STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

DAVID W. SALYERS, P.E.
COMMISSIONER

BILL LEE
GOVERNOR

MEMORANDUM

TO: Governor Bill Lee
Governor of the State of Tennessee

Lieutenant Governor Randy McNally
Speaker of the Senate

Speaker Cameron Sexton
Speaker of the House of Representatives

FROM: David W. Salyers, P.E.
Commissioner

DATE: April 6, 2022

SUBJECT: Annual Division of Solid Waste Management Report

Tennessee Code Annotated § 68-211-873 requires the Department of Environment and Conservation to prepare an annual report on the State's solid waste management system. The report is to be submitted to the Governor and Tennessee General Assembly.

Enclosed is your copy of this year's report that covers FY 2020-2021.

DWS:AK

Enclosure

ANNUAL REPORT

To the
GOVERNOR and GENERAL ASSEMBLY

On the
SOLID WASTE MANAGEMENT ACT OF 1991

Fiscal Year 2020-2021

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 14th Floor
Nashville, TN 37243

(Intentionally Left Blank)

Executive Summary

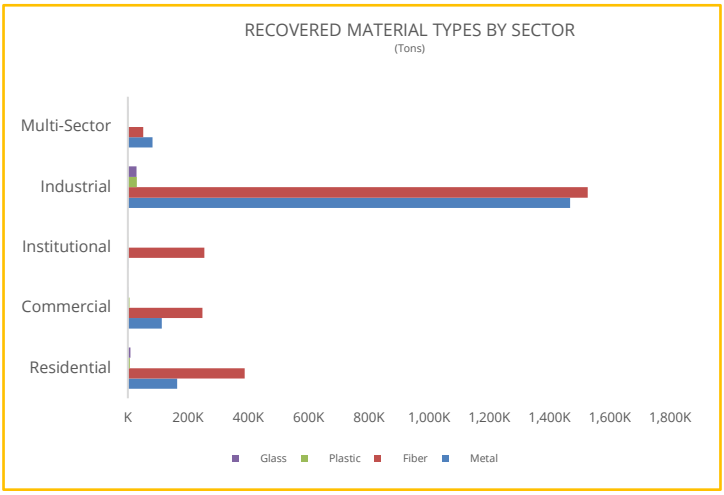
Fiscal year 2020-2021 has brought many challenges to the execution of the Solid Waste Management Act of 1991 (SWMA), its amendments, and the continued progression to implement the state's 2015-2025 Solid Waste and Materials Management Plan (2025 Plan). As with most of the state, the pandemic stretched resources at both the state and local government levels. New waste streams from discarded Personal Protective Equipment, or PPE, flooded the solid waste systems across the state. Consumer purchasing behaviors evolved from a society on the move to one geared away from brick and mortar stores to online purchases. With the unexpended dollars from entertainment and travel in their budgets, peopled fully utilized the online markets. These purchases produced excessive amounts of shipping cardboard.

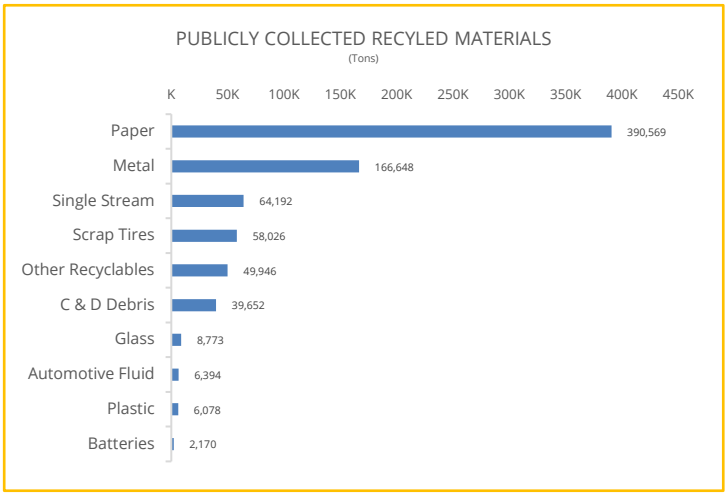
Though solid waste management including collection, disposal, and recycling received the designation essential, finding and retaining workers further complicated the status. A qualified Commercial Driver License (CDL) shortage brought on by the pandemic, increased competition from consumer package delivery services, and supply chain issues for parts and building new vehicles caused major disruption. Commercial drivers took their professional driving credentials to online delivery services that provided better terms of employment. As a result, local governments, responding to fewer employees and to adjust to new working practices, started dropping, or at a minimum, modifying services offered. This led to reduced access to recycling services in some cases.

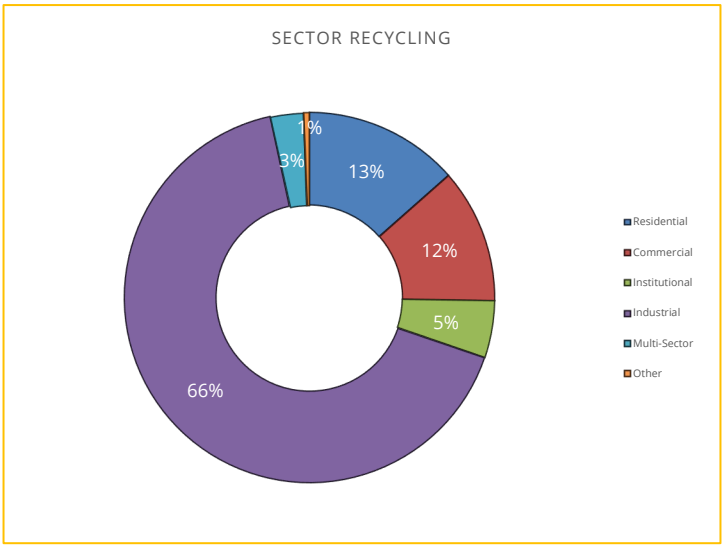
The 2025 Plan implementation remained on target despite the fact funding resources in the form of Materials Management grants to local governments were on hold during this Annual Report period. TDEC is working diligently on the administrative process of returning to alignment with past grant program practices. TDEC submitted the documentation to do the Technical Assistance grants for FY 2023.

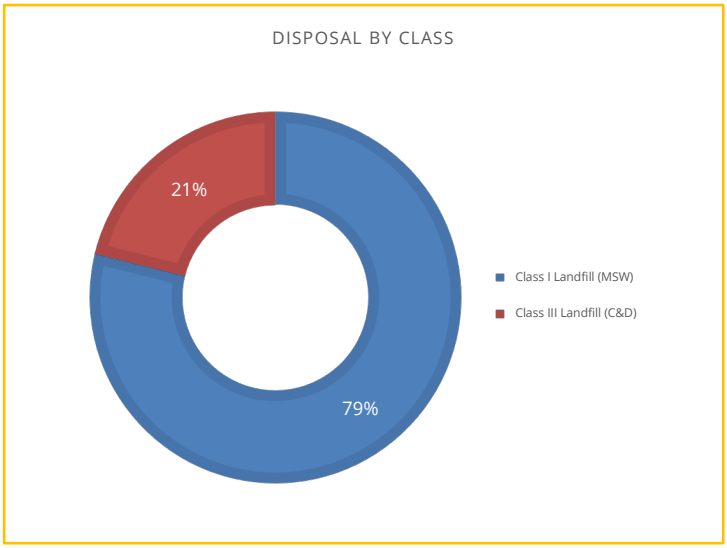
Since 1993 Materials Management has given $202,150,416 to Tennessee counties and municipalities in the form of grants and rebates, 27% of which has gone to the top five counties.

The following dashboard summarizes efforts across the state. While this annual report bases its data and information on a fiscal year, local governments report annually based on calendar years. Unless otherwise specified, material and implementation efforts are reported based on the calendar year and grant funding and projects are based upon fiscal years due to the budgetary ties of those programs.









Dashboard- Summary January Thru December 2020

The Institute of Scrap Recycling Industries defines single stream material derived from a recycling method whereby residents of a community place allowed materials in a specifically designated receptacle to be left at a drop off point outside their residence.

TABLE OF CONTENTS

Definitions and Abbreviations

A. Definitions

***2015-2025 Solid Waste and Materials Management Plan (*2025 Plan)** - The state solid waste management plan to reduce waste at the state and local level for the period of 2015 through to 2025. The purpose of the plan is to achieve identified waste reduction and diversion goals for the same period in fulfillment of §68-211-600.

Annual Progress Report (APR) - The annual report to the TDEC that Regions submit that provides a new 10 Year solid waste planning window, progress towards implementing the Region's solid waste plan, and any update to the existing 10 Year solid waste plan due April 1 of the calendar year immediately following the reporting calendar year.

Calendar Year (CY) - The twelve-month period from January 1 through December 31.

Class I Landfill - A sanitary landfill which serves a municipal, institutional, and/or rural population and used or to be used for disposal of domestic wastes, commercial wastes, institutional wastes, municipal solid wastes, bulky wastes, landscaping and land clearing wastes, industrial wastes, construction/demolition wastes, farming wastes, shredded automotive tires, dead animals, and special wastes.

Class III Landfill - A landfill used or to be used for the disposal of farming wastes, landscaping and land clearing wastes, demolition/construction waste, shredded automotive tires, or certain wastes having similar characteristics and approved in writing by the TDEC.

Compost - Solid waste which has undergone biological decomposition of organic matter, and has been disinfected using composting or similar technologies, and has been stabilized to a degree which is potentially beneficial to plant growth and which is suitable for use as a soil amendment, artificial topsoil, growing medium amendment or other similar uses.

Conditionally Exempt Small Quantity Generator (CESQG) - Very small quantity generator as defined in the Rule 0400-12-01-.01.

Construction and Demolition (C&D) - Waste generated from the alteration, construction, demolition, and rehabilitation of facilities or improvements and the TDEC generally considers inert.

Consumer Price Index (CPI) - A measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. This measure is used to calculate a jurisdiction’s waste reduction and diversion goal.

Department – Tennessee Department of Environment and Conservation.

Department of General Services (DGS) - The department responsible for providing goods and services to the State government of Tennessee.

Development District (DD) - A development district organized pursuant to title 13, chapter 14.

Disaster Debris Plan (DDP) - A planning tool that assists local governments in preparing for disaster response in advance to reduce response time, direct debris materials to best end of life management, and define roles and responsibilities of key contacts before an event.

Disposal – Tons reported as landfilled or incinerated by the State or a county for a reporting year and used to calculate progress towards waste reduction and diversion goals.

Division of Solid Waste Management (DSWM) - Division under Environment and Conservation responsible to protect, improve, and promote health and environmental quality through the responsive, effective oversight of waste management activities and the beneficial use of recovered materials.

Employment – A number released by the Bureau of Labor Statistics that represents a jurisdiction and used to calculated a jurisdiction's waste reduction and diversion goal.

Federal Emergency Management Agency (FEMA) - The Federal agency responsible for emergency management and civil defense.

Fiscal Year (FY) - The twelve-month period from July 1 through June 30 used to designate the operational and accounting year of the state.

Generation – The total amount of materials disposed in landfills, recycled, composted, or converted to energy used to calculate the county, Region, or state waste reduction goal or for grant offerings.

Go Green With Us (GGWU) - A partnership between TN State Parks' staff and visitors to become better stewards of our natural and financial resources through the integration of common sense sustainability practices into park management and operations.

Grants Management System (GMS) - TDEC's electronic grant application and project management program accessible to stakeholders through the website.

Hazardous Waste Inspection Training - Statewide Hazardous Waste Inspector Training (HWIT) program for hazardous waste generators geared to improve customer compliance during hazardous waste inspections by clarifying the expectations of inspectors in accordance with DSWM policy and state regulations.

Hazardous Waste Operations and Emergency Response (HAZWOPER) - A set of guidelines produced and maintained by the Occupational Safety and Health Administration which regulates hazardous waste operations and emergency services in the United States.

High Density Polyethylene (HDPE) Plastic Resin #2 - A thermoplastic polymer made from petroleum used in a wide variety of applications including bottles, milk jugs, shampoo bottles, bleach bottle, cutting boards, and piping commonly noted by resin code #2.

Household Hazardous Waste (HHW) - Solid wastes discarded from homes or similar sources as listed in 40 CFR 261.4(b)(1), that are either hazardous wastes as listed by the EPA in 40 CFR 261.33(e) or (f), or wastes that exhibit any of the following characteristics as defined in 40 CFR 261.21 — 261.24: ignitability, corrosivity, reactivity and TCLP toxicity.

Household Hazardous Waste Collection Facility - One of the permanently located HHW collection sites located in Memphis, Nashville, Chattanooga, Cookeville, or Knoxville that provide continuous collection throughout the year and often provide collection services to surrounding counties.

Household Hazardous Waste Mobile Event - Periodic State sponsored household hazardous waste collection services scheduled in selected counties in the spring or fall of the year as requested local by governments based on availability.

Household Hazardous Waste Temporary Storage - Temporary storage buildings funded by TDEC via grants to the counties that allow for the temporary storage of household hazardous wastes until a time can be scheduled with the state contractor to pick up collected materials.

ICI Sector (ICI) - Short for Industry-Commercial-Institutional Sector that includes manufacturing plants, retail and office operations, and public institutions. Any premises that TDEC does not consider residential would fall to this sector.

Integrated Solid Waste Management Systems (ISWMS) - A coordinated and systematic approach to sustainable management of solid wastes and its facilities designed and based on transportation, economic, and efficiency with the ultimate goal to reduce the amount of wastes going to landfills.

Landfill – A method of disposing of solid waste into or on land without creating nuisances or hazards to public health or to the environment by utilizing the principles of engineering to confine the solid waste to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer(s) of an approved material.

Landfill Operator Certification Training (LOCT) - A three-day classroom instruction and exam that cover Tennessee solid waste regulations, statutes, landfill operations and design, and record keeping.

Low Density Polyethylene (LDPE) Plastic Resin #4 - A thermoplastic polymer that is a soft, flexible, lightweight plastic material. LDPE is noted for its low temperature flexibility, toughness and commonly denoted by resin code #4.

Material Recovery Facility (MRF) - A material reclamation facility designed to sort and bundle various commingled materials from residential or commercial sectors.

Materials Marketplace (MMP) - Creates a collaborative network of businesses, organizations, and entrepreneurs where one organization's hard-to-recycle waste and by-products becomes another organization's raw material.

Milk Run - A process where counties will collect materials at their facilities and the contractor will pick up these materials at a cheaper price because contractor labor is not required. Packaging and containers will be provided for the milk run commodities.

Mixed Office Paper (MOP) - One of the major recycling fiber grades comprised of a mix of two of the following grades- Newspaper, office paper, and kraft/cardboard.

Municipal Solid Waste (MSW) - Any garbage, refuse, industrial lunchroom or office waste, household waste, household hazardous waste, yard waste, and any other material resulting from the operation of residential, municipal, commercial or institutional establishments and from community activities; provided, that "municipal solid waste" does not include the following: (A) Radioactive waste; (B) Hazardous waste as defined in § 68-212-104; (C) Infectious waste; (D) Materials that are being transported to a facility for reprocessing or reuse; provided further, that reprocessing or reuse does not include incineration or placement in a landfill; and (E) Industrial waste which may include office, domestic or cafeteria waste, managed in a privately owned solid waste disposal system or resource recovery facility, if such waste is generated solely by the owner of the solid waste disposal system or resource recovery facility.

North American Industry Classification System (NAICS) – A classification system of business establishments that note the type of economic activity or process of production used by that business. Does not address multiple establishments from the same company.

Office of Policy and Planning (OPP) - One of the two predecessor business units of the now Office of Policy and Planning that provided policy and planning support to TDEC.

Office of Policy and Sustainable Practices (OPSP) - The business unit at TDEC that has three primary service areas: Business, Community, and State Government and Institutions. Each service area provides programs, resources, and technical assistance that promote environmental sustainability and resilience throughout Tennessee.

Old Closed Landfill (OCL) - A publicly owned class I landfill permitted by TDEC that is now closed and does not have a composite liner system in place, where TDEC determined that the landfill is causing harm to health or the environment through contamination of ground water.

Old Corrugated Cardboard (OCC) - A fiber grade that covers those boxes where the materials are made from three separate layers of paper, two liners and a corrugated or wavy layer sandwiched between them.

Old News Print (ONP) - A low-cost, non-archival paper consisting mainly of wood pulp and mostly used to print newspapers and other publications.

Organics Management (OM) - The management practice of taking materials that are carbon-based compounds (that come from living things) which and are readily biodegradable and converting them a valuable resource rather than a waste. This includes composting (see definition above), food recovery, and the management of reclaimed fats, oils, and greases to beneficial and social uses.

Per Capita – A program dimension (disposal, economic, sales tax, employment, etc.) divided by population for the analyzed jurisdiction.

Polyethene Terephthalate (PET or PETE) Plastic Resin #1 - The chemical name for polyester, a plastic resin, that is clear, strong, and is used as packaging for foods and beverages, especially convenience-sized soft drinks, juices, and water.

Polypropylene (PP) Plastic Resin #5 - A thermoplastic polymer versatile plastic resin that is widely used in a variety of applications such as food tubs made from propylene monomers.

Polystyrene (PS) Plastic Resin #6 - A hard, stiff, brilliantly transparent synthetic resin produced by the polymerization of styrene. It is widely employed in the food-service industry as rigid trays and containers, disposable eating utensils, and foamed cups, plates, and bowls.

Polyvinyl Chloride (PVC) Plastic Resin #3 - A high strength thermoplastic resin widely used in construction and building applications such as pipes, medical devices, wire and cable.

Population – The number released by the United States Census Bureau that represents a jurisdiction's population estimate. For this report, it represents the population estimates released in the first week in April of the year reviewed and used to calculated progress towards a jurisdiction's waste reduction and diversion goals.

