In the event that a hauler has refused to collect certain recyclable materials because they have not been placed or treated in accordance with the provisions of this article, the person responsible for initially placing those materials for collection may and shall remove those materials from any curb, sidewalk or street in accordance with the provisions of this article.

D. Placement of Recyclables

1. Recyclable materials shall be placed separately from any non-recyclable solid waste placed for collection. Recyclable materials should be prepared in conformance with County practices and standards established pursuant to this section.
2. No person shall place any recyclable materials at or near any curb, sidewalk or street for purposes of collection unless the materials are prepared in conformance with County practices and standards established pursuant to this section.
3. The Tioga County Sustainability Manager is hereby authorized and directed to designate, by written statement, from time to time, the practices and standards for preparation of recyclables for collection. Such written designation shall be filed with the Clerk of the County Legislature and shall become effective 90 days after filing. The Tioga County Sustainability Manager may solicit information and input from solid waste collectors, solid waste management facility operators, and other concerned parties prior to designating revised rules for preparation of materials.

E. Waste haulers shall not be responsible for collection of waste materials, which have not been placed or prepared in accord with this article. In the event of non-collection of waste or recyclable materials, the hauler shall provide written notification of reason for non-collection.

F. The responsible generator shall immediately remove and properly prepare and dispose of all materials refused for collection, taking all measures necessary to properly and legally restore all disturbed land and surface to the condition existing prior to deposition or reimburse the County or other municipal entity for the same.

Multifamily buildings and complexes.

A. Apartment complexes, condominium complexes, cooperative apartments, hotels, motels and bungalow or resort colonies shall be required to establish a private drop off program for the source separation of recyclable materials for collection and transportation to a recycling facility where curbside collection is not practiced or desired.

B. The owner and/or manager of every multifamily apartment building or condominium within the County shall provide and maintain, in a neat and sanitary condition, recycling drop off(s) to receive all recyclable materials generated by residents of the building or complex. In cases where a condominium association exists, the condominium association shall be responsible for provision and maintenance of the recycling drop off(s). It shall be the tenant's responsibility to separate designated recyclable materials from the solid waste and deposit the recyclables in the drop off(s) in the manner prescribed by facility management.

C. The owner or manager of every multifamily building or complex shall arrange for the collection and/or transportation of all recyclable materials to a material recovery facility or secondary materials market.

Residential/commercial (institutional) and industrial waste and recyclables.

A. All residential solid waste collected by either municipal or private haulers shall be source separated and delivered to an appropriate facility for disposition, as may be designated by the County.
B. All commercial/industrial/institutional solid waste collected by either municipal or private haulers shall be source separated and delivered to an appropriate facility for disposition, as may be designated by the County.
C. All recyclable commercial/industrial/institutional by-products shall be source separated and delivered to an appropriate facility for the express purpose of processing for sale to a secondary materials market. Nothing in this section shall prevent waste generators from marketing these materials directly to an end-use market, secondary materials market or secondary materials broker.

SECTION 7: PENALTIES

Penalties for Waste Generators.

A. Failure to comply with this article by any person shall be an offense punishable as provided.
B. Each day of violation of this article shall constitute a separate offense.
C. The waste hauler shall maintain the right to refuse collection of solid waste and/or recyclables due to a lack of source separation or proper preparation on the part of the waste generator. In such a case, the hauler shall affix a notice to the waste material, which clearly states the reason for non-collection.
D. Individuals convicted of a first offense under this article shall be subject to a fine of not less than $25 and not more than $50. Conviction of a second offense within one year of the first offense shall be punishable by a fine of not less than $50 and not more than $100. Conviction of subsequent offense(s) within one year of the first offense shall be punishable by a fine of at least $100 and not more than $200. In addition to the penalties listed above, anyone convicted of an offense under the provisions of this article shall be subject to a civil penalty to recover cost of enforcement and prosecution, including but not limited to attorneys' fees, court costs and site cleanup costs, if applicable.
E. Any company, partnership, corporation, municipality or entity other than an individual person convicted of a first offense as provided for by this article shall be subject to a fine of not less than $200 and not more than $1,000. Conviction of subsequent offenses shall be punishable by a

