# 2017 Knox County Regional Solid Waste Plan Reporting 2016 Waste and Recycling Data

## **Purpose of Document**

This is an update to the Regional Solid Waste Plan and a progress report for the implementation of past plans. Waste and recycling data conveyed in this document are summaries of the estimates of waste and recycling activity entered into the Re-TRAC system as required by the Tennessee Department of Environment and Conservation (TDEC). Great efforts are made to capture all available waste and recycling data but actual totals may differ from estimates entered into Re-TRAC. The data reported electronically through Re-TRAC may be adjusted by TDEC officials during a review and acceptance process later in the year.

The Knox County Regional Solid Waste Board is presented the following information at a publicly held and properly noticed meeting. The Board votes to accept the reporting and empowers the chair to sign off electronically on the final document. The Board Chair signoff and the final acknowledgment by the Knox County Mayor are completed in Re-TRAC. This plan will be used by the Solid Waste Board and by local solid waste offices for guidance in making solid waste decisions and to help formulate solid waste policies for the region. For questions about this document or solid waste assistance within Knox County contact Knox County Solid Waste at 865-215-5865 send email or an solidwaste@knoxcounty.org.

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## **PART 1 GENERAL INFORMATION**

#### **Administrative Contact Information**

| Regional Solid Waste Board    | Title                 | Jurisdiction           | Term Ends |
|-------------------------------|-----------------------|------------------------|-----------|
| Catherine Wilt                | Chair                 | Knox County            | 3/31/2018 |
| David Collins                 | Member                | Knox County            | 3/31/2021 |
| Grant Barton                  | Member                | City of Knoxville      | 3/31/2019 |
| Kim Davis                     | Member                | Knox County            | 3/31/2018 |
| Nick Jackson                  | Member                | Knox County            | 3/31/2021 |
|                               |                       |                        |           |
|                               |                       |                        |           |
| Planning Region Report Author | Title                 | Organization           |           |
| Drew Thurman                  | Compliance Manager    | Knox County Government |           |
|                               |                       |                        |           |
| County Contacts               | Title                 | Organization           |           |
| Tim Burchett                  | Mayor                 | Knox County Government |           |
| Tom Salter                    | Solid Waste Director  | Knox County Government |           |
| Zachary Johnson               | Recycling Coordinator | Knox County Government |           |
|                               |                       |                        |           |
| Other Key Contacts            | Title                 | Organization           |           |
| Rachel Butzler                | Solid Waste Manager   | City of Knoxville      |           |

## **Demographic Information (entered by TDEC in Re-TRAC)**

MPC's annually published brochure is a descriptive text and statistical summary of local physical, social, cultural, government, and economic conditions in the Knoxville area. Downloads are available or printed copies of the current edition may be obtained by calling 215-3819 or emailing: terry.gilhula@knoxmpc.org. <a href="http://www.knoxmpc.org/locldata/knoxff.htm">http://www.knoxmpc.org/locldata/knoxff.htm</a>

### Population - 2015

City of Knoxville 185,291 Knox County (including city) 451,324

**Dwelling Units - 2015** 

Knox County 200,833

Earnings – 2015 Knox County - Average All Industries

Hourly \$24.43 Weekly \$977 Annually \$50,804

**Employment – 2016 Knox County** 

Labor Force 233,510 Unemployment Rate 3.4%

## **PART 2 WASTE PLANNING OBJECTIVES**

## **Objective 1: Update Goals and Measure Progress**

#### **Goals and Measurement Progress**

2025 Statewide Solid Waste and Materials Management Plan Implementation

Update local government waste reduction and recycling goals?

No (Re-TRAC will show nothing, qualifying statement below)

The Region has not adopted a "materials management plan". However, the Regional Solid Waste Board recognizes the authority of the State of Tennessee to establish recycling and diversion goals for the regions and will work diligently in good faith to comply with legal or statutory goals established by the State of Tennessee. Furthermore, one of the primary roles of the Regional Solid Waste Board is to development a regional solid waste plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Knox County. To that effect the regional municipal waste entities will pursue waste management and recycling initiatives that are in the best financial interest of the taxpayers. Currently the public and private sector parties in the region are fully committed to recycling or diverting substantial amounts of material away from landfills into the recycling market because increased recycling activity creates jobs across Tennessee, recycling increases the life of landfills, and recycling is expected by the public as a necessary public and privately available service.

## Tire Report

Tons of tires sent for disposal/processing paid for by Knox County using money transferred from the State of Tennessee Waste Tire pre-disposal fee system. All other known tire recycling activity is reported along with recycling activity.