Radio Frequency Identification (RFID) - Refers to a technology whereby specialized readers communicate with encoded tags or smart labels similar to bar codes placed on vehicles, containers, bins, or carts to capture encoded digital data such as location, stop, or vehicle identification. Solid waste systems use the technology to improve performance and efficiency.

Recycled Materials Processing Facility (RMPF) - A facility engaged solely in the storage, processing and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste processing facility.

Recycling Equipment Grant (RE) - A matching grant program defined by § 68-211-825(a) for procurement of key pieces of recycling equipment including, but not limited to, recycling carts made with recycled content and embedded RFID tags, containers, compactors, balers, glass crushers, sorting systems, and forklifts.

Recycling Marketing Cooperative of Tennessee (RMCT) - A non-profit agency that TDEC contracted with to fulfill the responsibilities of the Office of Cooperative Marketing. The organization assisted local governments with achieving full trailer load quantities of recyclables for the best commodity prices.

Recovered Materials - Waste material and byproducts which have been recovered or diverted from solid waste. This term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.

Recycling Rebate (RR) - A statutory rebate defined by § 68-211-825(b) for the top 5 most populous counties provided in lieu of a recycling equipment grant allocated proportionally by population for those local governments that provide solid waste services within the qualifying five counties.

Region - A municipal solid waste Region organized pursuant to § 68-211-813(a).

Solid Waste Advisory Committee (SWAC) - A formerly statutory-defined committee that provided non-regulatory, advisory responsibility to TDEC on the SWMA implementation. The Underground Storage Tanks - Solid Waste Disposal Control Board assumed the responsibilities of this committee.

Solid Waste Assistance Program - The original TDEC program designated to implement the Solid Waste Management Act of 1991. The predecessor of the current Materials Management Program.

Solid Waste Association of North America (SWANA) - An organization of more than 10,000 public and private sector professionals committed to advancing from solid waste management to resource management through their shared emphasis on education, advocacy, and research.

Solid Waste Management Act of 1991 (SWMA) - The 1991 Act that outlines a comprehensive process for handling Tennessee's municipal solid waste on a regional basis by promoting solid waste planning, sustainable funding, technical assistance, and goals to maximize the beneficial reuse of materials and minimize those materials being disposal of in landfills.

Solid Waste Management Fund (SWMF) - A state special revenue fund established under § 68-211-821 to fund the authorized implementation activities of the Solid Waste Management Act of 1991.

Solid Waste Management Systems (SWMS) - Solid Waste systems that facilitate the beneficial reuse of materials from the municipal and commercial waste stream such as trash, recycling, and organic management solutions.

Solid Waste Regulatory Programs - The TDEC program responsible for implementation of the Solid Waste Disposal Act (Title 68, Chapter 211, Part 1) and the supporting rules.

Solid Waste Uniform Inspection Training (SUIT) - A training program designed to provide solid waste facility operators and employees with a basic knowledge of the state facility inspection program. SUIT provides information regarding the policies and regulatory citations associated with each item on the inspection document.

Sorted Office Paper (SOP) - Consists of paper, as typically generated by offices, containing primarily white and colored groundwood-free paper, free of unbleached fiber. May include a small percentage of groundwood computer printout and facsimile paper.

Southeast Recycling Development Council (SERDC) - A non-profit agency that TDEC contracted to engage the public and industries of the state to foster greater recycling, improve communications amongst recyclers and their sources, promote sustainable recycling programs and coordinate education and public awareness activities related to recycling.

Standard Industry Classification (SIC) - A four-digit number system used by government agencies to classify industry types.

Taxable Sales – A formula derived measure based on Department of Revenue data that represents sales in a given jurisdiction and used to calculate that jurisdiction’s waste reduction and diversion goal.

Tennessee Department of Environment and Conservation (TDEC) - The Tennessee cabinet level agency that exists to enhance the quality of life for citizens of Tennessee and to be stewards of our natural environment by: Protecting and improving the quality of Tennessee's air, land, and water through a responsible regulatory system.

Tennessee Department of Transportation (TDOT) - The Tennessee cabinet level multimodal agency with statewide responsibilities in roadways, aviation, public transit, waterways, and railroads.

The mission of TDOT is to provide a safe and reliable transportation system for people, goods, and services that supports economic prosperity in Tennessee.

Tennessee Emergency Management Agency (TEMA) - The agency responsible to coordinate preparedness, response, and recovery from man-made, natural, and technological hazards in a professional and efficient manner in concert with our stakeholders.

Tennessee Recycling Coalition (TRC) - A tax-exempt organization structured under section 501(C)3 of the Internal Revenue Code. It is a non-profit organization dedicated to promoting recycling and sustainable materials management practices in Tennessee.

Tennessee School Laboratory Rehabilitation Program (TSLRP) - A DSWM program that provides schools with an opportunity to learn about chemical safety practices and information for the safe disposal of hazardous wastes from public school premises.

Tennessee Solid Waste Director's Association (TWSDA) - An association of county level solid waste professionals organized to provide education and outreach for its membership through networking meetings and organized trainings.

Tennessee Training Academy (TTA) - A partnership between TDEC, SWANA's Tennessee Chapter, SERDC, TRC, TSWDA, and UT-CTAS to improve the industry knowledge of Tennessee's solid waste professionals.

The Recycling Partnership - A national nonprofit with mission to transform recycling in towns all across the country and works hand-in-hand with communities and companies, continuously innovating to improve recycling systems.

Tire - A continuous solid or pneumatic rubber covering encircling the wheel of a motor vehicle; a rubber cushion that fits around a wheel (as of an automobile) and usually contains compressed air; a rubber ring placed over the rim of a wheel of a road vehicle to provide traction and reduce road shocks, a hollow inflated ring consisting of a reinforced outer casing enclosing an inner tube.

Tire Derived Aggregate (TDA) – A compilation of materials from shredded scrap tires and used in a wide range of construction projects. These uses include retaining wall backfill, lightweight embankment fill, landslide stabilization, vibration mitigation, and various landfill applications.

Tire Environmental Act (TEA) - The statute found in Tennessee Code Annotated § 68-211 Part 3 that authorizes the selection and funding of projects that best result in one of the beneficial end uses for waste tires for the state. Fees collected from the sale of new cars (based on the tires present on the new car) provide revenue to implement the Act.

Tire Environmental Act Program (TEAP) - The TDEC program responsible for implementing the Tire Environmental Act.

Tire Environmental Fund (TEF) - The special revenue fund created and authorized under § 68-211-304 to implement the Tire Environmental Act under the same Part.

Underground Storage Tanks-Solid Waste Disposal Control Board (UST-SWCB) - The Governor appointed board that provides oversight of TDEC departmental programs of underground storage tanks and on solid waste management issues.

United States Business Council for Sustainable Development - An action oriented and member-led nonprofit business association that harnesses the power of collaborative projects, platforms, partnerships to develop, deploy and scale solutions to ecosystems, carbon, energy, materials and water challenges.

United States Environmental Protection Agency (US EPA) - The federal agency responsible for protecting human health and the environment.

University of Tennessee's Center for Industrial Services (CIS) - A University of Tennessee Institute of Public Service agency that provides technical assistance to industry and manufacturing entities.

University of Tennessee's County Technical Assistance Service (CTAS) - A University of Tennessee Institute of Public Service agency that provides technical assistance to county governments.

Urban Green Lab (UGL) - A 501(C)3 non-profit organized to provide sustainability education through a mobile laboratory. It is a non-profit organized to provide sustainability education through a mobile laboratory.

Waste Reduction Task Force (WRTF) - The taskforce created in 2007 by the Solid Waste Advisory Committee to look into the big picture of how Tennessee manages its solid waste and recycle material streams to set future goals and establish a method to measure it.

B. Abbreviations

Acronym	Acronym Context
2025 Plan	2015-2025 Solid Waste and Materials Management Plan
APR	Annual Progress Report
C&D	Construction and Demolition
CESQG	Conditionally Exempt Small Quantity Generator
CIS	University of Tennessee's Center for Industrial Services
CPI	Consumer Price Index
CTAS	University of Tennessee's County Technical Assistance Service
CY	Calendar Year
CRR	County Recycling Report
DD	Development District
DDP	Disaster Debris Plan
DGS	Department of General Services
DSWM	Division of Solid Waste Management
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GGWU	Go Green With Us
GMS	Grants Management System
HAZWOPER	Hazardous Waste Operations and Emergency Response
HDPE	High Density Polyethylene (Plastic Resin)
HHW	Household Hazardous Waste
HHWCF	Household Hazardous Waste Collection Facility
HHWME	Household Hazardous Waste Mobile Event
HHWTS	Household Hazardous Waste Temporary Storage
HZWIT	Hazardous Waste Inspector Training
ICI	Industry-Commercial-Institutional (Sectors)
ISWMS	Integrated Solid Waste Management Systems

LDPE	Low Density Polyethylene
LOCT	Landfill Operator Certification Training
MMP	Materials Marketplace
MOP	Mixed Office Paper
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
OCC	Old Corrugated Cardboard
OCL	Old Closed Landfill
OM	Organics Management
ONP	Old News Print
OPP	Office of Policy and Planning
OPSP	Office of Policy and Sustainable Practices
PET	Polyethene Terephthalate
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl Chloride
RCRA	Resource Conservation and Recovery Act
RE	Recycling Equipment Grant
RFID	Radio Frequency Identification
RMCT	Recycling Marketing Cooperative of Tennessee
RMPF	Recycled Materials Processing Facility
RR	Recycling Rebate
SERDC	Southeast Recycling Development Council
SOP	Sorted Office Paper
SSD	Subsurface Sewage Disposal
SUIT	Solid Waste Uniform Inspection Training
SWAC	Solid Waste Advisory Committee
SWANA	Solid Waste Association of North America

SWAP	Solid Waste Assistance Program
SWMA	Solid Waste Management Act of 1991
SWMF	Solid Waste Management Fund
SWMS	Solid Waste Management Systems
SWRP	Solid Waste Regulatory Programs
TDA	Tire Derived Aggregate
TDF	Tire Derived Fuel
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TEA	Tire Environmental Act
TEAP	Tire Environmental Act Program
TEF	Tire Environmental Fund
TEMA	Tennessee Emergency Management Agency
TRC	Tennessee Recycling Coalition
TRP	The Recycling Partnership
TSLRP	Tennessee School Laboratory Rehabilitation Program
TSWDA	Tennessee Solid Waste Director's Association
TTA	Tennessee Training Academy
UGL	Urban Green Lab
US EPA	US Environmental Protection Agency
USBCSD	United States Business Council for Sustainable Development
UST-SWDCB	Underground Storage Tanks-Solid Waste Disposal Control Board
WRTF	Waste Reduction Task Force

I. Introduction

A. Solid Waste Management Act of 1991

The Solid Waste Management Act of 1991 (SWMA) requires that an annual report on Tennessee's Solid Waste Management System (SWMS) be prepared and submitted to the Governor and General Assembly as directed by Tennessee Code Annotated (T.C.A.) §68-211-873. The Department of Environment and Conservation (TDEC) Division of Solid Waste Management (DSWM) and the Office of Policy and Sustainable Practices (OPSP) collaborated to produce the fiscal year (FY) 2020-2021 SWMA Annual Report.

Due to the collection schedule of some data overlapping with the State's fiscal year reporting and grant funding schedule, this report analyzes both calendar year (CY) 2020 and FY 2020-2021 and is labeled accordingly throughout the document.

Tennessee intends its SWMS to further the protection of public health and enhance the quality of the environment. Through the SWMS, TDEC acts as a facilitator for waste reduction by collaborating with county and municipal governments, industry, and contract agencies. TDEC's aspiration to coordinate the activities of these groups seeking to maintain adequate health and safety standards, protect the environment through facility design and location, and maximize the utilization of resources that would otherwise result in increased disposal at solid waste facilities.

B. Overview & History

Concern for solid waste issues has been prevalent since the United States Congress enacted the Solid Waste Disposal Act of 1965. During the 1980s, public interest in solid waste management rose to new levels because of shrinking landfill capacity, increasing disposal costs, and opposition to the siting of new landfills. To address this, the Federal government enacted the Resource Conservation and Recovery Act (RCRA). Subtitle D of RCRA provides regulatory exemptions and other incentives that encourage the reuse of recoverable material.

Coincidentally, in the late 1980s, local governments in Tennessee faced growing expenses and the often controversial challenge of finding environmentally safe disposal capacity for municipal solid waste (MSW). Lawmakers, public administrators, technical assistance providers, and industry collaborated to find a solution. The consensus noted the essential nature of long-range planning for local governments to meet State and Federal mandates regarding modern, safe MSW disposal. The SWMA was a direct result of these discussions, identified as one of its major roles the development of tools to help local governments, industry, and the public make better choices in dealing with solid waste issues.

By 1995, the US Environmental Protection Agency (US EPA) developed an integrated, hierarchical approach to waste management. This was known as the "Integrated Solid Waste Management System Hierarchy". To mirror the waste management system established by US EPA, TDEC developed its own SWMS. Tennessee designed its SWMS to facilitate regulatory activities and enforcement by TDEC. SWMA challenged each Region to reduce the amount of solid waste disposed in Class I landfills and incinerators by 25%. Originally, SWMA set 1989 as the base year for

calculation of the 25% solid waste reduction goal and December 31, 1995, was set as the date to meet the reduction goal.

SWMA set forth specific provisions to achieve the waste reduction goal in SWMA. One provision establishes the Solid Waste Management Fund (SWMF or the Fund). The Fund provides financial support in addressing waste avoidance, waste reduction and recycling, composting, and household hazardous waste (HHW) disposal. As identified by the General Assembly, TDEC would use education, technical assistance, and economic incentives as the tools to support this mission.

A $0.90 surcharge assessed on every ton of MSW disposed in Tennessee's Class I landfills or incinerators generate revenue for the Fund. In addition to the disposal surcharge going to the Fund, retail tire dealers collect a pre-disposal fee of $1.35 for each new tire sold in Tennessee. Tire dealers continue to keep $0.10 per tire to cover administrative costs. The dealer remits the remaining $1.25 to the Department of Revenue who then deposits said revenue into the Fund. Amendments passed during the 108th legislative session implemented new laws to Tennessee's Waste Tire Program and how counties receive the money. Effective July 1, 2014, the DSWM terminated waste tire recycling grants and counties continue to receive payment directly from the Department of Revenue. The SWMA still requires that the funds received by the Department of Revenue by counties for tire management must go towards beneficial use.

An amendment to SWMA in 1999 (The 1999 Amendment) and established December 31, 2003, as the new date for Municipal Solid Waste Planning Regions (solid waste planning entities) to meet the 25% per capita waste reduction and diversion goal by weight for MSW disposed in Class I landfills or incinerators. The 1999 Amendment established 1995 as the new base year to calculate the 25% reduction per capita on tons of waste disposed of in a Class I landfill. Additionally, the 1999 Amendment allowed for the economic growth of a Region to act as one factor in determining compliance with the 2003 compliance year. TDEC qualitatively assessed the solid waste program of each Region that did not meet the December 31, 2003, deadline to determine if the Region made a "good faith" effort toward achieving the 25% diversion goal. The Solid Waste Disposal Control Board fully promulgated rules on August 6, 2006, specifying the methodology used by TDEC for the qualitative assessment of failing Regions. Staff completed the first-round of qualitative assessments in the winter of FY 2008-2009.

Amendments to SWMA in 2007 deleted the December 31, 2003, deadline for meeting the 25% waste reduction and diversion goal, making the 25% goal on-going.

These amendments added:

- a requirement for the Regional solid waste plans to include a management plan for disaster debris
- clarified sanctions for noncompliance with submittals of Regional solid waste plans and updates
- added language allowing TDEC to award grants for establishment of permanent HHW collection sites to municipalities or counties with large populations or high participation at the mobile events

- added language that provide for grants to counties or municipalities that own and previously operated old-closed landfills (OCLs) without composite liners that are determined to be causing harm to the environment through groundwater contamination
- allowed for the Fund to be used for proper disposal of hazardous waste from K-12 schools and allowed for a thorough review of the waste reduction and diversion goal to consider incentives and disincentives to promote recycling and waste reduction.

TDEC requested that the Solid Waste Advisory Committee (SWAC) review the State's waste reduction goal and make recommendations for updating the goal and identifying waste reduction practices that the State should implement. In response to this request, the SWAC organized a waste reduction task force. The 'Waste Reduction Task Force' Section of this report includes a chronology of the activities of this collaborative group.

C. Waste Reduction Task Force

In September 2007, the SWAC, acting on amendments to the SWMA directing a review of the State's waste reduction and diversion goal, established the 23-member Waste Reduction Task Force (WRTF) comprised of solid waste professionals from across the state. Members of this task force included representatives of local governments (solid waste directors, county and municipal mayors, aldermen from rural, urban, and large cities,) private industry representatives, and representatives from the environmental and energy sectors. A large group of technical assistance providers including TDEC, the University of Tennessee's County Technical Assistance Service (CTAS), and the Center for Industrial Services (CIS), Recycling Marketing Cooperative for Tennessee (RMCT), and several development districts supported the WRTF. The WRTF brought various speakers and organizations in to support and inform the group during their discussion on the many topics reviewed. TDEC hired a professional facilitator to lead the discussions and to ensure the task force met the objectives. The WRTF organized into four work groups to allow a closer look at the different topics and to make recommendations on those to the entire task force.

The WRTF met for the first time on September 27, 2007, organizing into the four workgroups and establishing that any recommendations from those groups must receive approval from 80% of the entire task force membership for the SWAC to consider. The WRTF met nine times, with a total of 22 meetings of the individual work groups. A separate work group consisting of the leaders of the regular work groups met in May of 2008 to consolidate their recommendations for presentation to the full task force later that month.