fine of not less than $1,000 and not more than $2,000. Any such entity convicted of an offense under the provisions of this article shall also be subject to a civil penalty to recover the cost of enforcement and prosecution, including but not limited to attorneys' fees, court costs and site cleanup costs, if applicable. In addition, the County Attorney may also maintain an action or proceeding in the name of Tioga County in a court of competent jurisdiction to compel compliance with or to restrain by injunction such violation.

Penalties for Waste Haulers.

A. Failure of any hauler to comply with this article shall be an offense punishable as provided.
B. Each day of violation of this article shall constitute a separate offense.
C. Violation of any section of this article shall be punishable by a fine not in excess of $1,000. In addition, the violation of any section of this article shall be subject to a civil penalty imposed by the County to recover cost associated with enforcement and prosecution, including but not limited to reasonable attorneys' fees, court costs and site cleanup costs, if applicable. And, in addition, Tioga County may also maintain an action or proceeding in a court of competent jurisdiction to compel compliance with or to restrain by injunction any violation of this article.

SECTION 8: SOLID WASTE DISPOSAL ON PUBLIC FACILITIES AND PROPERTY

A. All public facilities within Tioga County shall provide public refuse receptacles for solid waste disposal by facility users and employees. These receptacles shall only be utilized for solid waste generated onsite.
   1. Parks may, in lieu of providing separate public receptacles for refuse, require that park patrons take their refuse with them upon leaving the park. The municipalities shall post signs at all park entrances advising the public of the rule. Park patrons shall be responsible for removing refuse from the park and disposing of them in accordance with this article.
B. There shall be provided separate public receptacles for recyclables. Such containers shall be clearly marked RECYCLE, and a list of recyclable items shall accompany said public refuse receptacle. There shall be an adequate number of clearly marked and accessible public receptacles for recyclable materials in order to facilitate recycling. These receptacles shall only be utilized for recyclables generated onsite.
C. All recyclable materials shall be placed in separate public recycling receptacles. The responsibility to separate recyclables from non-recyclables shall be placed on the facility user.
   1. Parks may, in lieu of providing separate public receptacles for recyclables, require that park patrons take their recyclable materials with them upon leaving the park. The municipalities shall post signs at all

park entrances advising the public of the rule. Park patrons shall be responsible for removing recyclables from the park and disposing of them in accordance with this article.

2. Notwithstanding the provisions of the subsection, concession stands within the park providing food or other items packaged in recyclable containers shall provide both refuse and recyclable containers to conform to this section.

D. It shall be a violation of this article for any person to place or to cause to be placed any material other than a recyclable in or near a public receptacle designated for recyclable materials.

E. It shall also be a violation of this article for any person to place or to cause to be placed any recyclable material in or near a public refuse receptacle designated for non-recyclable materials.

F. Any person, including employees of public facilities, convicted of a violation of this section shall be subject to a fine of up to $50 or community service.

G. The proprietor of any public facility convicted of a violation of this section shall be subject to a fine of up to $200 or community service. Each day of violation shall constitute a separate offense.

SECTION 9: ENFORCEMENT & PERMITTING

A. All provisions of this article shall be enforced by a municipal code enforcement official or other appropriate enforcement agencies.