Amount of Tires managed: 3,365.98 (2015 -3,243.36) Amount of Tires sent to beneficial use: 3,365.98 (2015- 3,243.36) Amount of Tires landfilled:

#### Household Hazardous Waste

The HHW Facility is operated by the City of Knoxville with equal funding for operating and disposal costs from Knox County and the City of Knoxville. All City and County residents are permitted to use the facility. Generally this facility was is visited by over 5,000 vehicles per year. Latex paint is solidified and sent to the Class I landfill. Between 60-70% of what comes through HHW is paint, and 30-40% is HHW that is diverted from a Class I landfill. This ratio is used to estimate the non-paint HHW for the past 5 years. Previously the total was reported to TDEC without the paint separated making the number higher.

| Household Hazardous Waste (tons)   |       |       |       |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Year                               | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
| Tonnage processed at HHW Facility  | 120.0 | 169.0 | 146.0 | 155.0 | 143.0 | 204.1 | 153.5 |
| Est tons of latex paint solidified | 73.2  | 103.1 | 89.1  | 94.6  | 87.2  | 124.5 | 92.1  |
| Est tons of HHW (w/o latex paint)  | 46.8  | 65.9  | 56.9  | 60.5  | 55.8  | 79.6  | 61.4  |

#### Landfill Data

| Type         | County   | Landfill Name                       | TDEC Permit:             | Tons       |      |
|--------------|----------|-------------------------------------|--------------------------|------------|------|
| Class I      | Anderson | Chestnut Ridge Landfill             | SNL01-000-0160           | 233,376.40 |      |
| Class I      | McMinn   | Meadow Branch Landfill              | SNL54-000-0174           | 186,430.27 |      |
| Class I      | Scott    | Volunteer Regional Landfill         | SNL76-000-0271           | 76,787.74  |      |
| Class I      | Loudon   | Matlock Bend Loudon County Landfill | SNL53-000-0203           | 1,604.51   |      |
| Class I      | Rhea     | Rhea County Landfill                | SNL72-000-0131           | 50.95      |      |
| Class I      | Hamblen  | Lakeway San. & Recyc Landfill       | SNL32-000-0280           | 12.62      |      |
| Class I      | Hawkins  | BFI Carter Valley Landfill          | SNL37-000-0185           | 3.54       |      |
| Class III/IV | Knox     | Riverside C&D Landfill              | DML47-000-0011           | 95,629.00  |      |
| Class III/IV | Knox     | Poplar View C&D Landfill            | DML47-000-0057           | 90,527.00  |      |
| Class III/IV | Knox     | Yarnell C&D Demolition Landfill     | DML47-000-0069           | 68,833.00  |      |
|              |          |                                     | Total Sent to Landfill   | 753,255    | 100% |
|              |          |                                     | public funded collection | 144,018    | 19%  |
|              |          |                                     | Class I Landfilled       | 498,266    | 66%  |
|              |          |                                     | public funded collection | 95,371     | 19%  |
|              |          |                                     | Knox County              | 31,967     | 6%   |
|              |          |                                     | City of Knoxville        | 63,404     | 13%  |
|              |          |                                     | Class III/IV Landfilled  | 254,989    | 34%  |
|              |          |                                     | public funded collection | 48,647     | 19%  |
|              |          |                                     | Knox County              | 11,443     | 4%   |
|              |          |                                     | City of Knoxville        | 37,204     | 15%  |

#### **Waste Disposal Fees**

- Knox County disposal tip fee Class I landfill \$23.02 per ton
- Knox County disposal tip fee Class III/IV landfill \$17.36 per ton
- Knox County hauling fee is \$60-\$150 per haul for waste/recycling containers depending on distance.
- City of Knoxville disposal tip fee Class I landfill \$21.90 per ton
- City of Knoxville disposal tip fee Class III/IV landfill \$16.50 per ton
- City pays \$4.13 per household for curbside trash (2016 \$6.90 per household -down due to new cart program)
- City pays \$2.77 per household for curbside recycling (2016 \$4.13 per household up to 15 thousand homes +1.81 per household for additional households)
- City charges small commercial customers in the CBID \$50/quarter
- City Charges \$50/ton tipping fee at the City Solid Waste Management Facility (Transfer Station) at 1033 Elm Street (first Saturday of the month is free for city residential users).