The WRTF concluded its work in late May 2008 when it recommended waste reduction reforms that would bring the state in line with national trends and to address the continued increasing disposal rates across the state. The recommended reforms included a new waste reduction and recycling goal making everyone responsible for waste reduction, a series of landfill bans, redefining some current diversion methods as disposal, infrastructure improvements and monetary changes to tipping fees. After a series of meetings, administrative processes, and amendments, including the removal of the requirements for landfill bans, the amended rule became effective January 8, 2013.

D. 2015-2025 Solid Waste and Materials Management Plan

In 1989, the Tennessee General Assembly passed the "Tennessee Solid Waste Planning and Recovery Act" that directed the State Planning Office to set the work in motion to establish a comprehensive solid waste management plan. To meet this directive, the State Planning Office, and the University of Tennessee's Waste Management Research and Education Institute joined forces and prepared a report titled, "Managing Our Wastes: Solid Waste Planning for Tennessee." This work identified four problem areas of concern – Disposal Capacity, Absence of a Materials-Management Approach, Inadequate Collection Systems, and the Lack of Information on the Nature and Cost of Solid Waste Management.

The report recommended nine programs to address these problem areas. Each recommendation contained in the report had a description of the basic rationale for the recommendation, the State's oversight of the program, and expected funding for the program. These programs included: Disposal Assurance, Adequate Collection Services, Waste Reduction Goal, Recycling and Source Reduction, Problem Waste, Public Education, Technical Assistance, Research and Data, and Full-Cost Accounting. This document became the state's first solid waste and materials management plan.

In 2013, TDEC noted the inadequacy of a solid waste plan that was approximately two decades old. To address the inadequacy and building on the recommendations of the 2007 WRTF effort, TDEC determined the need to revisit the 1991 plan created by the University of Tennessee's Waste Management Research and Education Institute and establish a new solid waste and materials management plan. One key criteria for the new plan dictated the necessity for an actionable plan with target dates. Another important criteria centered on the aspiration for a strong public engagement with the vast number of stakeholders and interested parties in Tennessee to craft the new solid waste plan.

The plan developers accomplished this through three planned, interactive stakeholder engagement stages. Each engagement had multiple opportunities for stakeholder involvement, both in person and through multi-media. The resulting effort took about a year and half from inception through adoption. On Earth Day 2015 at the Environmental Show of the South, then Commissioner Bob Martineau adopted the 2015-2025 Solid Waste and Materials Management Plan (the 2025 Plan). This actionable plan built on past planning efforts with some organizational improvements. The plan organizes under eight objectives instead of programs with specific actionable strategies and tactics under each objective. The 2025 Plan appendix resources further helped to define benchmarks and preparation for disaster debris management – a first of its kind approach in the state.

E. Solid Waste Management System

The SWMS is a multi-pronged approach to better manage Tennessee's solid waste, which includes technical assistance, education, and diversion/resource recovery. These activities are advanced through the collaborative efforts of TDEC, educational institutions, private organizations, and agencies at all levels of government.

To assist the implementation of the SWMS, the SWMA placed each county in a Solid Waste Planning District. The Districts, in turn, were allowed to collaborate with local municipalities and neighboring counties to form MSW Regions. SWMA requires each MSW Region to develop a 10-year disposal plan for their solid waste, provide for solid waste education to its population, and plan to reduce the amount of waste it generates by 25%.

Along with the 10-year solid waste disposal plans, SWMA requires Regions to prepare 5-year capacity updates and to submit Annual Progress Reports (APR) that project foreseeable solid waste disposal requirements and proposed solutions. At the time of this report, 66 Regional planning boards have the responsibility for developing the plans and for reporting this information to TDEC. The Legislature amended SWMA in 2004 to allow the Region to use the APR in lieu of the regional 5-year capacity update. Each Region now uses its APR to project changes in solid waste generation and to modify its 10-year plan.

To implement the SWMS, TDEC disperses monies from the Fund in the form of grants and contracted services. TDEC gives grants to local governments, educational institutions, MSW Regions, and Development Districts to aid in solid waste planning. Grants are also available to county and municipal governments to assist in solid waste facility upgrades, purchase of recycling equipment, beneficial use of waste tires, and collection of HHW at permanent facilities.

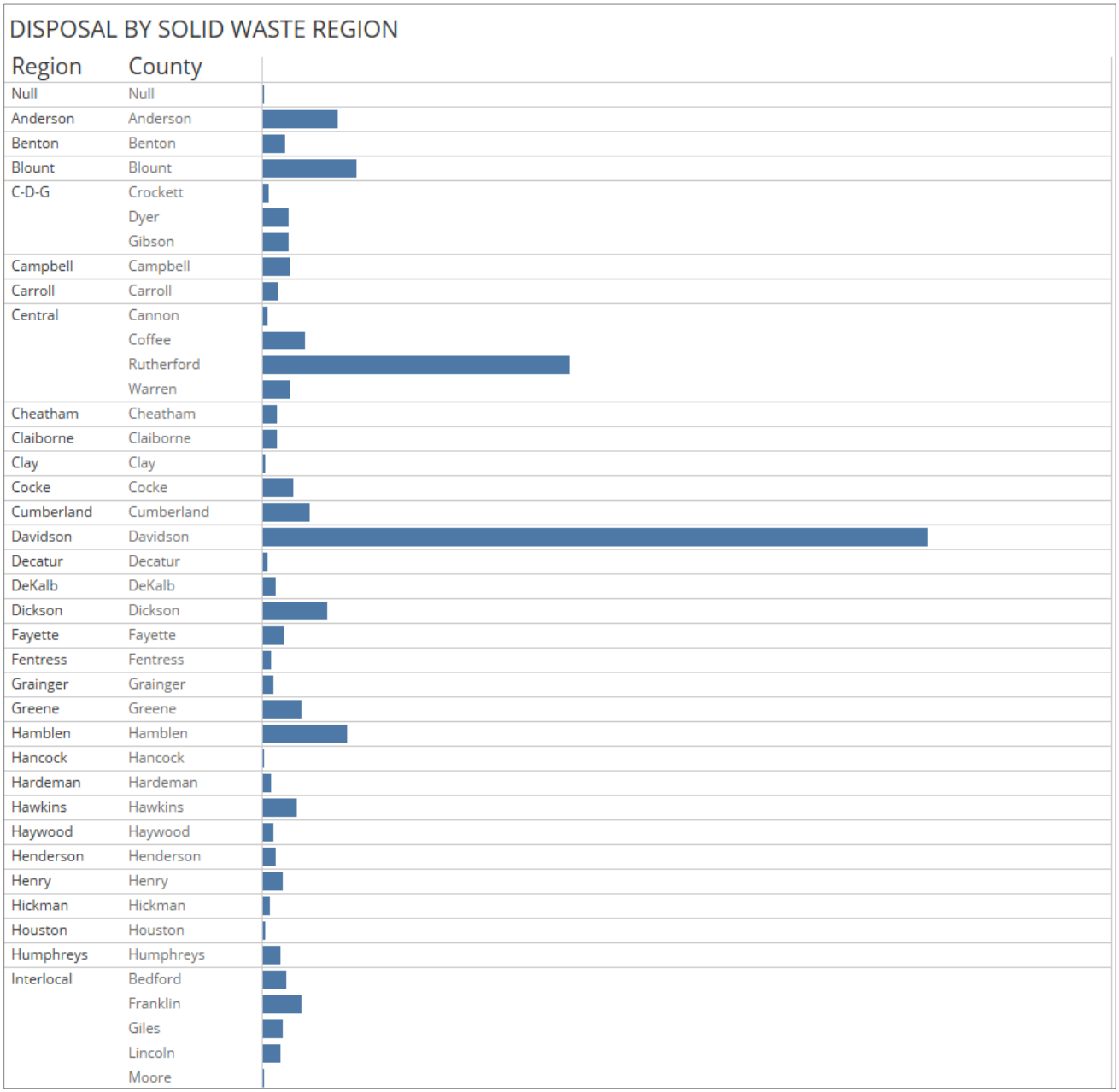
The following report sections summarize the statutory components required for the Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991. The summarized actions for the state include planning (§§ 68-211-815, 861, 862, 863), funding (§ 68-211-821(c)), plan implementation (§ 68-211-871), technical assistance (§§ 68-211-806, 813, 823, 826, 842, 864, and 872), financial assistance (§§ 68-211-822 thru 832), and educational programs (§ 68-211-842 thru 847) updates through the remaining sections.

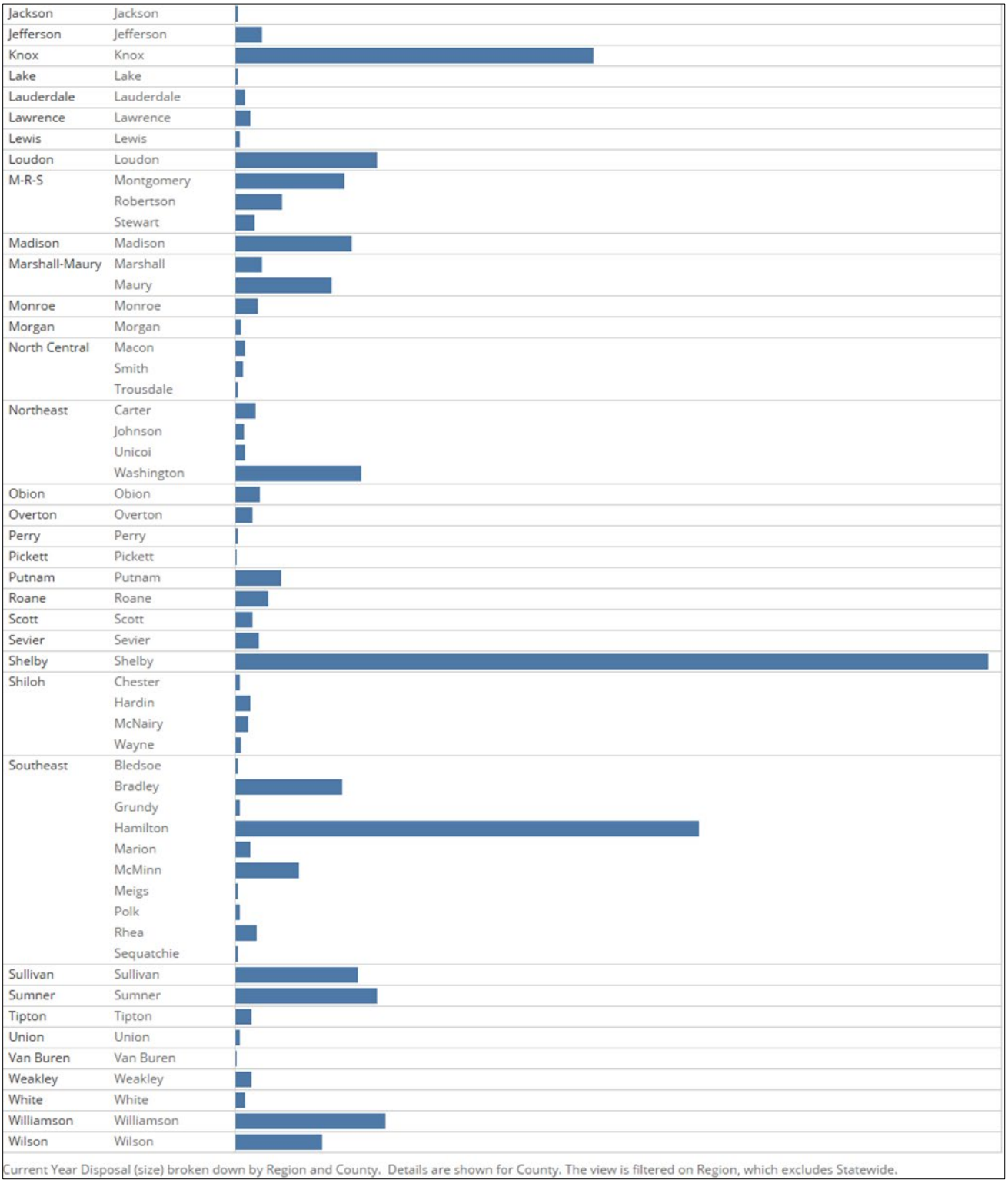
II. Disposal and Diversion

A. Class I Disposal Per Person Per Year By County

The SWMA required MSW Regions to reduce the amount of waste placed into Class I landfills by 25% from a base year measurement taken in 1995. Tennesseans disposed of 6,921,007 tons of solid waste in Class I landfills in 1995, equal to 1.32 tons per person. According to the 2020 Annual Progress Report submitted by the solid waste Regions, Tennesseans generated 14,999,872 tons of solid waste with 7,771,030 tons disposed of in Class I landfills. From that generation, the state also sent an additional 2,082,430 tons to Class III landfills with an additional 5,146,412 tons reported as recycled, reused, or diverted to other disposal facilities. This equates to a disposal rate of 1.1 tons per person. Using 1995 as the base year, the per capita waste reduction and diversion rate for 2020 is 17% well below the targeted 25% waste reduction and diversion goal.

Tons Represented Relatively as a Bar





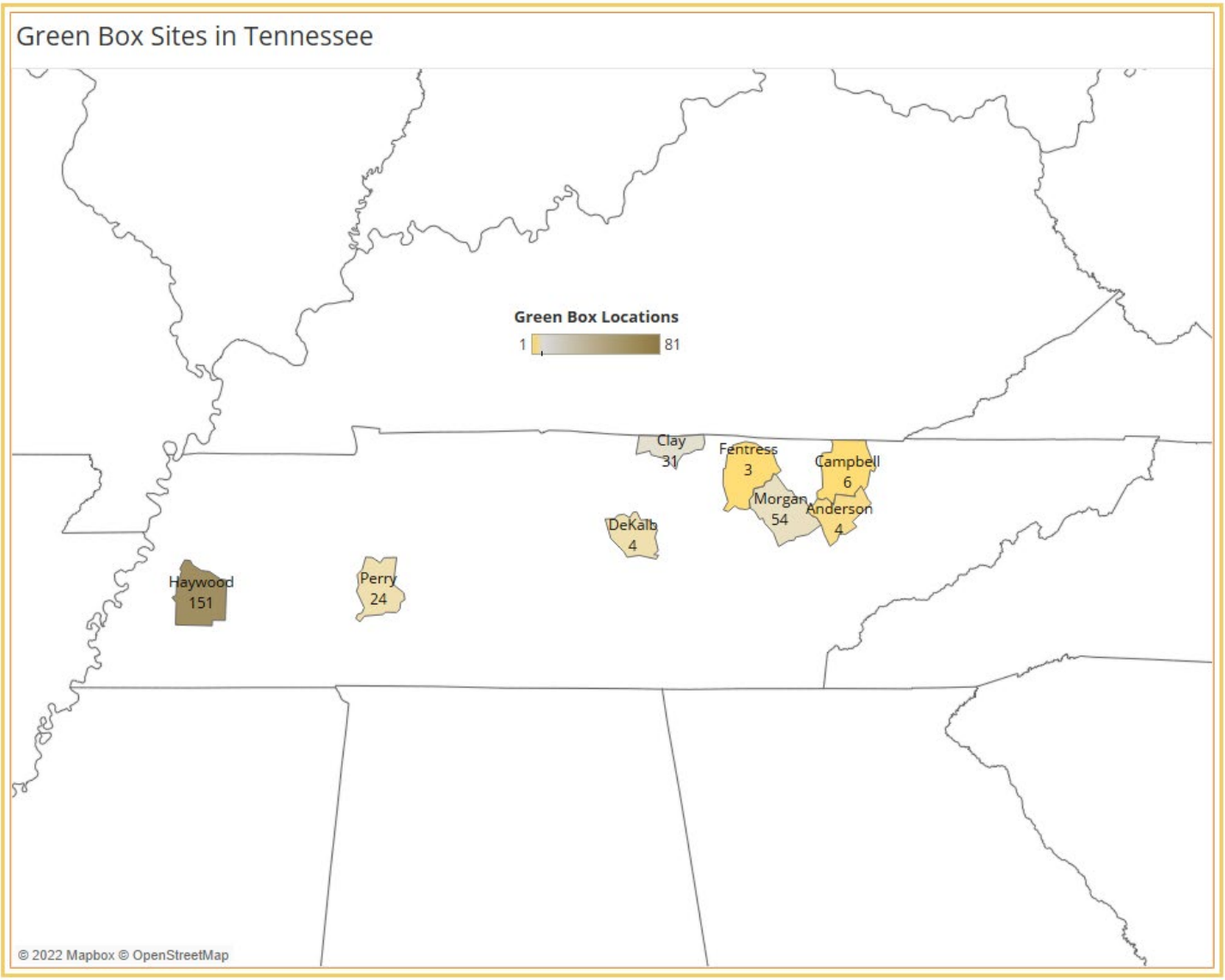
Tennessee Regions disposed 974,449 tons of waste in five surrounding states. This equates to $877,004 in lost revenue from the $0.90 surcharge on waste that the state would have collected to fund the activities of the SWMA.

At the end of FY 2020-2021, the DSWM oversees 30 operating Class I (sanitary) landfills in Tennessee; of them, local governments own 19. There were 68 operating, permitted Class III C&D landfills. The Regions diverted approximately 2,082,430 tons of material away from Class I facilities to Class III landfills according to submitted APRs. Eighty-nine counties indicate in the APR they are operating a total of 524 permitted convenience centers located throughout the state, most of which offer some level of recycling in addition to residential waste collection.

The Regions diverted approximately 2,082,430 tons of material away from Class I facilities to Class III landfills according to submitted APRs. Eighty-nine counties indicate in their APR they are operating a total of 524 permitted convenience centers located throughout the state, most of which offer some level of recycling in addition to residential waste collection.

Regions that do not meet the established 25% solid waste reduction and diversion goal have their solid waste programs qualitatively assessed by TDEC to determine if the Region made a "good faith" effort toward achieving the goal. In late 2006, TDEC adopted rules establishing a method for qualitatively assessing Regions that do not meet the 25% solid waste reduction and diversion goal.