B. Permit Procedures for Haulers (Commercial, Business)

1. No Hauler shall collect, transfer or dispose of solid waste and recyclable materials in Tioga County without possessing a current permit issued by the Sustainability Manager.
2. An application for a solid waste/recycling permit shall be in writing and shall contain such information as required by the Sustainability Manager.
3. The application shall be accompanied by the following:
   a. Evidence of insurance, conforming with current NYSDEC and Tioga County requirements.
   b. Payment of the administration fee payable to the Tioga County Treasurer and mailed to Tioga County Solid Waste, 56 Main Street, Owego, NY 13827.
4. Within fifteen (15) business days of receipt of application, the Sustainability Manager shall, in writing, grant or deny the application, or require other further information and/or documentation. The Sustainability Manager may require additional information regarding the condition of the applicant's vehicles to ensure they will not leak during transit and are capable of transporting material in a covered condition. The permit may be withheld for reasons which include the failure to submit all required information, unsuitable condition of the

vehicle(s); any unresolved fines and/or the applicant's history of prior suspensions/violations.

5. Annual reporting is required by February 28th. If a hauler does not report their annual tonnages and supporting documentation, their permit will not be renewed until all past reporting documentation is submitted to the Sustainability Manager.
6. Permits shall expire annually on March 31st. Permits may be renewed pursuant to the provisions of this law.
7. Permits may be suspended or revoked by the Sustainability Manager pursuant to this local law.
8. Permit fees and or changes in permit fees shall be reviewed and approved by the Tioga County Legislature.
9. Termination of a permitted hauler's insurance automatically invalidates the hauling permits.
10. Permits shall not be transferable to another business without express written permission of the Sustainability Manager.
11. Permits may be suspended by the Sustainability Manager for the following:
    a. If upon inspection, the hauler's vehicle is in such a condition as to allow leakage while in transit, or
    b. If the body of the truck is not wholly enclosed and or the contents (load) are not secured with a cover or tarping mechanism or other appropriate load securing device, or
    c. If the operation or unloading of vehicles is not conducted in a manner so as to prevent the premature spillage or loss of contents, or
    d. If the hauler has failed to remedy the conditions leading to a suspension of a permit within the time specified in such order of suspension, or
    e. Any other violation of law of these regulations.
12. Suspension or revocation of a permit will be followed by a written notice of such violation, addressed to the permittee. Within fifteen (15) days of the receipt of said written notice of suspension or revocation, the hauler must notify, in writing to the Sustainability Manager and the Finance Committee of the Tioga County Legislature and shall file petition stating the reasons and basis for said appeal.
13. Within fifteen (15) days of an appeal, the Finance Committee shall conduct a hearing, upon notice to the permittee to review the action of the Sustainability Manager with respect to suspension or revocation of a permit. The permittee shall present all witnesses and documents and shall be entitled to be represented by counsel at any stage of the proceedings. Said proceedings may be adjourned only once by right of the permittee; and all other

adjournments shall be determined by the members of the Committee. Within fifteen (15) days of said hearing, said appeals committee shall by written decision, affirm the actions of the Sustainability Manager, reinstate such permit, and/or take any other appropriate action. Permittee may continue to conduct hauling operations during the appeal period.

SECTION 10: REPORTING TO TIOGA COUNTY SUSTAINABILITY MANAGER

A. All waste haulers, and any other person or entity that collects, transports and/or markets recyclables, must maintain monthly records of all recyclable material. These records must include the following:
   1. The total tonnage, by material, of recyclable material collected.
      a) The total tonnage, by material, of recyclable material delivered to each and every materials recovery facility, secondary materials market, secondary materials broker or end-use market.
      b) Weight slips from the broker or end-use market will fulfill this requirement.
B. Reports containing the information required in this section shall be compiled and delivered to the Sustainability Manager on an annual basis. Reports shall be filed with the Sustainability Manager no later than February 28th of the subsequent year of filing.
C. Each waste hauler shall retain for no less than five years the records and documents required pursuant to this article and shall make such documents available upon the request of the Sustainability Manager or law enforcement officers.

SECTION 11: PRIORITY

Pursuant to Section 1 of Chapter 675 of the Laws of 1982 of the State, this article takes precedence over and shall supersede any inconsistent provisions of any local law enacted by any municipality within the County.