Recycling and Diversion Data

| -Trac Classification | Collection Type: | Name   | State                 | Tons      |     |
|----------------------|------------------|--|-----------------------|-----------|-----|
| Recycling            | Commercial       | PSC Metals, Inc.                                       | Tennessee             | 68,604    |     |
| Recycling            | Commercial       | Spectra Recycling Inc. and Spectra Environmental Group | Tennessee             | 42,869    |     |
| Recycling            | Commercial       | WestRock Recycling                                     | Tennessee             | 23,338    |     |
| Recycling            | Commercial       | Waste Connections of TN INC.                           | Tennessee             | 14,369    |     |
| Recycling            | Residential      | City of Knoxville Solid Waste                          | Tennessee             | 8,631     |     |
| Recycling            | Residential      | Knox County Solid Waste                                | Tennessee             | 7,714     |     |
| Recycling            | Commercial       | Tennessee American Recycling, LLC                      | Tennessee             | 7,646     |     |
| Recycling            | Commercial       | Waste Management INC                                   | Tennessee             | 4,805     |     |
| Recycling            | Commercial       | Construction Waste Recycling/Knoxville Landfills LLC   | Tennessee             | 4,748     |     |
| Recycling            | Commercial       | Tennessee Metals Company, LLC                          | Tennessee             | 3,939     |     |
| Recycling            | Commercial       | Liberty Tire (Tire Fee, Public)                        | Tennessee             | 3,366     |     |
| Recycling            | Commercial       | Enterprise Waste Oil                                   | Tennessee             | 1,919     |     |
| Recycling            | Institutional    | University of TN - Knoxville Recycling                 | Tennessee             | 1,880     |     |
| Recycling            | Commercial       | Southeastern Recycling                                 | Tennessee             | 1,594     |     |
| Recycling            | Commercial       | Liberty Tire (cash)                                    | Tennessee             | 1,575     |     |
| Recycling            | Commercial       | KARM Stores LLC  | Tennessee             | 1,539     |     |
| Recycling            | Commercial       | Clean Harbors/Safety-Kleen                             | Massachusetts         | 1,149     |     |
| Recycling            | Commercial       | Goodwill Industries - Knoxville                        | Tennessee             | 904       |     |
| Recycling            | Commercial       | Griffin Industries Inc.                                | Tennessee             | 780       |     |
| Recycling            | Commercial       | Dollar General Stores                                  | Tennessee             | 558       |     |
| Recycling            | Commercial       | Harrison Construction                                  | Tennessee             | 250       |     |
| Recycling            | Commercial       | Battery Services Inc.                                  | Tennessee             | 90        |     |
| Recycling            | Commercial       | Master Battery, LLC                                    | Tennessee             | 37        |     |
| Recycling            | Commercial       | Green Energy Biofuel                                   | Tennessee             | 9         |     |
| Recycling            | Commercial       | Air Cycle Corporation                                  | Illinois              | 5         |     |
| Diversion            | Commercial       | Harrison Construction                                  | Tennessee             | 111,300   |     |
| Diversion            | Commercial       | Nature's Best Organics                                 | Tennessee             | 35,309    |     |
| Diversion            | Residential      | City of Knoxville Solid Waste                          | Tennessee             | 29,984    |     |
| Diversion            | Commercial       | Knoxville Utilities Board (KUB)                        | Tennessee             | 25,196    |     |
| Diversion            | Commercial       | Valley Proteins, Inc.                                  | Virginia              | 884       |     |
| Diversion            | Commercial       | West Knox Utility District                             | Tennessee             | 683       |     |
| Diversion            | Institutional    | University of TN - Knoxville Recycling                 | Tennessee             | 632       |     |
| Diversion            | Residential      | Knox County Solid Waste                                | Tennessee             | 65        |     |
| Diversion            | Residential      | Household Hazardous Waste Facility                     | Tennessee             | 61        |     |
| Diversion            | Commercial       | Goodwill Industries - Knoxville                        | Tennessee             | 12        |     |
|                      |                  |  | Not Landfilled        | 406,441   |     |
|                      |                  |  | Recycling             | 202,316   |     |
|                      |                  |  | Diversion             | 204,125   | 50  |
|                      |                  | public fu  | nded not landfilled   | 49,821    | 129 |
|                      |                  | То   | tal Waste Stream      | 1,159,696 |     |
|                      |                  |  | Class I Landfilled    | 498,266   | 439 |
|                      |                  | Cla  | ass III/IV Landfilled | 254,989   | 51  |
|                      |                  |  | Recycling             | 202,316   | 179 |
|                      |                  |  | Diversion             | 204,125   | 189 |
|                      |                  |  | =                     | - , -     |     |

## Objective 2: Increase Recycling Access and Participation

### **Diversion Activities**

*Did your local government have any household hazardous waste events?* No

#### **Source Reduction Activities**

Describe source reduction and reuse activities by public or private entities by jurisdiction.

Municipalities in the Knox County Region continue to consult with interested industries and businesses on ways to reduce waste at their sources.

List any restrictions the local government or region places on collected wastes (Examples: no cardboard allowed in MSW compactors, additional container charges, etc.) There are several restrictions placed on waste collected at County Centers. Individuals are subject to daily limits in volume and size (one pickup truck load, bulky items must be able to fit into the compactor box). Household Hazardous Waste Materials are diverted to the Household Hazardous Waste Facility (HHW). Signage directs users to put recyclables into other containers rather than the Municipal Solid Waste (MSW) or Construction and Demolition (C/D) bulky boxes.