Currently there are a total of 104 known county-sponsored unmanned municipal solid waste collection sites across Tennessee with 277 containers. In general, industry most commonly refers to these containers as "green boxes" and usually they take the form of one or more open top dumpsters located in underserved remote areas of the counties. 77.9% of these "green boxes" are located in Haywood County; however, unmanned collection sites are also known to exist in Anderson (1.9%), Campbell (1.0%), Clay (5.8%), DeKalb (3.8%), Fentress (1.0%), Morgan (4.8%), and Perry (3.8%) Counties. In accordance with T.C.A. § 68-211-851, only those locations established prior to January 1, 1996, may continue in service. A new rule [0400-11-01-.10 (5)(a)] that became effective January 8th, 2013, requires each county to develop a plan for the elimination of collection receptacles (green boxes) or conversion of unmanned collection sites to manned convenience centers.



Unmanned collection sites are of environmental concern as there is often no monitoring of the substances that go into these containers before the waste hauler transports the material to landfills. The lack of an available attendant creates challenges to teach, monitor, and redirect waste to options higher on the waste hierarchy (Appendix A). The direct costs associated with green boxes include out of county waste disposal, unmeasured disposal, fires, vermin, safety, environmental concerns, and loss of materials sent to secondary markets.

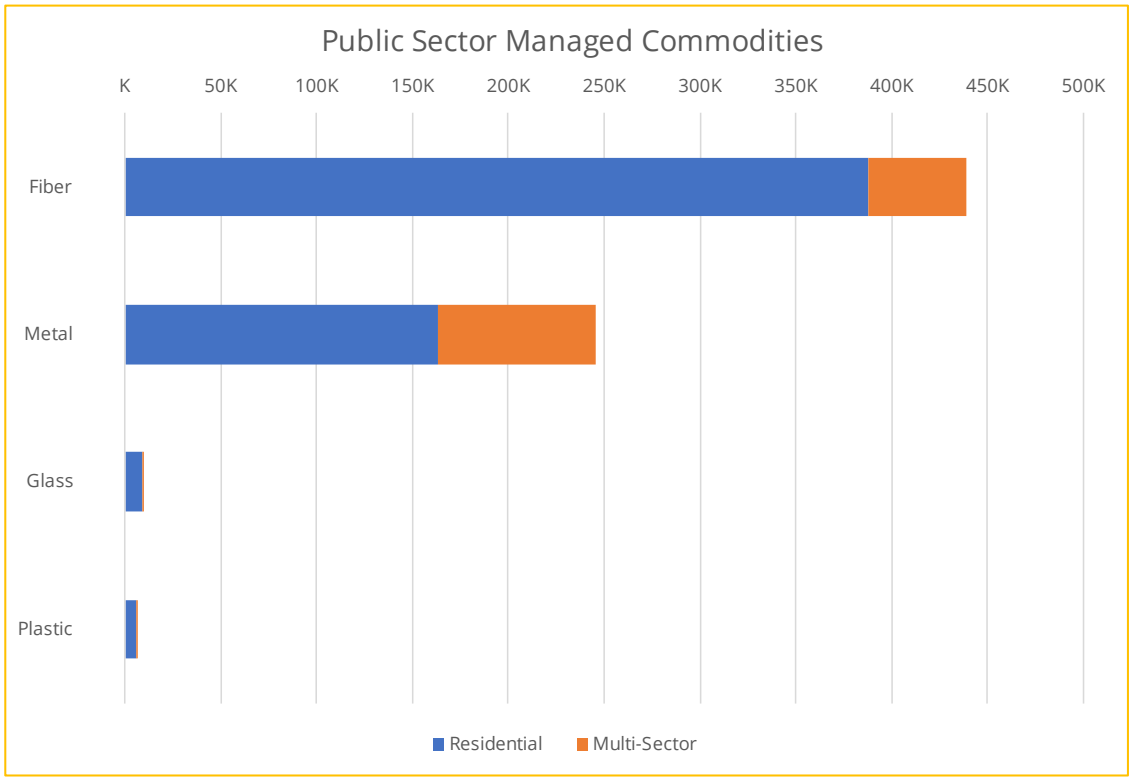
B. Waste Diversion

The SWMA established a goal for diverting waste from Class I landfills. There are many ways the Regions might divert and use discarded materials beneficially; however, federal and state agencies most often utilize publicly hosted recycling programs of post-consumer goods for benchmarking of programs and for national comparisons.

A Region records its waste diversion/reduction efforts on County Recycling Reports (CRRs), aggregated, and reported to TDEC by way of the APR. These CRRs categorize establishments as either public or private. For the sake of benchmarking, the following chart outlines the post-consumer recycling efforts across the state for paper, metal, glass, and plastic.

There are various public collection programs which offer paper, metal, glass, and plastic recycling to residents and businesses throughout the state. These programs may be operated or managed through municipal or county governments.

The following chart depicts the top-four commodity types collected by local governments. The axis depicts weight in pounds. Multi-sector (orange) depicts materials local governments collect outside residential collections.



Multi-Sector: (adjective) Involving multiple sources from businesses rather than residential collection points.

III. Education and Training Programs

A. The State Facility Recycling Program

The State Facility Recycling Program provides recycling access to employees at state facilities. In FY 2020-2021, employees in state offices recycled mixed office paper, cardboard, and plastic and aluminum beverage containers. Combined, the State's document destruction contract with Shred-It and the State Facility Recycling Program recycled approximately 2,150 tons of paper.

Many departments have recycling programs for agency-specific commodities. For instance, TDOT provides recycling for lead tire weights, highway signs, and automotive fluids. The Department of Correction provides composting, cooking oil recycling, and textile recycling programs.

B. Tennessee State Parks "Go Green With Us"

The Tennessee State Parks "Go Green With Us" (GGWU) program was launched as a recycling initiative in 2015. Since then, OPSP created the comprehensive "Go Green Guidelines" and released them to selected Tennessee State Parks in November of 2017. This program is the first of its kind to set a standard for sustainable practices, and to award recognition for the many environmentally conscious procedures that state parks practice. The mission of this program is to preserve and protect state parks through sustainable park operations, resource conservation, and recycling. The program divides the components into nine separate categories that cover a diverse array of initiatives, including energy and water conservation through equipment and operations upgrades, recycling programs, projects to enhance ecosystem health, and erosion control, among many others. TDEC's Bureau of Parks and Conservation deemed the program mandatory for the 2019 participation year and all 56 State Parks submitted their applications to earn their initial level of Go Green Recognition. The recognition structures itself with a points system based on different tiers of sustainability: bronze, silver, gold, and platinum. In 2020 the results include five Bronze, 19 Silver, 22 Gold, and 10 Platinum tiered parks. These 56 parks recovered and recycled 580 tons of material in 2020. Additionally, three parks composted 3.4 tons of food waste the same year.

A subcategory of the GGWU Program includes the recycling initiative within State Parks. In 2018, through a partnership with the DSWM, OPSP, and Tennessee State Parks, TDEC made major recycling collection enhancements at State Parks. The overall goal of the upgrades was to create a recycling program with a uniform appearance at all TN State Parks, and to increase awareness of the importance of recycling to state park visitors.

TDEC completed the upgrades in separate phases to fully cover all 56 State Parks. The first phase implemented over 400 Bear-Saver outdoor recycling receptacles which are ADA compliant and pest proof. The second phase implemented over 170 Recycle-Away interior recycling receptacles made from 100% recycled HDPE and meet all LEED requirements for recycled content. Subsequently, TDEC added an additional 275 exterior Bear-Saver recycling receptacles to provide a uniform, consistent recycling program that helps guests more easily recognize and locate recycling options throughout the park system. These recycling upgrades will allow State Parks to meet the needs of visitors and uphold TDEC's responsibility to protect Tennessee's public lands and natural resources. So far, these receptacles have helped Tennessee State Parks capture over 1,340 tons of recycling since placement.

C. Get Food Smart Tennessee

Get Food Smart Tennessee is a statewide program from TDEC's OPSP program which engages consumers, restaurants, schools, businesses, and farmers in education and outreach, technical assistance and recognition centered on the reduction, recovery, and diversion of food waste. Get Food Smart Tennessee provides technical and educational resources and offers a recognition program that highlights organizations that are high achievers in reducing their food waste and associated impacts.

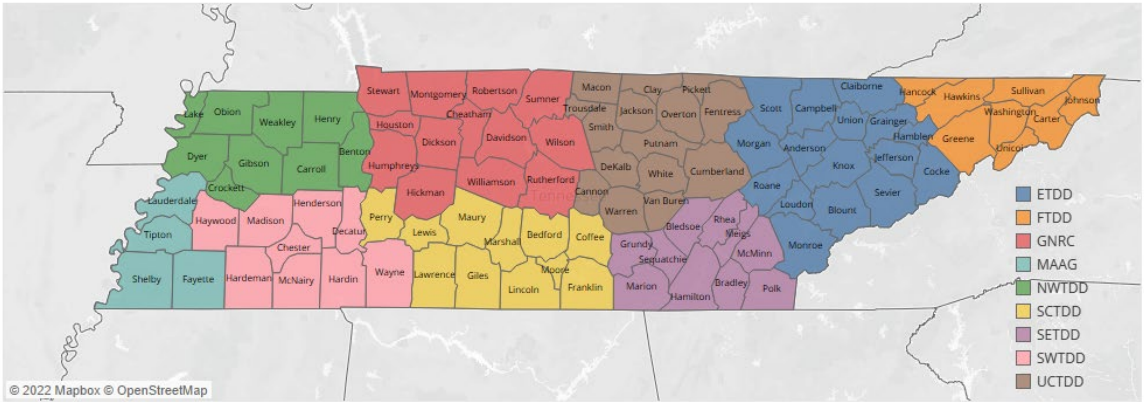
Since the program launched in 2018, OPSP has welcomed 190 Participants into the Recognition Program, representing over 2,000 actions to reduce food waste. The program has also welcomed nine organizations as Partners of Get Food Smart Tennessee. During 2020, OPSP also developed resources for businesses and organizations to further their food waste reduction efforts, worked with the Tennessee Legislature to expand food donor liability protections in the state, collaborated with First Lady Maria Lee to encourage Tennesseans to donate food, and hosted a webinar series focused on the different levels of the US EPA's Food Recovery Hierarchy. For additional information visit the Get Food Smart Tennessee website at: http://getfoodsmarttn.com/

IV. Technical Assistance Programs

A. Development Districts

Traditionally, TDEC contracts with the nine development districts to provide planning technical assistance to local governments in fulfillment of T.C.A. § 68-211-811 and 823. The technical assistance grants were not offered during FY 2020-2021, and the nine districts handled requests for technical assistance differently. Materials Management technical staff provided significant resources to Districts to assist with APR preparation and solid waste planning to help fill the gap.

Development Districts



DD ID	Development District Name
FTDD	First Tennessee Development District
ETDD	East Tennessee Development District
SETDD	Southeast Tennessee Development District
UCTDD	Upper Cumberland Tennessee Development District
GNRC	Greater Nashville Regional Council
SCTDD	South Central Development District
NWTDD	Northwest Tennessee Development District
SWTDD	Southwest Tennessee Development District
MAAG	Memphis Association of Area Governments

B. Southeast Recycling Development Council (SERDC)

The SERDC concluded their contract for technical assistance in recycle market development with TDEC. Three major projects developed during the contract period provide an ongoing resource for Tennessee Solid Waste Regions. The first project consisted of providing a common suite of recycling messaging not just across Tennessee but harmonized across the Southeast in US EPA Region 4 states. SERDC initiated and hosts Tennessee's #RecycleRight messaging campaign program. It standardizes the method of communicating material types that residents can recycle within the local solid waste Region. The program then provides a local government specific website at no charge to local governments sharing what is recyclable and what is not.

The second project consisted of providing investment in local government infrastructure through grants to local governments sponsored in collaboration with the Recycling Partnership and the Coca-Cola Foundation. The infrastructure was intended to increase recycling through improvements to material recovery facilities (MRF) upgrades, recycling trucks, or improving transfer stations to act in greater capacity as a recycling transfer operation alongside disposal operations. This improves utilization and lowers local government costs.

The third and final project consisted of providing direct technical assistance. SERDC provided services that evaluated programs including economic impact studies, industry recycling surveys, program evaluations, and meeting facilitation for conferences, workshops, and online seminars.

C. The Recycling Partnership

The Recycling Partnership provided resources to the solid waste Regions and their local governments with templates for Covid-19 and recycling social media kits, drop-off anti-contamination kits, multi-family recycling guidance and community toolkits, and best practices for designing educational materials for recycling guidance. The Partnership provides resources at no charge to the Regions through their website located at https://recyclingpartnership.org/.

D. The Urban Green Lab (UGL)

The Urban Green Lab (UGL) continues to train teachers using grant funded and UGL developed curriculum. The curriculum developed supports K-12 scholastic requirements from the state's Department of Education. This train the teacher approach allows for a greater number of students to be reached. The initial roll-out of the program was launched in Davidson County and will expand with time and resources to the other larger cities.

UGL also received a grant from TDEC for a sustainability roundtable for industry leaders within the Nashville Metropolitan statistical area. The meetings provide an opportunity for recycling and other sustainable best practices to be shared among professional peers with different companies hosting the networking events.

E. Materials Management Technical Support

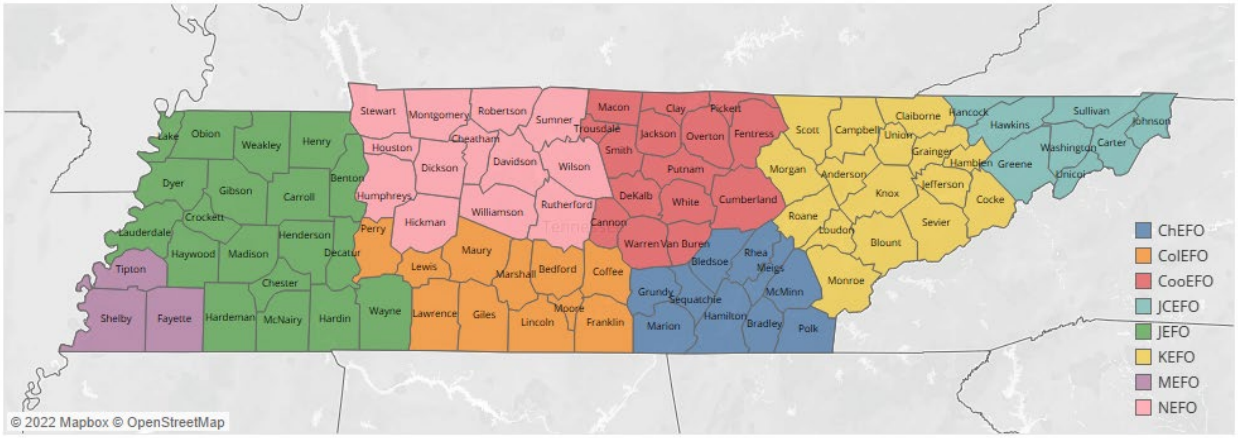
The DSWM and the OPSP provides or supports technical services (§§ 68-211-806, 813, 823, 826, 842, 864, and 872) to the large array of stakeholders TDEC services regarding solid waste and materials management. Each business unit provides stakeholder appropriate assistance to meet the State's stated public policy § 68-211-803:

> *It is declared to be the policy of this state, in furtherance of its responsibility to protect the public health, safety and well-being of its citizens and to protect and enhance the quality of its environment, to institute and maintain a comprehensive, integrated, statewide program for solid waste management, which will assure that solid waste facilities, whether publicly or privately operated, do not adversely affect the health, safety and well-being of the public and do not degrade the quality of the environment by reason of their location, design, method of operation or other means and which, to the extent feasible and practical, makes maximum utilization of the resources contained in solid waste.*
>
> *It is further declared to be the policy of this state to educate and encourage generators and handlers of solid waste to reduce and minimize to the greatest extent possible the amount of solid waste which requires collection, treatment, incineration or disposal through source reduction, reuse, composting, recycling and other methods.*
>
> *It is further declared to be the policy of this state to promote markets for, and engage in the purchase of, goods made from recovered materials and goods which are recyclable.*

While the Covid-19 pandemic created many physical and financial constraints, the TDEC provided direct technical support to local governments in planning, recycling market research assistance, and day-to-day technical needs that arose. These efforts sought to fill the gap in technical services left when the TDEC's grant funding availability became restricted.

TDEC further continued to provide technical assistance supporting stakeholder's use of the state's Materials Marketplace (MMP), programs such as Pollution Prevention, Tennessee Green Star Partnership, Sustainable Spirits, and through business mentoring.

Environmental Field Offices



EFO ID	Environmental Field Office Name
MEFO	Memphis Environmental Field Office
JEFO	Jackson Environmental Field Office
NEFO	Nashville Environmental Field Office
CoFO	Columbia Environmental Field Office
CkEFO	Cookeville Environmental Field Office
ChEFO	Chattanooga Environmental Field Office
KEFO	Knoxville Environmental Field Office
JCEFO	Johnson City Environmental Field Office

V. Problem Waste Management

A. Household Hazardous Waste

Residential Collection

Each year TDEC takes requests for mobile events that support the collection of household hazardous wastes. These wastes are similar to their industrial counterparts but due to their small quantities at homes across the state, they receive an exemption under state and federal law from the same stringent requirements as their counterpart. The amount does not eliminate the dangers posed to the resident, solid waste collection systems, or the landfill at which it arrives for end-of-life management. The General Assembly identified the need for a program to address such wastes and place directives in the SWMA.