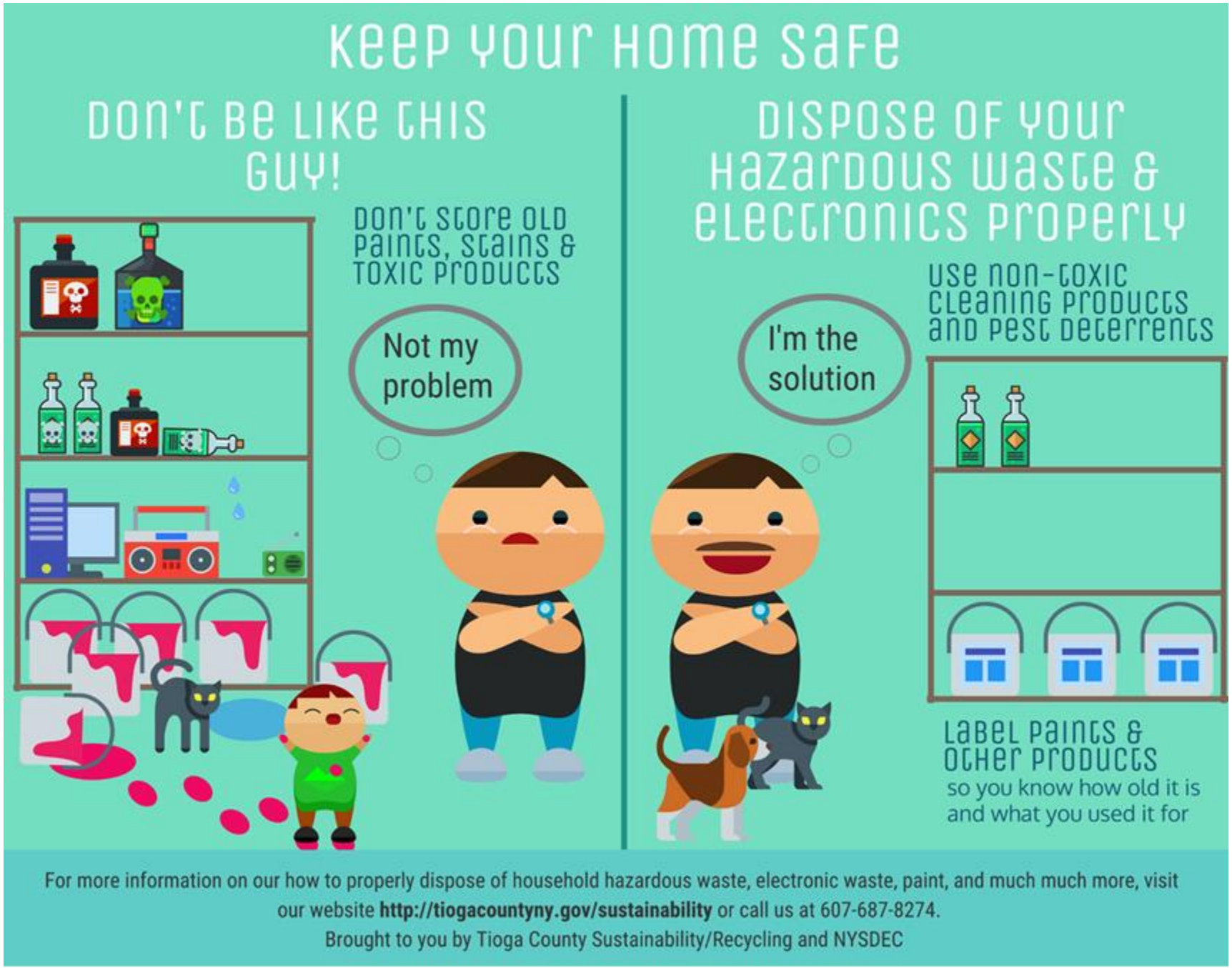
SECTION 12: EFFECTIVE DATE

This Local law shall take effect January 1, 2024.