The City of Knoxville provides a weekly curbside trash service to approximately 60,000 households and a curbside recycling program for interested households (approximately 24,000). Effective January 1st 2017 the City of Knoxville issued uniform 95 gallon trash carts to all eligible households and will implement a "contents of cart" program (no excess trash beside the container and no trash overflowing) starting April 1st 2017. Recycling is also collected in 95 gallon toters which are picked up every 2 weeks. The City has observed an increase in recycling participation due to the contents of cart program. City residents are limited to 5 bulky waste items per pickup day. Additional 95 gallon trash carts are available for a paid subscription

The Knox County Region has a permanent HHW collection facility with no fees for residents. The HHW facility has different limits for different materials. Limits are generous. The HHW facility does not currently accept HHW from outside the Knox County Region. There are restrictions for items such as paint and other liquids. HHW will only accept (20) twenty gallons of liquids per day. Items containing refrigerant are banned at all County Centers along with bans placed on paint cans filled with liquid paint.

Materials such as brick, block, gravel, dirt, rock, sand, concrete, and cement are normally directed away from municipal and county facilities to locally operated demolition landfills because they are heavy to transport and may damage the waste equipment.

Centers separate metal food and beverage cans from scrap metal. Some special wastes like old mercury containing items such as thermometers or compact fluorescent bulbs are also accepted. Restricted items are directed to alternate collection sites like the Household Hazardous Waste Facility or other public and private collection programs.

## List Curbside Recycling Programs by Jurisdiction

## **Does any local government have any curbside recycling programs?** Yes

| Jurisdiction                                     | Participation Rate | Check All Materials Collected in<br>Program | Is This Program Separated or Co-mingled |
|--|--------------------|---|---|
| City of Knoxville Curbside<br>Program -Residents | 40%                | Fiber/Paper; Plastic; Metals; Other         | Co-mingled                              |

Re-TRAC asks waste regions to report government run curbside recycling participation rates. Participation rates are more about behavior as opposed to availability. Participation in the City of Knoxville curbside recycling program is voluntary. Residents wishing to participate must request to participate and they are incorporated into the program as funding and logistics allows. Carts must be ordered and distributed in large batches then the recycling routes must be reworked. The percentage of households that have curbside recycling is approximately 40 percent. The participation rate of those homes that have curbside recycling is believed to be 100 percent because it is a voluntary program. Residents living outside of the City of Knoxville may purchase curbside waste and recycling services from area waste companies but there are not any statistics on market subscription saturation or program participation. It is also assumed residents paying for curbside recycling are regularly participating.

#### Recycling Drop Off Locations

## Does your local government have any recycling drop off locations not associated with convenience centers?

Yes

#### Collection facilities (not associated with County Convenience Centers)

|  |                              |                      |           | Zip   |         |              |
|--|------------------------------|----------------------|-----------|-------|---------|--------------|
| City of Knoxville -Recycling ONLY Centers  | Hours                        | Address              | City      | code  | Permit# | Phone#       |
| Cedar Bluff City Recycling Center          | open 24 hours, 7 days a week | 341 Parkvillage Road | Knoxville | 37923 | na      | 865-215-4311 |
| Chilhowee Park City Recycling Center       | open 24 hours, 7 days a week | 210 Alice Street     | Knoxville | 37914 | na      | 865-215-4311 |
| Downtown City Recycling Center             | open 24 hours, 7 days a week | 227 Willow Avenue    | Knoxville | 37915 | na      | 865-215-4311 |
| Kroger @ I-640 Plaza City Recycling Center | open 24 hours, 7 days a week | 4440 Western Ave.    | Knoxville | 37921 | na      | 865-215-4311 |
| W. Moody Ave. City Recycling Center        | open 24 hours, 7 days a week | 225 W. Moody Avenue  | Knoxville | 37920 | na      | 865-215-4311 |

#### Materials Collected at Facilities

| City of Knoxville -Recycling ONLY Centers  | Metals | Paper | Glass | <b>Batteries</b> | <b>Plastic</b> | <b>Textiles</b> | <b>Pallets</b> | Tires | <b>Used Oil</b> | Antifreeze | E-Scrap | <b>Paint</b> | Other |
|--|--------|-------|-------|------------------|----------------|-----------------|----------------|-------|-----------------|------------|---------|--------------|-------|
| Cedar Bluff City Recycling Center          | yes    | yes   | yes   | yes              | yes            | yes             | no             | no    | no              | no         | yes     | no           | yes   |
| Chilhowee Park City Recycling Center       | yes    | yes   | yes   | yes              | yes            | yes             | no             | no    | no              | no         | yes     | no           | yes   |
| Downtown City Recycling Center             | yes    | yes   | yes   | yes              | yes            | yes             | no             | no    | no              | no         | yes     | no           | yes   |
| Kroger @ I-640 Plaza City Recycling Center | yes    | yes   | yes   | yes              | yes            | yes             | no             | no    | no              | no         | yes     | no           | yes   |
| W. Moody Ave. City Recycling Center        | yes    | yes   | yes   | yes              | yes            | yes             | no             | no    | no              | no         | yes     | no           | yes   |

#### Problem Waste Management

Describe current problem waste management strategy. Include management descriptions for batteries, oil, paint, antifreeze, electronics and HHW materials.