In response, TDEC created the household hazardous waste mobile events (HHWME) to safely collect, divert, and properly dispose these chemicals. The services are open to all Tennesseans, but only about 1-2% actually take advantage of the program. This is likely due to the year around nature of accumulation and the immediate need to dispose of those chemicals at a critical time. Critical costs include contractor mobilization and logistics costs to transport and dispose of the collected chemicals.

TDEC scheduled 53 HHWMEs and completed 35. The Covid-19 pandemic caused the cancellation of 18 local events in Spring of 2020, however DSWM did complete the preceding Fall 2019 season in its entirety. The total cost to the state for the HHWME was $253,131 which results in an average cost per event of $7,232.

Many local governments were able to capitalize on 68 additional milk runs. The HHW contractor picked up mercury containing bulbs or florescent bulbs along with oil-based paint accumulations at a reduced rate and mobilization during the milk run events. Six counties are piloting a year-round milk run concept that will allow collection at more convenient times to the residents. The DSWM temporarily approved a pilot for counties to use temporary HHW storage buildings. Only trained staff may enter these facilities and under strict guidelines on materials handling. TDEC has provided a list of acceptable materials and where and how the staff may store the materials. DSWM expects that these buildings will provide greater and more timely service at a reduced mobilization cost. The State's contractor will service the milk runs at the request of the county.

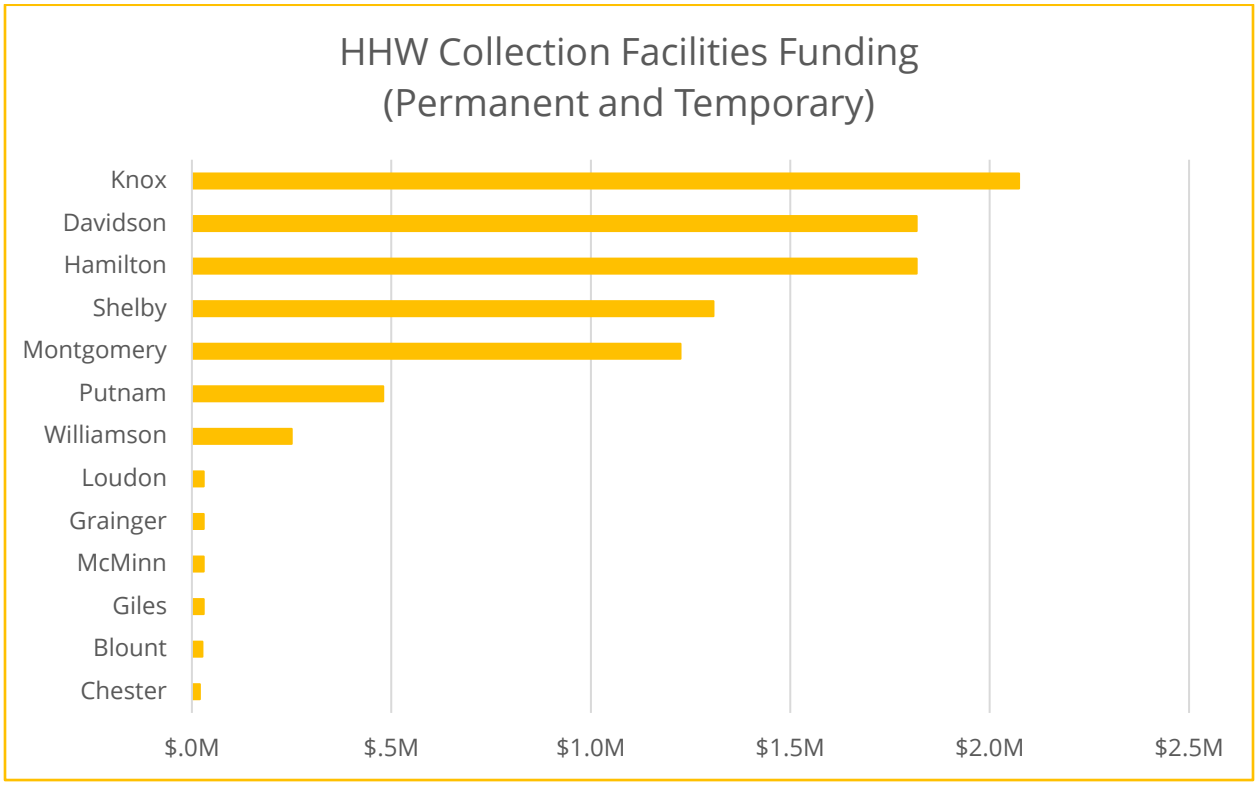
Chart: Household Hazardous Waste Residential Service Breakdown:

Program	Count By Program	Average Cost	Since Inception
HHWME	1,418	$ 12,336	$ 17,492,420
HHWMR	291	$ 1,390	$ 404,583
HHWMR-c1	87	$ 605	$ 52,668
HHWMR-c2	39	$ 402	$ 15,668
HHWTS	11	$ 2,666	$ 31,997
Grand Total	**1,846**	**$ 9,744**	**$ 17,997,337**

The above chart describes the collection program, the number of collection events, the average cost of all events to date, and the total cost since the program's inception. TDEC still considers the HHWTS program as a pilot program. HHMWM - Household Hazardous Waste Mobile Events. HHWMR - Household Hazardous Waste Milk Runs. HHWMR-c1 and HHWMR-c2 are milk runs to specific contractors. HHWMR are mixed or not specified.

The State supports permanent collection facilities through grants and technical assistance. The technical assistance takes the form of HAZWOPER trainings, annual non-regulatory system reviews from technical assistance staff, and issue resolution service facilitation. The Household Hazardous Waste Collection Facility (HHWCF) service not just the county but also their Regions. Shelby, Davidson, Chattanooga, Cookeville, and Knoxville all have at least one collection center. Metropolitan Nashville-Davidson County established a second facility.

The chart below depicts grant funding allocation for HHW collection facilities. Some facilities, as described in previous paragraphs, are permanent facilities while others are temporary.



*M= Millions (in dollars) on the bottom axis of this chart.

The Unwanted Pharmaceuticals Program

In 2011, OPSP launched a program to aid local governments in collecting unwanted pharmaceuticals. This was in response to emerging concerns from the U.S. Geological Survey and the US EPA regarding the growing levels of pharmaceutical and personal care products found in many of the nation's drinking water supplies. Prior to the program, flushing or landfilling unwanted medicines and personal care products were the suggested disposal methods. As part of the Unwanted Pharmaceuticals Program, OPSP provides secure bins and guidance on collection and safe disposal to allow local law enforcement to provide additional disposal options for citizens. Other state and federal agencies partners include: The Drug Enforcement Administration, Safety and Homeland Security, Bureau of Investigation, Health, and Mental Health and Substance Abuse Prevention. This program effort placed bins in all 95 Tennessee counties, including five new bins distributed during FY 2020-2021 for a cumulative total of 358 collection bins. Local sites reported a total of 75,613.64 pounds of pharmaceuticals collected in FY 2020-2021 for a cumulative total of 612,249.56 since 2011. Interested parties can find more information and a map of drop off locations on TDEC's website at:

https://www.tn.gov/environment/program-areas/opsp-policy-and-sustainable-practices/community-programs-and-services/unwanted-household-pharmaceuticals-takeback-program.html.

B. Tennessee School Laboratory Rehabilitation Program (TSLRP)

The DSWM created the TSLRP to provide school administrators and teachers with a long-visioned approach to sustainable school chemical management and to learn about chemical safety practices. The program provides information for the safe disposal of hazardous wastes from the public-school premises. Public K-12 schools can schedule an online educational event to learn more about the chemicals housed in their classrooms and storage areas as well as the importance of maintaining a safe classroom environment by utilizing green chemistry. During the online educational event, the TSLRP coordinator will discuss how to properly manage the lab and cleaning materials at the school, improve decision making for what materials to safely dispose, and suggest future chemical purchasing tips that maintain a safe environment for staff and students. Afterwards, a DSWM sponsored one-time only disposal event will remove any unwanted, expired, compromised, or volatile chemicals from the participating school in a safe and responsible manner by the State contractor's trained experts. This is a great opportunity to reduce the overall toxicity in classrooms and campuses.

Chart: Tennessee School Laboratory Rehabilitation Program (To Date)

County	Event(s) Cost by County	Recovered Material Weight (lbs)	Student Totals	% of Total Cost	% of Total Recovered Materials Weight	% of Student Total	Cost per Student Served	Recovered Material Weight Per Student (Lbs.)	Average Cost Per Pound
Benton	$ 4,854	892	1,429	4.3%	3.0%	1.9%	$ 3.40	0.62	$ 5.44
Coffee	$ 563	181	579	0.5%	0.6%	0.8%	$ 0.97	0.31	$ 3.11
Rutherford	$ 3,525	958	13,813	3.1%	3.3%	18.1%	$ 0.26	0.07	$ 3.68
Carroll	$ 1,839	555	665	1.6%	1.9%	0.9%	$ 2.77	0.83	$ 3.31
Washington	$ 988	182	1,351	0.9%	0.6%	1.8%	$ 0.73	0.13	$ 5.43
Chester	$ 613	57	900	0.5%	0.2%	1.2%	$ 0.68	0.06	$ 10.76
McNairy	$ 2,240	587	764	2.0%	2.0%	1.0%	$ 2.93	0.77	$ 3.82
Wayne	$ 1,364	281	640	1.2%	1.0%	0.8%	$ 2.13	0.44	$ 4.86
Gibson	$ 3,346	1,178	407	3.0%	4.0%	0.5%	$ 8.22	2.89	$ 2.84
Fentress	$ 1,186	341	579	1.1%	1.2%	0.8%	$ 2.05	0.59	$ 3.48
Franklin	$ 1,360	341	759	1.2%	1.2%	1.0%	$ 1.79	0.45	$ 3.99
Hardeman	$ 920	652	1,030	0.8%	2.2%	1.4%	$ 0.89	0.63	$ 1.41
Henderson	$ 288	75	483	0.3%	0.3%	0.6%	$ 0.60	0.16	$ 3.84
Jackson	$ 1,916	352	449	1.7%	1.2%	0.6%	$ 4.27	0.78	$ 5.44
Lake	$ 2,475	807	207	2.2%	2.7%	0.3%	$ 11.96	3.90	$ 3.07
Weakley	$ 2,785	1,204	2,169	2.5%	4.1%	2.8%	$ 1.28	0.56	$ 2.31
Lewis	$ 688	200	521	0.6%	0.7%	0.7%	$ 1.32	0.38	$ 3.44
Smith	$ 5,338	350	1,587	4.7%	1.2%	2.1%	$ 3.36	0.22	$ 15.25
Montgomery	$ 16,276	3,809	14,929	14.5%	13.0%	19.6%	$ 1.09	0.26	$ 4.27
Robertson	$ 2,750	909	2,105	2.4%	3.1%	2.8%	$ 1.31	0.43	$ 3.03
Roane	$ 22,168	5,334	13,299	19.7%	18.1%	17.5%	$ 1.67	0.40	$ 4.16
Sevier	$ 2,363	809	2,423	2.1%	2.8%	3.2%	$ 0.98	0.33	$ 2.92
Shelby	$ 2,649	1,070	2,304	2.4%	3.6%	3.0%	$ 1.15	0.46	$ 2.48
Sullivan	$ 19,817	6,295	6,304	17.6%	21.4%	8.3%	$ 3.14	1.00	$ 3.15
Sumner	$ 5,347	1,636	3,222	4.8%	5.6%	4.2%	$ 1.66	0.51	$ 3.27
Van Buren	$ 205	45	403	0.2%	0.2%	0.5%	$ 0.51	0.11	$ 4.56
Wilson	$ 4,661	307	2,798	4.1%	1.0%	3.7%	$ 1.67	0.11	$ 15.18

(Green and blue bars provided to compare amounts visually)

C. *Waste Tire Recycling*

The General Assembly passed the SWMA that created the Waste Tire Program in 1991. The SWMA banned the disposal of whole tires in Tennessee landfills. Further, it required each county to provide a minimum of one temporary waste tire collection site for its citizens and tire dealers. TDEC provided, from program inception until 2014, direct services or tire recycling grants to assist counties in managing and beneficially using their waste tires. The program structure changed in 2015 allowing counties to receive the predisposal fee funding, which previously provided funding to TDEC to manage the program, directly from the Department of Revenue so they can manage their tires for beneficial use. Funding restrictions prevent counties from disposing of tire shreds in a landfill if beneficial end uses are available as cited in T.C.A. § 68-211-867.

TDEC recognizes the following beneficial end uses as eligible funds are available:

- Using tire-derived fuel (TDF) in cement kilns or industrial boilers for the capture of energy.
- Production of TDF, provided TDEC approves of the specific end-use.
- Crumbling or pyrolysis of tire material, provided TDEC approves of the specific end-use.
- Civil engineering applications, such as Class I landfill construction, road construction, and subsurface sewage disposal system aggregate.

D. *Tire Environmental Assistance Program*

In 2015, the Tennessee Automotive Association partnered with TDEC and the General Assembly to enact Public Chapter 525 that established the Tire Environmental Fund (TEF) through the Tire Environmental Act (TEA). A fee imposed by the TEA charged a $5.00, collected by the seller, on the purchase of a new retail motor vehicle for sales to be titled and registered in Tennessee. Based on the number of additional tires above four on the motor vehicle, the program may assess a higher $10.00 or $15.00 fees. The purpose of the TEA and TEF is to promote projects that create or support the beneficial end uses for waste tires.

The OPSP developed a grant program called Tire Environmental Act Program (TEAP) to support implementation of the TEA. The office prepares progress reports to update the TDEC Commissioner, the chairs of the House and Senate Finance, Ways and Means, and the Transportation committees of the General Assembly. The report provides quarterly metrics to these parties.

The TEA fee imposed on the purchase of new motor vehicles pursuant to § 68-211-303 promotes new tire recycling markets. Recycling markets create projects that receive tires destined for disposal and diverts them for beneficial use. Tire derived fuels continue to lead the list of market uses. Developing tires as a complimentary feedstock for industrial boilers for the capture of energy increases the value of the waste tires and helps local government tire programs remain solvent.

In FY 2020-2021, TEAP successfully transitioned to TDEC's Grants Management System (GMS), and implemented an annual, competitive grant cycle. TEAP now accepts applications from January to April, rather than using a rolling, year-round grant cycle. Transitioning to an annual grant cycle

allows OPSP to better evaluate projects by directly comparing applications and award projects that provide the most value based on available funding. It also helps OPSP to better understand the level of interest in any given year and allows OPSP to potentially adjust the awarded grant total accordingly. Additionally, this change helps OPSP to better track fund balance at the beginning and end of a funding cycle.

Since the program's inception in 2015, OPSP has approved 14 contracts with three additionally approved for FY 2021-2022. To date, awardees have completed eight projects, and have three projects currently still in progress. This program has aided in the diversion of 896,366 tires in FY 2020-2021. Since its inception, TEAP projects report have resulted in the diversion of over 3.6 million tires from being disposed in landfills.

E. Waste Tire Cleanup

Since 2015, TDEC's focus moved from the provision of waste tire recycling grants and waste tire cleanups to a greater focus on enforcement. This change came about due to statutory changes that redirected funding dollars the TDEC used previously for bulk cleanup and larger tire cleanups directly to local governments. This change meant that newly created, unpermitted tire disposal sites or illegal dump sites would be the responsibility of local governments to manage within their tire programs. Sites deemed by TDEC DSWM large enough to create a sizable burden for local governments would qualify for financial assistance by TDEC's SWMF to aid in addressing the problem. A grant solicitation offered by TDEC DSWM to local governments to augment the counties' tire cleanup efforts in 2018-2019 received no response from the counties.

TDEC still maintains a list of legacy unpermitted waste tire disposal sites and has reduced that list to six sites. Two of these sites contain an approximate 1 million tires each. According to the complaints in WasteBin, which is DSWM's electronic database. TDEC logged 69 reported complaints between July 2020 and June 2021 specifically noting tires as a problem. Of these complaints, 11 showed no problem at the time of investigation, two were out of jurisdiction, and 36 were issued notice of violations. The remaining inspectors referred to another relevant agency or corrected as noted in the DSWM data viewer. Currently, TDEC may clean up illegal tire dumps and seek cost recovery from the responsible party. The following dashboard presents information related to Tires.