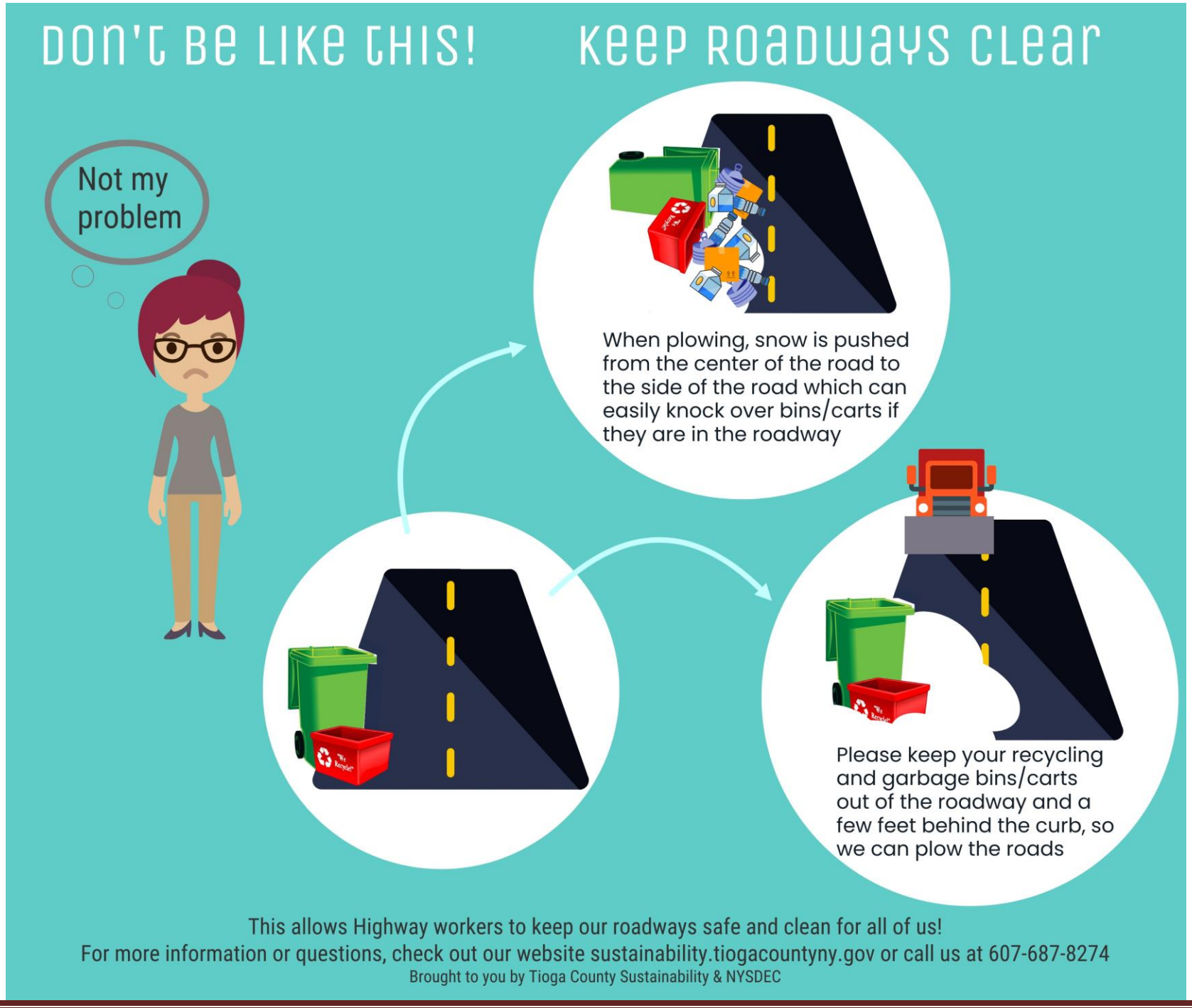
Appendix D

Examples of Existing Educational & Outreach Materials

† Outreach material – magnets - given out at events and to private haulers to give to their customers.