Batteries) Batteries are picked up from County Convenience Centers and the HHW facility by contractors.

Oil and Antifreeze) Oil and antifreeze are picked from Knox County Convenience Centers and the HHW facility by contractors.

Paint) Liquid only accepted at the HHW facility. The City and County educate the public on drying latex paint to a solid so it can be disposed as household trash.

Electronic Waste) Ewaste is collected at the HHW facility free of charge from households (modest fee for businesses). The County and City both pay contractors to take and recycle electronic waste at drop off locations without charging fees for residents.

HHW) Knox County has a permanent Household Hazardous Waste Facility jointly funded by City, County and State funding sources. The City of Knoxville manages and operates the facility.

Tires) The County accepts several tires per person for free per year at County Centers. The City of Knoxville collects tires at the Transfer Station for a fee. The City of Knoxville also accepts a limited number of tires from residents at the curb without fees. Tire generators (tire shops) collect from consumers a \$1.35 pre-disposal fee (tax) for each new tire sold and they remit \$1.25 to the State of Tennessee. As of July 2014, \$1.00 of the fees per new tire sold in the County is paid to Knox County in order to fund the processing or beneficial end use of tires. Knox County established a system to provide a credit to generators (and the City) at the County tire contractor based on the amount of fees they collect.

Cylinders) Compressed gas cylinders are increasingly problematic at public collection programs. While most cylinders are considered commercial waste, residents regularly show up with various types of pressurized (or empty) cylinders that are costly and difficulty to transport, empty, recycle, or dispose of in a proper manner.

## Waste Reduction and Recycling Obstacles

#### List and discuss the three largest obstacles to your waste reduction/recycling system:

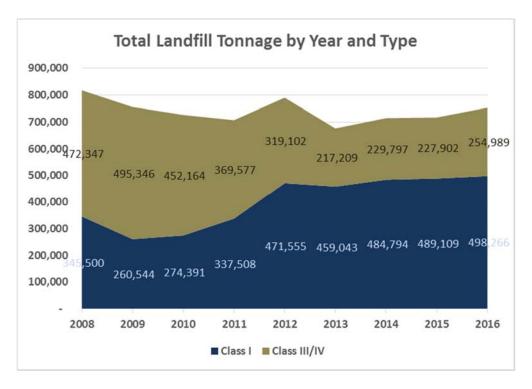
- 1) There are participation plateaus or saturation rates for recycling programs. Curbside recycling programs report higher participation than drop off recycling programs. Convenience Centers that provide trash and recycling report higher participation than recycling-only drop off centers. Regardless of the collection system as long as the act of recycling is an optional behavior there will be limits to participation.
- 2) A lack of understanding of market forces with respect to recycling programs. Recyclers assume all recyclables collected by the public or private collection programs generate revenue. This is true for high-value commodities. Other recyclables like glass are problematic to collect or may actually cost a lot of money to recycle. Some materials are difficult to market for resale or can cause damage to the recyclers' equipment if placed in the same collection bins. Contamination from wishful recycling can ruin the loads, slow processing, and drive up costs. Glass recycling is problematic and it is being phased out of area public and private curbside collections due to an inability to recycle it once collected.
- 3) A lack of understanding and value placed on the economic importance of recycling. High recycling rates and industry are linked. Manufacturers and other industry often locates where there is a large supply of raw materials. Successful recycling programs generate a plentiful and steady supply of raw materials. There are paper and container manufacturers located in or near Knox County in part because there is a good supply of recycled paper for their mill. Though there is data and anecdotal evidence to support the efficacy or recycling it remains a real challenge to convince people that participation in local recycling programs, the collection of recyclables by public and private entities, and the processing of recyclable material collected is a benefit to the local economy.

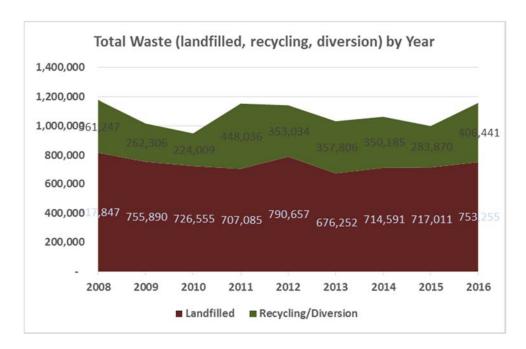
Describe the growth trends, waste projections, and system structure of the region.