VI. FINANCIAL AND TECHNICAL ASSISTANCE (GRANTS)

A. Total Grant Funding Awarded to Counties 1991 through 2021

County	Total Grant Value Awarded of Over Period	Percentage of All Grant Funds Awarded Over Period
Anderson	$ 1,503,224	0.9%
Bedford	$ 709,648	0.7%
Benton	$ 354,117	0.5%

Bledsoe	$ 420,182	0.6%
Blount	$ 2,505,667	1.4%
Bradley	$ 1,249,993	0.7%
Campbell	$ 1,920,860	1.4%
Cannon	$ 559,063	0.7%
Carroll	$ 1,432,543	1.0%
Carter	$ 735,092	0.6%
Cheatham	$ 612,709	0.5%
Chester	$ 3,826,691	0.9%
Claiborne	$ 774,391	0.7%
Clay	$ 713,734	0.7%
Cocke	$ 1,179,691	0.8%
Coffee	$ 1,175,622	0.8%
Crockett	$ 359,596	0.4%
Cumberland	$ 1,336,564	0.6%
Davidson	$ 23,236,846	5.5%
Decatur	$ 669,527	0.6%
DeKalb	$ 621,063	0.7%
Dickson	$ 890,171	0.7%
Dyer	$ 720,168	0.5%
Fayette	$ 1,165,160	0.8%
Fentress	$ 994,206	0.9%
Franklin	$ 1,422,847	1.1%
Gibson	$ 1,854,049	0.6%
Giles	$ 1,130,343	0.7%
Grainger	$ 861,049	0.5%
Greene	$ 1,431,066	0.9%

Grundy	$ 424,423	0.6%
Hamblen	$ 1,275,021	0.8%
Hamilton	$ 13,932,444	6.3%
Hancock	$ 490,743	0.5%
Hardeman	$ 1,257,081	0.7%
Hardin	$ 915,002	0.8%
Hawkins	$ 1,039,221	0.8%
Haywood	$ 572,234	0.6%
Henderson	$ 1,634,170	0.8%
Henry	$ 1,441,383	1.0%
Hickman	$ 1,072,326	0.8%
Houston	$ 252,615	0.3%
Humphreys	$ 930,978	0.8%
Jackson	$ 677,152	0.8%
Jefferson	$ 1,534,357	1.3%
Johnson	$ 416,811	0.4%
Knox	$ 17,462,499	3.1%
Lake	$ 199,163	0.2%
Lauderdale	$ 493,160	0.5%
Lawrence	$ 1,975,324	0.7%
Lewis	$ 635,946	0.7%
Lincoln	$ 1,539,690	0.7%
Loudon	$ 1,083,253	1.5%
Macon	$ 1,055,011	0.7%
Madison	$ 3,538,426	2.2%
Marion	$ 1,768,029	0.8%
Marshall	$ 3,675,062	0.9%

Maury	$ 2,906,790	1.6%
McMinn	$ 1,213,355	0.9%
McNairy	$ 990,054	0.6%
Meigs	$ 313,753	0.4%
Monroe	$ 1,035,144	1.0%
Montgomery	$ 4,492,258	1.5%
Moore	$ 268,577	0.5%
Morgan	$ 786,151	0.9%
Obion	$ 725,928	0.6%
Overton	$ 1,029,346	0.8%
Perry	$ 554,681	0.6%
Pickett	$ 1,011,669	0.6%
Polk	$ 374,381	0.4%
Putnam	$ 3,279,858	1.6%
Rhea	$ 601,667	0.7%
Roane	$ 2,010,861	1.1%
Robertson	$ 6,991,457	0.7%
Rutherford	$ 5,262,438	2.5%
Scott	$ 1,528,028	1.3%
Sequatchie	$ 415,254	0.5%
Sevier	$ 4,836,358	1.4%
Shelby	$ 19,464,347	5.5%
Smith	$ 1,026,748	0.7%
Stewart	$ 184,188	0.1%
Sullivan	$ 2,065,046	2.4%
Sumner	$ 2,375,235	2.9%
Tipton	$ 798,416	0.5%

Trousdale	$ 573,458	0.6%
Unicoi	$ 262,744	0.2%
Union	$ 841,344	0.8%
Van Buren	$ 718,493	0.5%
Warren	$ 1,294,018	1.0%
Washington	$ 6,802,695	2.1%
Wayne	$ 703,529	0.7%
Weakley	$ 1,588,297	1.0%
White	$ 877,803	0.7%
Williamson	$ 3,073,622	2.5%
Wilson	$ 1,215,022	0.6%
Grand Total	**$ 202,150,416**	**100.0%**

B. Grant Award by Program Type

Grant Type	Total Award by Program	Grant Award Count by Program
WTR	$ 49,409,303	1,077
OT	$ 28,799,511	616
RR	$ 16,333,261	1,457
CC	$ 12,684,231	108
RE	$ 11,782,656	593
UO	$ 11,302,374	679
RHS	$ 10,166,238	46
WR	$ 9,796,704	73
DD	$ 7,876,885	170
TA	$ 5,498,342	24
HHW O&M	$ 5,131,422	54

OM	$	3,743,474	15
CR	$	3,612,250	2
PG	$	3,282,000	224
MRF	$	2,628,663	14
OCL	$	2,492,756	21
HHWF	$	2,385,000	6
IT	$	1,786,131	11
EO	$	1,505,293	27
SCL	$	1,440,951	45
CG	$	1,316,953	3
WTCU	$	672,176	13
ED	$	645,852	47
MD	$	527,000	2
MM	$	180,788	11
Grand Total*	**$**	**195,000,213**	**5,338**

*The omission from this table of some grants since inception occurred due to the grant type or that the grant did not fit neatly into one of the listed program types. These grants would include some varieties of technical assistance, unique, cooperative marketing, or contract for service for the benefit of the counties.

WTR – Waste Tire Recycling
OT – Option Tire
RR – Recycling Rebate
CC – Convenience Center
RE – Recycling Equipment
UO – Used Oil
RHS – Recycling Hub and Spoke
WR – Waste Reduction
DD – Development District
TA – Technical Assistance

HHW O&M – HHW Operation and Maintenance
OM – Organics Management
CR – Curbside Recycling
PG – Planning Grant
MRF – Material Recovery Facility
OCL – Old Closed Landfill
HHWF – HHW Facility
IT – Innovative Technology
EO – Education and Outreach

SCL – Scale
WTCU – Waste Tire Clean Up
ED – Education
MD – Market Development
MM – Measurement

Mid-Point Update and Progress Report

on the

2015-2025 Solid Waste and Materials Management Plan

Implementation

Objective 1: Update Goals and Measure Progress

It has been 30 years since the SWMA set a 25% waste reduction and diversion goal. This goal arose from concerns growing out of adequacy, need for environmentally sound landfills, and providing assurance into the future for the state's disposal needs. The State Legislature authorized the Solid Waste Advisory Committee (SWAC) to study solid waste and make recommendations to TDEC for a new approach to solid waste and materials management. The 2025 Plan preparers incorporated these recommendations into Objective 1 of the 2025 Plan.

In October 2015, the TDEC attempted to initiate movement in Objective 1 towards establishing a new solid waste goal. The Office of Policy and Planning (OPP) and the Division of Solid Waste Management (DSWM) created a work group to further refine recommendations and prepare language suitable to stakeholders in establishing a new goal. Solid waste professionals, gathered from counties across the State of Tennessee, comprised the work group. This effort ultimately ended, finding the data collected did not meet a trustworthy standard and lacked data integrity due to inconsistencies found within the data set.

Currently, TDEC is establishing improved data management collection and associated review procedures and establishing formal guidance on data management received by the Regions. As TDEC can confirm local government data as accurate, sound measurement and goals can assure the reasonableness of goals that keep improvement moving yet does not jeopardize local government budgets or staffing.

TDEC will prepare language for the qualitative portion of a new goal and will likely move forward with this language after consulting with affected stakeholders in calendar year 2022. TDEC will delay quantitative goal language until data collection improves across the Regions, the ability to crosswalk legacy data to new data structure formats, train staff on improved data review, and achieving stakeholder consensus at what reasonable progress looks like in the establishment of a new goal. Some additional recommendations include revising primary key policy, use of industry codes (SIC and NAICS), and general improved consistency year-over-year.

Currently, the Regions submit their Annual Progress Reports (APRs) electronically. Work group recommendations include incorporating data into the electronic reporting system to better align with statutory requirements, but still need to be refined to provide continuity with historic data. TDEC will make use of data-based management technologies to make use of electronic online reporting programs to make the data continuity between legacy and future data acquisition a priority in 2022 through better defined data fields and creation of a data plan for the future. The data plan will project future data needs and incorporate into the data structure for minimal future impact.

In 2018, the DSWM and OPSP worked to have recycling included with all contract procurements for the State. This effort was not fully successful but succeeded in getting the Department of General Services (DGS) to include within their template guidance recycling contract best practices. While DGS does not require recycled based procurement, they strongly encourage the practice of recycling-based procurement. DGS embedded the best practices document into the procurement contract guide handbook to aid the state's offices in sustainable procurement.

Objective 2: Increase Recycling Access and Participation

Studies have found that a majority of people will recycle if areas make collection options available. The core of Objective 2 seeks to make recycling convenient and available and thus, by doing so, increase participation. These types of efforts increase the economies of scale needed to help make recycling less costly and maximize revenue enhancement through efficiency and volume.

Availability and accessibility can only occur if drop-off locations present both recycling and disposal options often known as "pairing." This strategy has been a core to many technical and financial programs in the first half of the plan implementation. To lead by example, TDEC conducted a survey of Tennessee State Parks containers. A majority of those containers were isolated disposal garbage cans without recycling. The purchase and roll-out of Bear-Saver containers that allowed for recycling and disposal had not only the benefit of improved recycling access, but park staff also reported the decrease in need to clean up trash caused by animal incursions. This added benefit reduces maintenance time, keeps the parks looking clean, and provides a branded look in support of the Tennessee State Park's "Go Green With Us" program.

Eight counties still rely on 104 unmanned county collection containers or "green boxes" to manage garbage. TDEC offered convenience center grants prioritizing these counties in an effort to provide higher levels of service to the communities. Unfortunately, the convenience center grants did not offer enough incentive for the counties to replace all of the "green boxes" with manned sites, so additional resources in the form of education and outreach efforts should be coupled with convenience center grants in the future to help these counties' residents modify their use of green boxes and other methods of waste disposal.

Other Objective 2 efforts addressed during the first half of implementation include a focus on a "Hub and Spoke" approach to recycling collection and processing. The hub and spoke approach increases the economy of scale of operations and reduces the cost per ton collected and managed. The two flagship programs continued to grow even during the Covid-19 pandemic. The West Tennessee Recycling Hub is in Chester County and the Marshall County Recycling Hub is in Lewisburg, both provide services that support and help neighboring counties and municipalities. Hub and spoke efforts further allow for specialization in collection for the spoke governments and processing for the hub county. This specialization helps keep local costs down. This program supports several plan objectives in a significant manner.

Strategies within this objective point to resources and partnerships that will assist local governments in increasing access to curbside collection. TDEC focused on partnering with national organizations such as the Recycling Partnership and SERDC taking advantage of their networks to provide additional resources to assist the top five most populous counties. These organizations provided technical assistance and matching grants to expand recycling significantly to their residents.

The UGL grant for education and outreach promoted transfer of industry expertise in commercial and industrial recycling.

Support of the state's hub and spoke program in rural areas and the assistance to the top five most populous counties into the next half of implementation will continue. Both these programs have the

greatest return in recycling capacity and access to higher recycling systems. Also, the continued efforts that pair recycling and disposal collection and build upon Industry/Commercial/and Institutional (ICI) recycling network improvement will continue.

Objective 3: Promote Material Processing and End Use in Tennessee

As described in Objective 2, increasing Tennessee's recycling hub and spoke program size and efficiency remains a priority and an active strategy for TDEC. The Department early in the 2025 Plan implementation developed a general guide and best practices tool to act as a handbook for identified hub counties and their respective spokes. TDEC awarded grants that increased recycling processing throughput capacity. Also, TDEC assisted these hubs with technical assistance that included specific hub processing training, budget management, contract negotiations, problem solving, and financial assistance to purchase and distribute recycling carts. The goal of this technical assistance was to improve business operations and general efficiency. TDEC also worked with private sector material recovery facilities such as WestRock in Chattanooga and Knoxville to expand their commercial hub operations in the higher density urban areas and fill the gap in far east Tennessee at the closing of a regional material recovery facility.

Strategies within this objective direct TDEC to build partnerships and support organizations that collect and process recyclable materials. To this end, TDEC early in the 2025 Plan implementation partnered with the University of Tennessee's County Technical Assistance Service (CTAS), the Tennessee chapter of the Solid Waste Association of North America (SWANA), the Tennessee Solid Waste Director's Association (TSWDA), the Tennessee Recycling Coalition (TRC), and the Southeast Recycling Development Council (SERDC) to form the Tennessee Training Academy (TTA). This effort provided 53 scholarships and professional industry specific training to over 80 solid waste professionals over a three-year period. The training results improved the quality of solid waste professionals across the state. The TTA gave opportunity for training that most county solid waste professionals would not have access to due to personal out of pocket costs. These professionals implemented the knowledge they received and passed on the benefits to their colleagues and staff.

Another important accomplishment during the initial implementation is the establishment of the new Tennessee Materials Marketplace, or MMP. The initiation of this progress sought to build a self-sustaining marketplace to act as a conduit for the waste products of one entity that are needed as source materials for another. As of 2021 the MMP has 257 registered users, had logged 83 unique transactions in 2017 to present with 5,000 tons of materials valued at over a half-million dollars exchanged. Further supporting this effort, TDEC and its contractors held eight unique presentations, workshops, and site visits. The success of the project shows user searches from over 569 locations from around the world searching materials demonstrating markets know no borders. The most popular materials include pails and totes from food, varnish, phosphorous acid, wood waste as a soil additive, and white super sacks.

Second half implementation of the 2025 Plan sees the continued use of hub and spoke approaches and the promotion of the virtual materials marketplace. The early successes drive expectations that these successes will continue into the second half of the 2025 Plan implementation.

Objective 4: Increase Diversion of Organics

A significant amount of organic material comes from over-production of food waste leading to discards. The over-production can take the look of out-of-date food packages to unserved food at banqueting facilities. These materials sent to landfills potentially increase environmental impacts, community concerns, perception issues by the community, and consume valuable landfill airspace.

The first half of 2025 plan implementation period saw grants that targeted this waste providing financial and technical assistance to organizations like Second Harvest Food Bank of Middle Tennessee, Green Turnip of Nashville, and university food pantries. These organics management grants further benefited established and prospective composters in the state.

TDEC initiated an awareness program at the Nashville Farmer's Market with a screening of the documentary "Just Eat It: A Food Waste Story." This event led to a convening of a major roundtable event that looked at the larger picture of food waste in Tennessee.

TDEC adopted a new composting rule based on the US Composting Council's model rule. The rule relaxed barrier regulations that experts deemed unnecessary and improved the quality and substantive oversight that resulted in increased composting with better oversight. This effort also included training developed by TDEC for operators of composting operations. The Tennessee State Parks (TSP) hospitality system benefited from the technical and financial assistance generated by this objective as well. Several parks started composting so TDEC could lead by example and also benefited from and received organic management grants when solicited to the state's organic stakeholders.

As organics makeup a significant faction of the wheel of total waste generated, TDEC will continue to revisit Objective 4 in the second half of implementation building upon organic management technical resources started in the first half.

Objective 5: Support New Waste Reduction and Recycling Technology

This objective found some success in the first half implementation period. As noted in the Objective 4 update, organics management had a significant growth in new approaches and technologies. This growth came from projects that expanded the long-held positions to create more access through regulatory relaxation, exploration of new approaches such as aiding the food insecure through generating establishments distributing perfectly safe unused or non-served food, anaerobic fermentation, gasification, and biodiesel production.

The General Assembly § T.C.A 68-211-402 which specifies that gasification facilities and pyrolysis facilities are not solid waste facilities nor incinerators, that post-use polymers and recoverable feedstocks are not solid waste, and gasification facilities and pyrolysis facilities are still subject to any other applicable environmental, health, and safety requirements for such facilities.

TDEC increased access to year around household hazardous waste collection in rural counties pre-pandemic through a pilot program development, funding, and distribution of six temporary HHW

collection storage buildings. The State HHW contractor services these operations through milk runs at a greatly reduced cost while improving collection opportunities for citizens.

In East Tennessee, TDEC has provided technical assistance to promising chemical recycling operations. These types of facilities are important to the State's integrated solid waste management system to address worldwide commodity market changes providing local market options for the collectors of plastic recyclables.

The second half implementation will continue to see TDEC working with organizations like the Tennessee Chamber of Commerce and Industry, Department of Economic and Community Development, and local governments as new technologies arise and need evaluation. Tire solutions continue to remain on the table to explore and seek new means of dealing with that potentially problematic waste.

Objective 6: Expand and Focus Education and Outreach

It is important for the State to aid local governments and assist them in their need for an Education and Outreach plan. The State and the Regions must reach the public and inspire changes that improve behaviors regarding what to recycle, how to recycle, or just why it is important to recycle. Objective 6 is the plan's mechanism to achieve this goal. During the initial half of implementation, TDEC provided many significant services in the form of developing key partnerships, providing financial and technical assistance, and improving the technical knowledge of local government solid waste professionals.

TDEC initiated key partnerships with the UGL. Initially this took the form of a demonstration at an Objective 4 event. However, TDEC identified UGL's unique position and partnered with them to develop and provide environmental training to teachers on topics like composting, recycling, and waste reduction. UGL prepared curriculum that aligned with the Department of Education's requirements and then taught the teachers how to teach the curriculum.

UGL did not stop there. Under another grant with TDEC, they pulled together industry leaders for network events. These events allowed the leaders to share how their company recycles, their challenges, and all the while, allowing them to showcase the company's accomplishments. The networking events allowed companies like Kroger to share their experiences with peer companies in the area.

Another key partnership that grew in the first half of implementation was that of the TTA. This partnership, forged with a Memo of Understanding between TDEC and key agencies including the Tennessee Chapter of the SWANA, TSWDA, TRC, SERDC, and CTAS provided industry and sector specific training. This training provided opportunity for solid waste professionals to prepare for certifications that increase subject matter knowledge and program performance.

TDEC also improved communication with those interested in the State's HHWMEs. The use of direct notification to those citizens that expressed interest demonstrated an increase in the collection program utilization. Another, example of improved communication included the development of

standard recycling messaging. SERDC developed a #RecycleRight campaign and provides local governments and the state webspace and standard graphics. This important approach to recycling helps people move across the state and see standardized messaging.

The next half of implementation will see a continued need for education and outreach initiatives. The #RecycleRight Campaign will continue and will further integrate into the messaging of the southeastern states of US EPA Region 4. The focus of much of the messaging will be contamination elimination, a global problem that affects local governments revenue.

Objective 7: Ensure Sufficient and Environmentally Sound Disposal

This objective uses three strategies to protect Tennessee from potentially harmful environmental effects related to solid waste disposal. The State's focus on monitoring municipal solid waste disposal at landfills, unpermitted disposal sites (tire and trash dumps), and unmanned county collection systems remains a means to determine collection and disposal compliance.