Keep Your Home Safe
Don't Be Like This Guy!
Don't store old paints, stains & toxic products
Not my problem
Dispose of your hazardous waste & electronics properly
Use non-toxic cleaning products and pest deterrents
I'm the solution
Label paints & other products
so you know how old it is and what you used it for
For more information on our how to properly dispose of household hazardous waste, electronic waste, paint, and much much more, visit our website http://tiogacountyny.gov/sustainability or call us at 607-687-8274.
Brought to you by Tioga County Sustainability/Recycling and NYSDEC

Don't be like this!
Not my problem
Keep your recycling in your bin
Flatten
Flatten your boxes, plastic jugs & cartons
I'm the solution
Overflow
Place overflow in a cardboard box next to your recycling bin
For more information on recycling and much much more, visit our website http://tiogacountyny.gov/sustainability or call us at 607-687-8274.
Brought to you by Tioga County Sustainability/Recycling and NYSDEC


Don't be like this!
Keep Roadways Clear
Not my problem
When plowing, snow is pushed from the center of the road to the side of the road which can easily knock over bins/carts if they are in the roadway
Please keep your recycling and garbage bins/carts out of the roadway and a few feet behind the curb, so we can plow the roads
This allows Highway workers to keep our roadways safe and clean for all of us!
For more information or questions, check out our website sustainability.tiogacountyny.gov or call us at 607-687-8274
Brought to you by Tioga County Sustainability & NYSDEC

Don't be like this guy!
Not my problem
Keep these items out of your bin- it may save a life
Rechargeable Batteries
"Tanglers"
Garden Hoses & Extension Cords
Needles/Sharps & Prescriptions
Help keep workers safe and recyclables valuable by keeping rechargeable batteries, "tanglers" and needles/sharps & medication out of your recycling bin.
For more information, check out our website sustainability.tiogacountyny.gov or call us at 607-687-8274
Brought to you by Tioga County Sustainability/Recycling & NYSDEC

YARD WASTE

Some municipalities in Tioga County provide drop off and/or collection for their residents. For more information see websites below or call your local Town or Village Clerk.

Town of Barton

townofbarton.org/pit-schedule

Town of Owego

townofowego.com
under Brush Removal

Compost at Home

Don't want to transport your yard waste? Learn how to compost at home by checking out Tioga County's Cornell Cooperative Extension website at **tioga.cce.cornell.edu** under gardening and then compost resources

For more information on how to reduce your waste and much much more, visit our website recycling.tiogacountyny.gov or call us at 607-687-8274.
Brought to you by Tioga County Sustainability/Recycling

Appendix E

Alternative Technology Analysis Tables

Implementation Item: 5.1 Waste Reduction Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: The Waste Reduction Program is expected to reduce overall generation of select MSW (5-10%).

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents. County staff will apply for funding to conduct an Economics of Waste Reduction Plan.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common waste reduction program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Participation in Recovery Opportunities: Activity for this implementation item is expected to enhance program participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.2 Reuse Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: The Reuse Program is expected to reduce overall generation of select MSW (5-10%).

Types and Sizing of Facilities or Program: Not size restricted, no infrastructure required by County. Infrastructure requirements will be specific to individual waste generator. Analysis of commercial/industrial waste reuse cost analysis is beyond the scope of this LSWMP.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents. County staff will apply for funding to conduct an Economics of Waste Reduction Plan.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: There is potential for participation by neighboring Planning Units is believed to focus on common messaging where common reuse program guidelines exist.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with reuse.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery. Waste Stream Projections for additional detail.

Participation in Recovery Opportunities: This program is designed to promote participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed reuse activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.3 Recycling Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Recycling Programs are expected to reduce overall generation of select MSW (~5%).

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Recycling Programs efforts are not expected to have a significant cost to the County or residents.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common recycling program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with recycling.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery. Waste Stream Projections for additional detail.