Waste projections and trends for the region correlate with population and economic activity. Total Waste (landfilled, recycling, diversion) shows a steep decline in 2008, followed by a sharp recovery in 2012 then remaining relatively steady to present day. The overall percentage of waste not being buried in a landfill is steady at ~30%. The sharp decline then recovery in total waste 2008-2012 is attributable to the economic collapse. In 2012 the majority of landfilled waste shifted from being mostly Class II/IV construction and demolition to mostly Class I sanitary landfill.

Natural disasters also increase total waste disposal. This can be observed as a spike in the total waste attributed to heavy storm activity in 2011. A similar spike can be observed in diversion numbers due to the large amount of greenwaste generated from the same storm events.

The Regional Solid Waste Board and County Solid Waste staff updates the plan and reports solid waste, diversion, and recycling data annually to the State of Tennessee. The Regional Solid Waste Board is a (5) five-member board established by Knox County Commission resolution R-92-11-127. Publicly funded waste collection programs operated by Knox County and the City of Knoxville account for less than 20 percent of the total landfilled waste originating from the region. The County operates convenience centers, manages a litter dumping cleanup/prevention program, and manages a tire disposal program. The City of Knoxville, Knox County, and the State of Tennessee jointly fund a permanent household hazardous waste facility (HHW). The City provides curbside waste and limited recycling service to its residents, drop off recycling centers, and litter/dumping control.





2025 Statewide Solid Waste and Materials Management Plan Implementation

## **Does your local government budget for future grant funding opportunities?** Yes

The City and County prepare budgets projecting for known regular sources of solid waste and recycling related funding opportunities such as Recycle Rebate, Tennessee Department of Transportation (TDOT) Litter Grant, and the Permanent Household Hazardous Waste Facility (HHW) funding but not for competitively awarded grants that occur outside of the public fiscal year budgeting process.

## Where curbside is not feasible, do you have a convenient and accessible area where residents can drop-off their recycling? Yes

The County operates seven (7) drop off waste and recycling Convenience Centers for residents that do not wish to pay for a private waste and recycling service. The City of Knoxville provides weekly curbside trash pickup for approximately 60,000 homes and bi-monthly recycling curbside pickup program for approximately 24,000 homes. The City also supports five (5) drop-off recycling centers. City residents waiting for the expansion of the City recycling program and ineligible properties (apartment complexes, mobile home communities, commercial generators) are encouraged to use the closest drop-off facility. City and County solid waste offices direct residents to the most convenient drop-off locations.

## Are there current plans to enhance and implement curbside and local government recycling programs?

Yes

The County does not plan to offer tax-supported curbside collection services. The County may choose to study the economic and community benefits of implementing a county-wide or zone based franchising system for residential curbside waste providers that could guarantee a minimum standard or service at a fixed and stable rate for residents interested in paying for curbside waste and recycling services.

The City of Knoxville provides curbside trash pickup to about 60,000 single family homes, duplexes, and 4-plexes. In 2011 the city initiated a curbside recycling pilot program that now serves approximately 40% of the households (24,000 households) with additional homes being incorporated into the program. In 2017 the City modernized its trash collection program by providing standardized 95 gallon carts to all eligible households with a contents of cart program intending to increase participation in the recycling program

The City and County both continue to support increased waste reduction and an increase in recycling at government owned and operated facilities. There are existing programs that may benefit from more education or improvements in the existing collection system while other programs/events may benefit from more in depth waste reduction consultations by solid waste staff. Examples may include reducing contamination at parks and recreation facilities, or introducing recycling at more events hosted by government agencies on an annual basis.

## Are you contracting with partners, such as businesses and industry, to develop sustainable materials management programs? Yes

The City and County solid waste offices as well as personnel working in the field of sustainability in the Knox County Region continue to consult with interested businesses and industries on ways to reduce waste and/or handle their waste more efficiently.

The City of Knoxville is studying improvements to their downtown recycling program in order to maximize collection efficiency and value. For instance a dedicated cardboard route may provide a higher service and result in more revenue.

The City and County plan to expand the Household Hazardous Waste (HHW) collection facility in order to expand the scope to include Conditionally Exempt Small quantity Generators (CESQG) and to expand the reach of HHW with a mobile collection operation.

The City, County and other partners created a Task Force in 2008 to collect unwanted and unused medications and personal care products from residents in Knox County and surrounding counties. Quarterly mobile collections are providing a safe disposal option for all residents wishing to participate while providing educational opportunities to business that also wish to properly dispose of medical related waste.

Furthermore the Solid Waste Region encourages innovative approaches to turning waste or recyclable material into something of value but all activities, even those considered most innovative, must strictly follow all permitting processes including all local, state and federal rules, regulations and laws. The Solid Waste Regional Board will not look favorably on solid waste activities that do not follow proper permitting procedures.

## Does your local government work with state government facilities to increase their recycling access and participation? Yes

There are several State of Tennessee elected officials such as the District Attorney General or Judges that may have offices located at City/County buildings that are managed by the Public Building Authority. To the extent that a State office is located in City/County facilities then there are waste and recycling services provided as part of their office facilities. The City also operates a waste and recycling program for the Central Business District where there may be local, State, Federal offices that utilize these services.