The first half of the implementation period includes the promulgation of updated and improved composting rules. These rule changes will eliminate barriers that prohibit new composters from entering the marketplace. It further aligns TDEC's regulatory efforts to coincide with true environmental concerns. Currently there is a review of how to manage the speculative accumulation of materials like tires and computers by generators.

DSWM annually receives information through the Annual Engineering Report that helps determine remaining life of landfills. This information aids local governments in their solid waste planning. Further, the division also collects solid waste and origin data for disposal and for recyclables. Again, this data is crucial for local governments' ability to plan for the future for equipment purchases and facility expansion.

The last strategy dictates the need to address illegal disposal of waste and materials. DWSM in the past addressed unpermitted tire disposal sites and used funding from the SWMF to cleanup several tire sites. This further applied to unpermitted disposal sites and to abandoned permitted landfills (orphaned landfill facilities). The DSWM manages such orphaned landfill facilities by directing monitoring, investigations, assessments, and implementing corrective actions to abate possible ongoing and future environmental impacts. Based on unfunded liabilities of approximately $2.4 million associated with old, abandoned landfills, DSWM is currently working with the TDEC Commissioner's office, Fiscal, F & A, as well as the Legislature to determine options that are available to assist in addressing this funding issue.

Items that will continue into the remaining five years of this plan include the continued monitoring of solid waste facilities for remaining life, the origin of solid waste coming into the facilities, material recovery facilities (MRF), and the supplier source county or state. The Division will continue to collect information in the Annual Progress Report from the Regions that identify unpermitted tire disposal and trash locations.

Objective 8: Develop Sustainable Funding Sources for Sustainable Materials Management

Stakeholders identified that ensuring the solvency of solid waste management and recycling efforts for state and local governments is paramount to successful plan implementation. Objective 8 bases its purpose in this foundational need. To be solvent, TDEC must identify sound and sustainable funding sources that do not place the plan implementation at jeopardy. The current means of funding SWMA projects derives its origins from the disposal of solid waste in landfills through a $0.90 surcharge on each ton disposed. The Solid Waste Regulatory Program (SWRP) also receives $0.35 per ton disposed to fund regulatory activities. Also, the Department of Revenue deposits a predisposal management fee of twenty-five cents $0.25 for each new tire sold at retail into the SWMF. Both revenue sources place future implementation funding at risk. As waste diversion from landfills improves, disposal derived funding may not keep up with need and can significantly fall with new technologies, increased supply chain demands for secondary materials, and the evolving waste makeup. In like manner, if new technologies arise making tires less preferred, tire funding amounts may fall in a similar manner.

To address these revenue concerns, the 2025 Plan identifies three strategies. These strategies include: 1) Considering increased tipping fee surcharges on the disposal of solid waste, 2) Raising revenue for waste reduction, recycling, and integrated solid waste management from new sources, and 3) Supporting the development of sustainable funding strategies for local programs. The initial two strategies and accompanying tactics focus on reviewing and considering new ways to generate revenue to support program needs. The last strategy and its tactics direct the TDEC to track program costs and revenues on a full cost accounting basis, develop and present information that will aid local governments in minimizing costs and increasing revenues, and work with local governments to identify potential cost savings through increasing waste reduction and diversion efforts.

A working group with the Office of Policy and Planning (OPP) and the DSWM initiated a review of Objective 8 topics to make recommendations. During the first half of 2025 Plan implementation, the work group looked at proposing the addition of a new surcharge for disposal at construction and demolition (C&D) landfills to fund future C&D diversion efforts. The goal of this surcharge would be to incentivize a shift from the landfilling of C&D materials toward recycling these materials. Also, TDEC considered the possibility of increasing the $1.25 per ton landfill tipping fee surcharge to $2.00 per ton in an effort to better conform with several other surrounding state surcharges. The internal working group determined fee adjustments were not needed at the time and redirected focus to explore mechanisms to ensure that as much of the surcharges obtained are refunded back to communities that pay those surcharges to improve recycling, composting and waste reduction programs.

Objective 8 is key to the implementation of all objectives contained within the plan, the objectives support access to recycling, education and outreach, and environmentally sound disposal. These funds support improvements in the integrated solid waste systems of the state, provide education

and outreach support to local governments, aid, and clean up unpermitted tire disposal sites, and address critical issues threatening the environment from orphaned landfills.

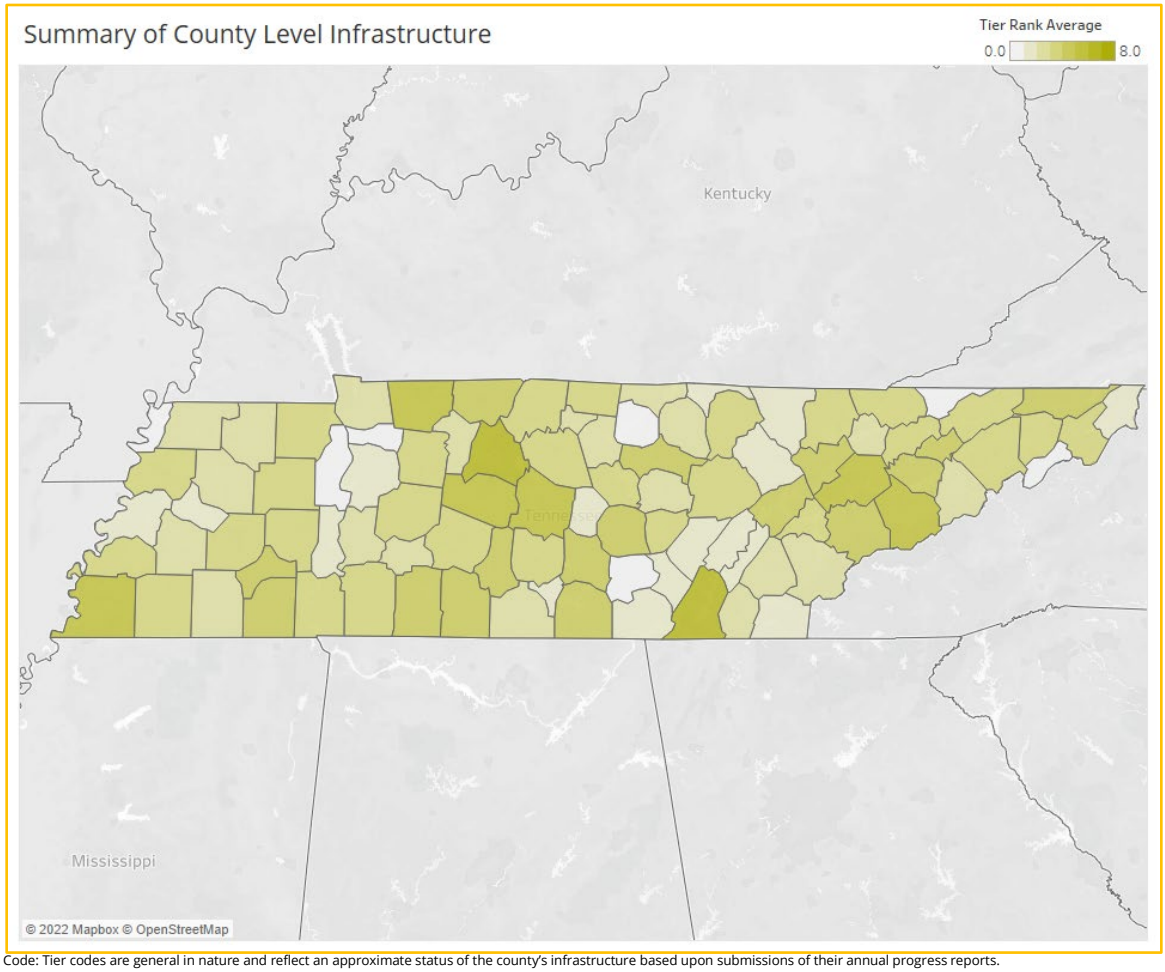
The DSWM is working closely with TDEC Executive Leadership, Fiscal, F&A and the Legislature to address the funding issue of approximately $2.4 million in unfunded liabilities associated with old, abandoned landfills across the state.

Appendix A: Tennessee's Integrated Solid Waste Management Hierarchy

The state will continue to utilize the US EPA's waste hierarchy. This hierarchy currently reflects a counter intuitive approach to existing solid waste management. Landfilling currently by weight and volume still remains the management option of choice by most Tennessee local governments. The US EPA hierarchy seeks to reverse this practice with the priority or preference given to source reduction or not creating waste in the first place. The following next best approaches will place reuse, recycling, or composting materials in diminishing priority. The least preferred methods for material disposition will fall to energy recovery, incineration, and followed by landfilling.

Appendix B: Summary of County Level Infrastructure

Solid waste infrastructure drives the county or Region's efforts to collect, manage, and process materials to their next destination. The following table summarizes the county infrastructure compared to the 2025 Plan's 4-Tiers of an Integrated Management System. Tier Codes* follow table.



Tier Code: Tier codes are general in nature and reflect an approximate status of the county's infrastructure based upon submissions of their annual progress reports.

1= Small Rural Counties Targeted Minimum	**Tier 1**
2= Small Rural Counties Preferred	
3=Larger Rural Counties Targeted Minimum	**Tier 2**
4=Larger Rural Counties Preferred	
5=Suburban/Rural Counties Targeted Minimum	**Tier 3**
6=Suburban/Rural Counties Preferred	
7=Urban Counties Targeted Minimum	**Tier 4**

8=Urban Counties Preferred	

Summary of County Level Infrastructure

Single County Infrastructure	Tier Rank Average	Population	Collection	Disposal	Waste Reduction	Problem Waste	Education	Staff	Composting	Economic
McNairy	4.0	3	5	2	6	2	6	3	3	6
Meigs	1.1	1	4	1	1	2	1	0	0	0
Monroe	2.2	3	4	1	6	1	0	2	3	0
Montgomery	5.6	4	5	4	6	6	6	7	4	8
Moore	1.8	1	1	2	4	0	4	0	3	1
Morgan	1.9	1	3	3	1	0	1	4	0	4
Obion	2.8	2	6	2	3	0	3	3	0	6
Overton	2.6	1	4	2	1	2	1	5	0	7
Perry	2.6	1	1	3	3	0	3	5	0	7
Pickett	1.9	1	2	2	3	2	3	2	0	2
Polk	1.3	1	3	1	1	0	1	3	0	2
Putnam	4.6	3	5	4	6	2	6	6	3	6
Rhea	1.6	3	4	3	1	0	1	1	0	1
Roane	4.1	3	4	3	6	2	6	4	3	6
Robertson	4.2	3	4	3	6	2	6	5	3	6
Rutherford	5.3	4	6	3	6	6	6	6	4	7
Scott	1.6	1	1	1	3	0	3	1	3	1
Sequatchie	1.2	1	2	2	3	0	3	0	0	0
Sevier	5.2	3	6	3	7	2	7	8	3	8
Shelby	5.3	4	7	3	7	6	7	4	4	6
Smith	2.8	1	4	4	3	0	3	4	0	6
Stewart	2.9	1	2	0	6	2	6	4	3	2
Sullivan	4.7	4	5	4	6	2	6	6	3	6
Sumner	3.8	4	5	1	6	2	6	4	0	6
Tipton	3.3	3	2	1	6	2	6	4	0	6
Trousdale	2.6	1	2	0	5	0	5	4	0	6
Unicoi	0.8	1	2	0	1	1	1	0	0	1
Union	2.7	1	4	2	3	1	3	3	3	4
Van Buren	3.0	1	4	2	5	0	5	4	0	6
Warren	4.0	2	4	4	5	2	5	5	3	6
Washington	3.9	4	5	2	6	2	6	4	0	6
Wayne	3.1	1	1	2	6	0	6	6	0	6
Weakley	2.2	2	1	2	3	2	3	2	3	2
White	2.8	2	4	3	3	0	3	4	0	6
Williamson	5.2	4	6	3	6	2	6	8	4	8
Wilson	3.7	4	5	2	5	2	5	4	0	6

Appendix C: Disaster Debris Management

During the initial plan implementation, a significant accomplishment stands out. TDEC in conjunction with the Department of Agriculture and the Tennessee Emergency Management Agency have developed a template for local government's use in the preparation of disaster debris management plans (DDP). The SWMA requires local governments to prepare a disaster debris management plans. This is significant in that local governments preparing FEMA approved DDPs prior to a declared event may qualify for additional recovery funding. Many provisions can save the local governments money by having pre-event contracts and debris staging points approved in advance reducing response time. These plans also dictate where materials will be directed to minimize volumes that may eat away at landfill airspace.

2025 Plan Objective Mid-Term Accomplishments

Objective 1: Update Goals and Measure Progress

- Yearly Annual Progress Report Stakeholder meetings
- Annual review of 95 counties' Annual Progress Reports
- Updated Annual Progress Reporting Tool
- Top Five County Stakeholder Meetings
- New waste reduction or recycling goal review
- Data management, data gap, and data collection review for data integrity
- Initiated Data Management team to construct better data tools to improve data integrity
- Prepared and launched new "*Local Solid Waste Management Reporting and Planning Guide*"
- Convened solid waste director stakeholder working group for APR data collection improvement
- Supported Nashville Davidson County's Waste Characterization Study. Study will serve as a template for future characterization studies to build apples-to-apple comparisons.
- Several surveys to gauge stakeholder receptiveness to different style or types of goals
- Added the collection of material origin reporting from Class III landfills and RMPF facilities
- Reviewed demonstration project for waste "autoclaving" and anaerobic digestion
- Prepared a county-by-county 4-tier qualitative review (included above)
- Prepared list of state level agency recycling improvements
- Worked with DGS to include recycling best practices for agencies to use in future contract procurements. DGS has Included these practices guidance in their RFP/Contracting template.

Objective 2: Increase Recycling Access and Participation

- Defined state's hub and spoke program, provided technical assistance and training to hub directors on facility design, data management, outreach and education, safety, and contracting with other local governments.
- Established grant plan, implemented consistent application across grant programs, established consistent grant cycles, and conducted workshops at solicitation and project management conferences to launch awarded projects.
- Launched grant application in new Grants Management System

- Partnered with Giles County to eliminate convenience center deficiencies and open two new convenience centers that opened up recycling access as a spoke to the Marshall County Hub.
- Hosted to top 5 County Initiative Summits designed to aid the networking of larger counties and better address challenges such as education and outreach to citizens.
- Distributed to hub and spoke programs durable signage that improved recycling collection communication and reduce contamination.
- Launched with assistance from the SERDC #RecycleRight campaign designed to reduce contamination
- Explored the possibility of using phone applications to better communicate recycling options. Several top 5 counties moved forward with project.
- Bear-Saver containers and indoor containers that provided pairing access to recycling and disposal options put in place at State Parks under a Memo of Understanding.
- Proactively added RFID requirement for carts purchased under grants.
- Successfully updated the statute that made it a disincentive for waste reduction under the Recycling Rebate. Balanced the formula to be more equitable and useful.
- Built partnership with the Recycling Partnership and their network to increase the effectiveness of the curbside recycling grant and to provide hub operators strategies to effectively communicate with their constituents.
- Partnered with the UGL to work with industries in the Nashville Area to provide monthly sustainability meetings that shared successes and built networking opportunities.
- Worked with WestRock, City of Knoxville, and Knox County to discuss processing barriers in the county that might aid in increased capacity
- The DSWM and OPSP to align the “Green Star Partnership” with the Tennessee MMP
- Worked with DGS to include recycling best practices for agencies to use in future contract procurements. DGS has Included these practices guidance in their RFP/Contracting template.
- Worked with DSWM Permitting Section to improve the Permit By Rule/Recycler Registration for problem wastes such as electronics and tires.
- Initiated the TTA partnership to improve the professional integrated solid waste management systems management
- Provided 40 Hour HAZWOPER training to HHWCF operators
- Reviewed HHWCF with operational review and funding to address short comings.
- Initiated the sustainably designed TSLRP the successor to the School Chemical Cleanout Campaign.

- Initiated the HHWTS infrastructure program providing year around HHW collection options

Objective 3: Promote Material Processing and End Use in Tennessee

- Contracted with the USBCSD to develop, deploy, and make sustainable the Tennessee MMP
- Establish a formal hub and spoke program that built greater economies of scale and fulfilled the role of the RMCT and the responsibilities of the Office of Cooperative Marketing
- Provided annual trainings to hub operators and every other year training to spoke participating communities to improve performance, increase efficiency, and provide strategies for growth.
- Met with WestRock in Chattanooga and Knoxville to explore increasing capacity in their market to promote the increase of residential recycling in those cities
- MMP increased users to 252. Transacted 83 unique transactions of 5,000 tons since 2017 valued at over $510,000. Visits to site from all over the world.
- Contracted with the University of Tennessee at Knoxville to look at applications for waste glass
- The DWR approved the use of TDA or tire chips as a suitable media for use in SSD systems
- TDEC worked with TDOT to understand the benefits of using tire derived materials in projects. TDOT has allowed Ground Tire Rubber in TDOT specifications permissively.
- Surveyed states nationally to determine their usage of tires for alternate daily cover.