Participation in Recovery Opportunities: This program is designed to promote participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.4 Reducing Food Waste & Organic Recovery Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Reducing Food Waste & Organic Recovery Programs is expected to reduce overall generation of MSW by 5-10%.

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents. County staff will apply for funding to conduct an Economics of Waste Reduction Plan.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common waste reduction program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Waste Stream Projections for additional detail.

Participation in Recovery Opportunities: Activity for this implementation item is expected to enhance program participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.5 Enforcement Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Local laws incentivize diversion, require recycling, establish a system for hauler permitting and data reporting, and disincentivizes illegal dumping of material. This provides a framework to support a countywide materials management system.

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities.

Summary of Cost Data for Evaluation: To support this program, funding will be needed to provide additional enforcement, possibly through collaboration with the Sheriff's Department. Current staffing levels will need to be maintained to ensure support for enforcement programs.

Impact on Natural Resource Conservation, Energy Production, and Employment: Local laws support natural resource conservation by mandating recycling and encouraging proper material handling.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: At this time, no collaboration with neighboring planning units is anticipated.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: There is no known or anticipated environmental justice impact associated with this program.

Selected Alternatives Identification:

Reasons for Being Chosen: Local laws were established to create a framework that incentivizes waste reduction and recycling, while ensuring data collection and proper management of residue.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery. Waste Stream Projections for additional detail.

Participation in Recovery Opportunities: Activity for this implementation item is expected to enhance program participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.6 Education & Outreach Programs

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Education & Outreach Programs are expected to reduce overall generation of select MSW (5-20%).

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common waste reduction program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Participation in Recovery Opportunities: Activity for this implementation item is expected to enhance program participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.7 Data Collection & Evaluation

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Management of additional data will create additional workload on staff.

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common waste reduction program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Participation in Recovery Opportunities: This program is designed to promote participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.8 Debris Management

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Debris Management is expected to reduce overall generation of select MSW.

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County. Waste reduction allows facilities within the Planning Unit to maintain the current size.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents.

Impact on Natural Resource Conservation, Energy Production, and Employment: MSW reduction is expected to conserve natural resources. Significant energy production or job creation is not anticipated.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Should waste prevention programming be promoted through a statewide effort and where common waste reduction program guidelines exist. Common messaging would support educational efforts.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Debris Management is the most effective way to manage the cost of debris caused by significant storm events.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Participation in Recovery Opportunities: Activity for this implementation item is expected to enhance program participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Implementation Item: 5.9 C&D Reuse & Recovery

Administrative/Technical Impacts:

Quantitative/Qualitative Impacts on Waste Stream: Continued and diversion of waste materials by the private sector will support waste diversion.

Types and Sizing of Facilities or Program: This program would not affect the sizing of current facilities. While new systems for sharing platforms may facilitate this activity, no specific infrastructure is required by the County.

Summary of Cost Data for Evaluation: Waste reduction efforts are not expected to have a significant cost to the County or residents. County staff will apply for funding to conduct an Economics of Waste Reduction Plan.

Impact on Natural Resource Conservation, Energy Production, and Employment: Utilization of private sector waste diversion is believed to have positive impacts on natural resource conservation, energy production, and jobs.

Jurisdictional Impacts:

Interest in Participation by Neighboring Planning Units: Not at this time.

Alternatives Available with Participation by Neighboring Planning Units: Activities with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units: N/A

Assessment of Environmental Justice Impacts: According to the NYSDEC Environmental Justice Area Mapper, there are 2 potential environmental justice areas located in Tioga County. There is no known or environmental justice impact in Tioga County associated with waste reduction.

Selected Alternatives Identification:

Reasons for Being Chosen: Waste reduction is a low-cost method for furthering sustainable materials management efforts.

Expected Quantitative and Qualitative Impacts On:

Waste Reduction, Reuse, and Materials Recovery: This activity is expected to reduce waste, promote reuse, and increase materials recovery.