## Has your local government increased diversion of construction and demolition? Yes

Since 1991 the State of Tennessee mandates regions increase diversion away from Class I sanitary landfills into construction and demolition landfills. No landfills used in the Knox County region are publicly owned. Disposing waste in Class I sanitary landfills is more costly than disposing of waste in construction and demolition landfills. Municipalities are going to utilize the most cost effective disposal option that is in the best financial interest of the taxpayers in most situations. Situations where material can be disposed of in another manner like recycling or diversion (including diversion from construction and demolition landfills) is an opportunity for municipalities and/or businesses to save money while also diverting material away from both types of landfills.

Examples of diversion by market forces are carpet recycling and concrete recycling. The City and County both collect dry carpet from individuals at drop off facilities. Instead of taking the carpet to the landfill they deliver it to a local carpet recycler that does not charge a tip fee. Carpet installation contractors may also deliver carpet without being charged a disposal fee. The recycled plastic from carpet is sold or burned as fuel. Municipalities and businesses are saving money via cost avoidance. Crushed concrete from the demolition of buildings is available for purchase in the region. Private demolition companies recycle cement by grinding it up and selling it as a product rather than disposing of it in landfills. Both examples are situations where the financial incentive of not paying a tip fee for disposal in a landfill led to increased diversion of marketable material away from a landfill. Neither examples required major policy changes or goals to be adopted by the region with relevant target dates for achievement.

## **Are you increasing the diversion of electronics?** Yes

Electronic waste is expensive to recycle. The collection and handling of electronic waste in order to transport it to a recycling company is labor intensive. Electronics are ubiquitous and

constantly failing or becoming obsolete however the cost to recycle ewaste is too high to justify mandatory recycling unless required by law. More emphasis is being placed on data security by participants. Electronic waste used to be recycled primarily for environmental reasons (or for valuable metal recovery) but now it is viewed as something that needs to be safely disposed of for the environment while also ensuring that data is not stolen or abused. There is a debate about the efficacy of reuse over recycling/destruction and what is meant by "proper" electronic waste disposal.

Due to the high expense of electronic recycling the City and the County are not actively promoting electronic waste disposal and are increasingly limiting the recycling of certain items. TVs are almost not accepted at all for recycling due to the aforementioned costs. This same trend exists in the private industry. Local electronics retailers which used to have free recycling programs have limited participation in their electronic recycling programs for the items that are not valuable or they have begun charging or increasing the charges.

The good news is multiple electronic devices are being displaced and replaced by being integrated into smartphones that can be resold at the end of their life. Market forces are providing individuals plenty of incentives and monetary credits to recycle their old phones when replacing them at their phone retailers. Some items like automotive and rechargeable batteries have not seen major changes in collection and recycling. Printing is less necessary in an increasingly digital society which means printers are lasting longer and using less printer ink and toner. Printing cartridges can also be recycled and reused.

## Has your local government increased diversion of Household Hazardous Waste, Batteries, Oil, Paint, Antifreeze, and Electronics? Yes

HHW) The City of Knoxville in collaboration with Knox County and TDEC runs one of four statewide Household Hazardous Waste (HHW) disposal programs where City and Knox County residents can take HHW free of charge.

Batteries) Batteries are picked up from County Convenience Centers and the Household Hazardous Waste Facility (HHW) by contractors who pick them up on a regularly schedule. The contractors pay revenue for the lead acid batteries collected while other batteries are disposed or recycled where possible.

Oil) Waste motor oil and antifreeze is picked from Knox County and the City of Knoxville Household Hazardous Waste Facility (HHW) by contractors. Recycling waste oil is more costly. Costs are pegged to indexes such as West Texas Intermediate (WTI). More expensive oil leads to less expensive disposal costs.

Paint) Liquid paint is not allowed at County Centers. Residents are instructed how to dry latex paint. Dried latex paint is accepted for disposal if it has been mixed with a hardener and dried to a solid. All other paint is directed to the permanent Household Hazardous Waste Facility (HHW).

Antifreeze (collected with oil): The collection of waste oil from the municipal collection programs is part of the collection of waste oil.

Electronic Waste) See electronic waste section above.

#### OTHER PROBLEM WASTES)

Tires are a perennial problem for the region. Tires have no market value and must be recycled at a considerable cost. The City and County both offer collection programs for residents seeking to dispose of several tires per year. Tires from businesses are treated differently but tires are still dumped in large numbers along the right of way and on public property. Cylinders of all types are a problem in public collection programs. Example problem cylinders are: propane tanks, fire extinguishers, carbon dioxide tanks, SCUBA tanks, acetylene welding tanks, oxygen tanks, helium tanks, and Freon recharge tanks.