Objective 4: Increase Diversion of Organics

- Hosted roundtable discussion to engage local agencies, private businesses, industries, educational institutions, and non-profits on food waste reduction.
- Updated and expanded composting grant requirements to a broader organics management grant
- Hosted a public food waste reduction event in Nashville at the Farmer's Market airing the documentary "Just Eat It: A Food Waste Story" along with many exhibitors that promote food waste diversion.
- TDEC launched a new organics management website
- Conducted composting workshops for local governments and Tennessee State Park staff
- Promulgated improved composting regulations
- OPSP initiated the Get Food Smart Program and website
- Improved food donation liability protections
- Expanded the number of composting operations in Tennessee

- Initiated, expanded, or supported food pantries at multiple institutions of higher learning
- Provided technical and financial assistance to local governments, state agencies, private composters, and responded to general composting or organics management questions

Objective 5: Support New Waste Reduction and Recycling Technology

- Worked with hub operators to identify and procure new technologies that improve hub efficiency
- Prepared hub and spoke program handbook resource for hub operators
- Provided resources to hub operators on best practices for the use of contracts, memos of understanding, and service agreements
- Reviewed a demonstration project for "autoclaving" technology in Sequatchie County
- 111th General Assembly passed Public Chapter 181 that specifies gasification facilities and pyrolysis facilities are not solid waste facilities or incinerators and that post-use polymers are not solid waste but recoverable feedstocks. This support chemical recycling efforts.
- Initiated and rolled out a pilot program of HHWTS buildings in Chester, Giles, Loudon, McMinn, Blount, and Grainger counties that allow for year around collection of household hazardous wastes.
- Partnered with the SERDC for recycling market development, system review to reduce contamination, and general technical assistance

Objective 6: Expand Education and Outreach

- Partnered and participated in Environmental Literacy work group to support K-12 curriculum development that increases the environmental knowledge of young people in Tennessee.
- Partnered with multiple civic organizations and Nashville Davidson County in an education and outreach event at the farmer's market promoting food waste reduction
- Partnered and shared multiple location viewings of the food documentary "Just Eat It"
- Launched the TTA to provide increased training opportunities for solid waste and recycling professionals in materials management concepts.
- Hosted multiple SWANA certification curriculum based trainings on Recycling Systems, Integrated Solid Waste Management Systems, Composting, HHW/CESQG, and Transfer Stations,
- DSWM hosted SUIT, LOCT, HZWIT, and Geology Roundtable discussions
- Initiated HHW collection awareness campaign using electronic mail and newsletter delivery that increased participation at mobile collection events

- Prepared multiple handout cards that promoted HHW green chemistry alternatives, used oil management, composting and many others.
- Launched website that addresses new organics management, public and commercial composting, mulch, food waste reduction alternatives, Get Food Smart, and provided many resources
- Partnered with the UGL to produce sustainability curriculum for K-12 that meets the Department of Education's scholastic requirements and train teachers in the usage.
- Partnered with the UGL to host networking sustainability meetings to showcase industry and commercial company recycling and sustainability efforts.
- Offered technical and financial assistance to stakeholders on topics of materials management
- Partnered with the SERDC leveraging existing grant to develop, train, and implement #RecycleRight campaign across Tennessee
- Instituted grant project management workshops to launch grant projects successfully
- Continues to host and promote HAZWOPER classes for solid waste professionals and TDEC staff
- Partnered with Metropolitan Davidson County Government, the Greater Nashville Regional Council, and other northern Middle Tennessee Counties to promote cooperative materials management approach to their solid waste systems
- Hosted in Chattanooga the internationally attended Measurement Matter's Summit in partnership with US EPA, US EPA Region 4 state program managers, the SERDC, and local governments to promote and act towards improved measurement of solid waste and commodity materials
- Assisted the Air and Waste Management Association of West Tennessee launch their first annual web conference in partnership with the SERDC
- Provided technical and financial assistance to stakeholder

Objective 7: Ensure Adequate and Safe Disposal

- Increased direct HHW collection services to residents of Tennessee
- Increased available options to CESQG and initiated TSLRP
- Continued the monitoring and response to unpermitted disposal sites
- Continued the monitoring of Class I landfills remaining life and origin of waste
- Added the monitoring of Class III landfills and RMPF
- Provided technical and financial resources to expand and upgrade convenience centers

- Converted majority of files from paper to digital copies for improved access, reduced storage, and reduced waste at the source
- Improved annual landfill reporting to include a more comprehensive annual engineering report increasing accuracy and usability of data collected
- Updated and clarified policy and guidance documents
- Comparison and reconciliation of landfill reported tonnage and surcharge payment
- Updated new permit rule exemption language for RMPF
- Reviewing waste reduction rule, specifically the goal, for improvement possibilities
- Provided technical and financial assistance to publicly owned landfills under the OCL
- Completed second tire removal project from the Nolichucky River
- Continued to offer technical and financial assistance to local governments and coordinate efforts with the Department of Transportation on unpermitted tire disposal site

Objective 8: Ensure Sustainable Funding

- Created a TDEC departmental working group between the DSWM and OPSP to review the funding of solid waste and material management programs
- Continue to collect local government program cost and revenues to track funding trends
- Provided technical assistance to stakeholders regarding commodity markets influenced by China Green Fence, National Sword policies and Blue Sky enforcement policy.
- Implemented transition to new grants management system by SmartSimple
- TDEC completed a LEAN project on grant processes improved and streamlined the system
- Presented at a filled to capacity auditorium to program stakeholders on grants and increasing local government budget sustainability

Disaster Debris Management Plans

- Created a model "fill-in-the-blank" disaster debris management template that conforms to FEMA PA325 program, that will allow additional funding in an event
- As of 2017, two thirds of the counties (sixty-three of 95) counties report submitting a disaster debris management plan required under statute and rule. In 2020, only 15 report having a Disaster Debris Management Plan, 12 indicated no, and 68 did not respond.

Next Steps: 2025-2035 Solid Waste and Materials Management Plan

- At the midpoint of the implementation of the State of Tennessee's 2015-2025 Solid Waste and Materials Management Plan, the State will begin in the next fiscal year the process of updating the full 10-year statewide plan. This process will include the procurement of a suitable contractor to provide objective third-party information collecting, stakeholder

facilitation, and planning recommendations. Stakeholders should expect that the contractor selection process, stakeholder engagement, writing, and adopting will be a two to three-year process. Interested parties should monitor the 2015-2025 Solid Waste and Materials Management website for future details.

REFERENCES

A. Waste Reduction Goal Calculation Methodologies

The SWMA and subsequent amendments established a base year comparison methodology on a per capita basis to determine goal attainment. The base year selected and currently in place is 1995. The current methodology uses a raw base year comparison, a population adjusted, an economically adjusted base year, and a population and economically adjusted base year methodologies to determine compliance with the state's waste reduction and diversion goal. TDEC uses the "Real-Time" methodology as the first step for a qualitative review of the Region's efforts towards the goal.

TDEC uses the following methodologies to calculate a Region's compliance with § 68-211-861.

Base Year Per Capita Reduction Goal Calculation

= 1 - (Current Disposal Tonnage / Base Year Disposal Tonnage)

% Base Year Per Capita Reduction Goal Calculation
Population Adjusted

= 1 - ((Current Disposal Tonnage / (Current Year Population / Base Year Population)) / Base Year Disposal Tonnage)

% Base Year Per Capita Reduction Goal Calculation
Economically Adjusted

= 1 - ((Current Disposal Tonnage / ((Current Year Employment / Base Year Employment) + ((Current Year Sales / Base Year Sales) / (Current CPI / Base Year CPI))/2) / Base Year Disposal Tonnage)

% Base Year Per Capita Reduction Goal Calculation
Population and Economically Adjusted

= 1 – (Current Year Disposal * ((0.6*(Current Year Employment / Base Year Employment)+(0.4*(((Current Taxable Sales/Base Year Taxable Sales)/(Current Year CPI/Base Year CPI)))/2)))/Base Year Disposal)

% "Real-Time" Reduction Goal Calculation

= 1 – (Current Year Diversion / Current Year Generation)

B. Goal Variable Definitions:

Disposal - Total tons reported landfilled in Class I landfills by the county for the year (Base or Current)

Generation - Total tons reported by the county for the year that includes disposal (Class I and Class III landfills and incineration), all recycling, composting, and tons leading to energy recovery.

Population - Population estimate released by the United States Census Bureau in the first week in April in the year reviewed. While the Census Bureau may revise the estimated population number in subsequent years, TDEC uses this initial reported number for compliance determination prepared in the early summer after the Bureau release.

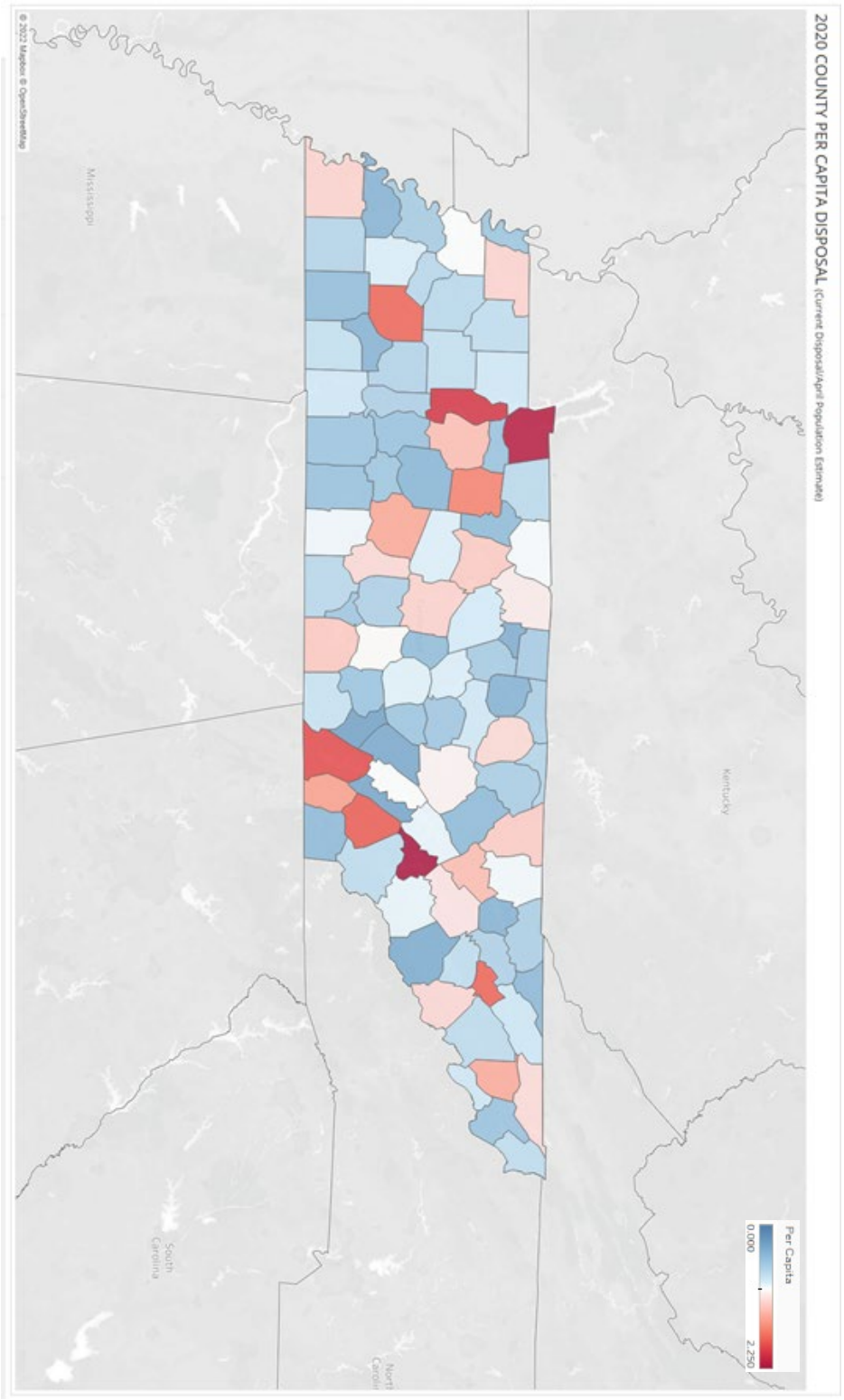
Employment - The current year Employment for each county. Based on the Bureau of Labor Statistics and typically supplied by University of Tennessee Boyd Center for Business and Economic Research.

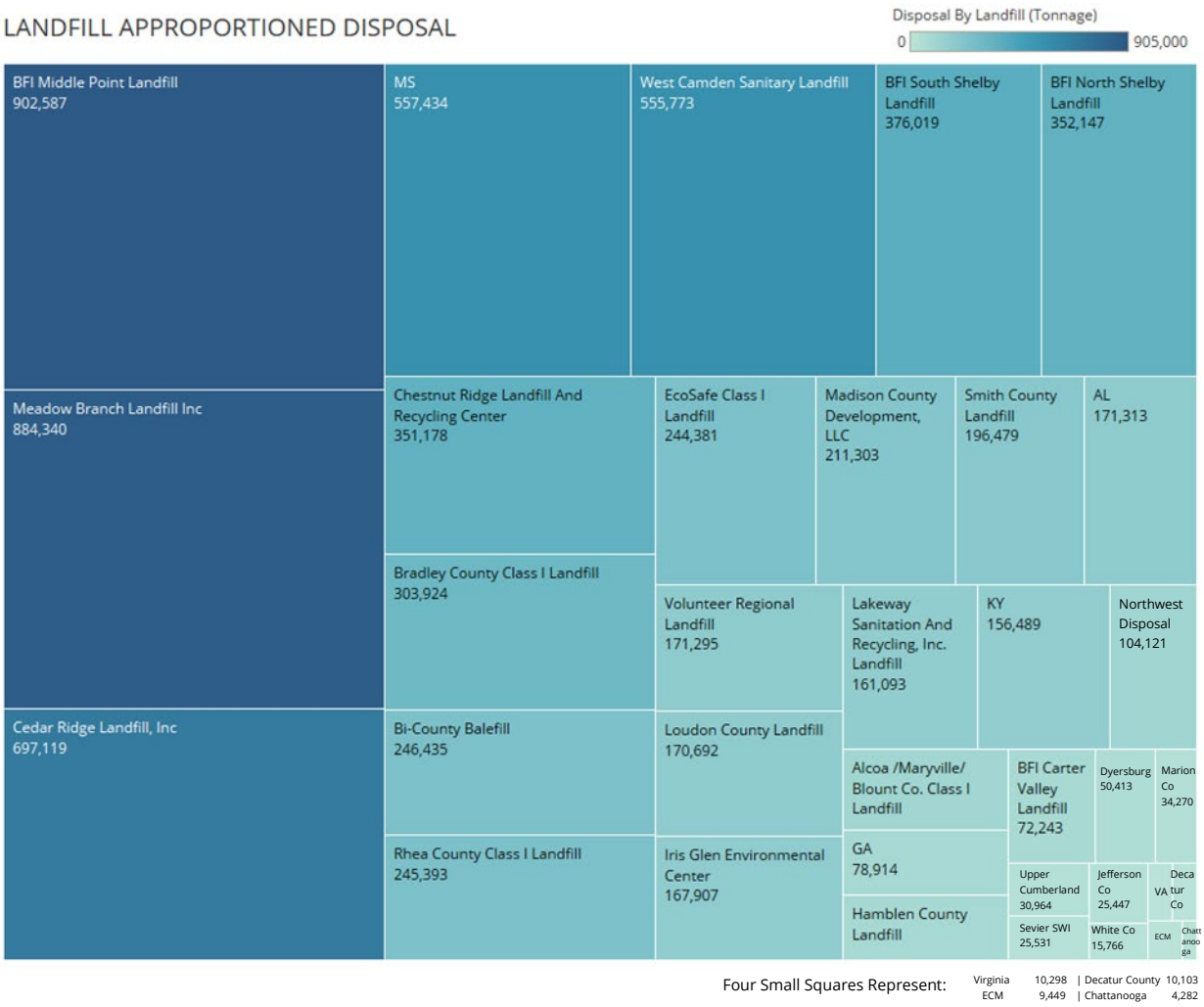
Taxable Sales - The current year Taxable Sales for each county. Based on the Department of Revenue Data supplied by University of Tennessee Boyd Center for Business and Economic Research or CBER). The formula CBER uses is: ((States Sales Tax Revenue * Share Grocery Sales[1]) / Grocery Sales Tax Rate) + ((States Sales Tax Revenue * Share Non-Grocery Sales[1]) / Non-Grocery Sales Tax Rate).

[1]Share of grocery and non-grocery sales for Tennessee are from the 2007 and 2012 Economic Census.

CPI - Calculated at the 12-month average of the seasonally adjusted CPI-U from the Bureau of Labor Statistics for the year reviewed.

APPENDICES


2020 COUNTY PER CAPITA DISPOSAL (Current Disposal/April Population Estimate)
Per Capita
0.000
2.250
Mississippi
Kentucky
South Carolina
© 2022 Mapbox © OpenStreetMap



Data Disclaimer:

Data contained in this report comes from a variety of organizations, agencies, and private industries. The county mayors and solid waste board chair attests to the accuracy of the Region's Annual Progress Report Data after public review, comment, and solid waste board approval. TDEC reviews submitted data for completeness of submission. TDEC makes every effort to work with the Regions to identify potential errors such as double counting or measure type. As TDEC identifies anomalies, the DSWM will make revisions or updates to reflect data and number corrections in DSWM databases.

Pursuant to the State of Tennessee's policy of non-discrimination, the Tennessee Department of Environment and Conservation does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, disability, or military service in its policies, or in the admission or access to, or treatment or employment in its programs, services, or activities. Equal Employment Opportunity/Affirmative Action inquiries or complaints should be directed to the EEO/AA Coordinator, Office of General Counsel, 312 Rosa L. Parks Ave. 2nd Floor William R. Snodgrass TN Tower, Nashville, TN 37243, 1-888-867-7455. ADA inquiries or complaints should be directed to the ADA Coordinator, Human Resources Division, 312 Rosa L. Parks Ave. 2nd Floor William R. Snodgrass TN Tower, Nashville, TN 37243, 1-866-253-5827. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

To reach your local ENVIRONMENTAL FIELD OFFICE
Call 1-888-891-8332 OR 1-888-891-TDEC

Tennessee Department of Environment and Conservation, Authorization No. XXXXXX, 11 copies. This public document was promulgated at a cost of $0.90 per copy. March 2022.