Participation in Recovery Opportunities: This program is designed to promote participation.

Product Stewardship: Product stewardship presents an opportunity to reduce waste through design, and new opportunities may be revealed through program development.

Economic, Administrative, or Partnership Benefits: Opportunities exist to connect with local partners to support the sharing economy. Administrative resources will be utilized to support programming.

Identification of Administrative, Contractual, and Financial Requirements for Implementation: The existing administrative, contractual, and financial structure is sufficient to support ongoing and proposed waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation: None at this time.

Appendix F

Implementation Schedule

Tioga County Solid Waste Management Plan - 10 Year Implementation Schedule

Responsible Party: Tioga County Department of Solid Waste

Time Period:	2024		2025		2026		2027		2028		2029		2030		2031		2032		2033	
	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall	Winter-Spring	Summer-Fall
Activity																				
Waste Reduction																				
Maintain Public/Private Partnership in Waste Reduction Activities	on going																			
Conduct an Economics of Waste Reduction Plan																				
Implement Tasks/Findings from Plan				on going																
Promote Medical Equip. Waste Reduction in Education & Outreach	on going																			
Promote Film Reduction in Education & Outreach	on going																			
Advocate for Improved Waste Removal from Biosolids	on going																			
Reuse Programs																				
Support Private & Not-For-Profit Reuse Centers & Programs	on going																			
Review Local Laws for Incompatibility with Reuse Programs	on going																			
Support State and Federal Actions for Product Stewardship	on going																			
Recycling Programs																				
Promote Textile Recycling in Education & Outreach	on going																			
Commence a Borrow-A-Bin Program for Community Events	on going																			
Review Local Laws for Incompatibility with Recycling Efforts	on going																			
Continue to Support Recycling in Education & Outreach	on going																			
Reducing Food Waste & Organic Recovery																				
Support Not-For-Profit Food Recovery Programs	on going																			
Promote Reducing Food Waste by Education & Outreach	on going																			
Commence a Backyard Composting Program	on going																			
Enforcement Programs																				
Review Local Laws for Best Practices	on going																			
Education & Outreach																				
Continue Education Outreach with local Agencies & Community Groups	on going																			
Maintain budget levels for Outreach Activities	on going																			
Promote Select Waste Reduction Issues - Hazardous Products	on going																			
Promote Select Waste Reduction Issues - Film Plastic	on going																			
Data Collection & Evaluation																				
Quarterly and Annual Data Review for Quality & Completeness	on going																			
Data Management from Hauling Permit		on going																		
Debris Management																				
Contract Export Services for Storm Debris																				
Contract Export Services for Storm Debris	on going																			
C&D Reuse & Recovery																				
Encourage C&D Deconstruction Activities by Private Sector	on going																			

Appendix G

Example of Compliance Report Outline

Table of Contents

Section Page

Executive Summary

I. Overview of Tioga County's Solid Waste Management System

II. Status of the County's Program Strategies

A. Summary of Program Strategies
B. Obstacles Met in Efforts to Reach Milestones Contained Within the LSWMP, and Attempts to Overcome Such Obstacles
C. Deviations from the Tioga County LSWMP
D. Solid Waste Issues Not Previously Addressed in the LSWMP
E. Revised Implementation Schedule

III. Funding and Staffing Resources

A. Financial Resources
B. Staffing Levels

IV. Accomplishments/New Issues

V. Waste Reduction, Reuse, and Recycling

A. Elements of the County's Current Recycling Program
B. Differences between Current Recycling Program and Recycling Program Contained Within the LSWMP
C. Evaluation of Recycling Potential of Materials Not Currently Recycled
D. Recycling Goals

VI. Solid Waste and Recyclables Inventories

Appendices

Appendix A – 20XX Tioga County Solid Waste and Recyclables Inventory
Appendix B – 20XX Tioga County Solid Waste and Recyclables Inventory