## Objective 3: Promote Material Processing and End Use in Tennessee

Recycling Hub and Spoke Program

Do you operate a grant funded Hub or Spoke?

No

## Recycling Rebate Did this county (including municipalities) qualify for a recycling rebate? Yes

| Jurisdiction      | Description  |
|-------------------|--|
| Knox County       | Knox County is using the Recycle Rebate to pay for equipment and facility upgrades and to pay for waste reduction and recycling programs and events. |
| City of Knoxville | The City of Knoxville is using the Recycle rebate to promote recycling and managing trash volumes primarily at the household level.                  |

## Equipment and Facilities Project all new recycling & solid waste equipment needs for the next 3 years.

Table only reflects City of Knoxville and Knox County equipment or facility needs. Private sector needs are not known.

|                       | Purpose (Disposal or  |   | Brief Description of  | Brief Description of Funding    |
|-----------------------|---|---|---|---------------------------------|
| Equipment or Facility |   | Name of Equipment of Facility                   | •   | Source                          |
|                       |   |   |   |                                 |
|                       |   |   | waste and recycling   |                                 |
|                       | December 18 and | har to define the                               | trucks/loaders operational                                    | 0.7                             |
| equipment             | Recycling/Waste Reduction   | heavy trucks/loaders                            | needs   | City budgetary requests         |
|                       | Danielia nAVanta Dadustian  | flasticalisa                                    | replacement vehicles for an                                   | Cit. bdeatanaanaata             |
| equipment             | Recycling/Waste Reduction   | fleet vehicles                                  | aging fleet   | City budgetary requests         |
| facilities            | Decycling/Mosts Deduction   | expansion of city drop off recycling facilities | drap off requaling facilities                                 | City budgeton, requests         |
| lacilities            | Recycling/Waste Reduction   | recycling facilities                            | drop-off recycling facilities  City wishes to provide unified | City budgetary requests         |
|                       |   |   | recycling containers to every                                 |                                 |
|                       |   |   | resident receiving curbside                                   |                                 |
| equipment             | Recycling/Waste Reduction   | curbside recycling carts/totes                  | recycling pickup  | City budgetary requests         |
| equipment             | recycling/waste reduction   | curbside recycling carts/totes                  | expand collection corrals                                     | Oity budgetally requests        |
|                       |   |   | downtown for waste and  |                                 |
| facilities            | Recycling/Waste Reduction   | downtown collection areas                       | recycling   | City budgetary requests         |
| .ac.iii.cc            | recojomig/rracio recadencii   | City Solid Waste Management                     | continue to upgrade facility with                             | Ony Daugetary requests          |
| facility              | Recycling/Waste Reduction   | Facility (transfer station)                     | needed improvements   | City budgetary requests         |
| ,                     |   | t dame, (mantered damen,                        | Improvements recommended                                      | on, cargonal, cquota            |
|                       |   |   | by David Nightingale of Special                               |                                 |
|                       |   |   | Waste Associates and Larry                                    |                                 |
|                       |   |   | Sweetser of Sweetser and                                      | City-County budgetary requests  |
|                       |   |   | Associates in their 2014                                      | with State of Tennessee funding |
| facility              | Recycling/Waste Reduction   | HHW expansion                                   | assessment of HHW facility                                    | support                         |
|                       |   |   | roll-off recycling boxes for                                  |                                 |
|                       |   |   | Convenience Centers and                                       |                                 |
| equipment             | Recycling/Waste Reduction   | recycling containers (roll-off)                 | events  | County budgetary requests       |
|                       |   |   | roll-off recycling trash boxes for                            |                                 |
|                       |   |   | Convenience Centers and                                       |                                 |
| equipment             | Disposal  | waste containers (roll-off)                     | events  | County budgetary requests       |
|                       |   |   |   |                                 |
|                       |   | , , , ,   | recycling compactors and swap                                 |                                 |
| equipment             | Recycling/Waste Reduction   | boxes   | boxes for Convenience Centers                                 | County budgetary requests       |
|                       |   |   |   |                                 |
|                       |   | trash compactors and swap                       | waste compactors and swap                                     |                                 |
| equipment             | Disposal  | boxes   | boxes for Convenience Centers                                 | County budgetary requests       |
|                       |   |   | waste and recycling   |                                 |
| aguin                 | Decycling/Master Deduction  | boos, trucks //s s dess                         | trucks/loaders operational                                    | County budgeter                 |
| equipment             | Recycling/Waste Reduction   | heavy trucks/loaders                            | needs   | County budgetary requests       |
| aquinment             | Recycling/Waste Reduction   | fleet vehicles                                  | replacement vehicles for an aging fleet                       | County budgetary requests       |
| equipment             | Recycling/waste Reduction   | neer venicies                                   | relocation, expansion, upgrade,                               | County budgetary requests       |
|                       |   | Carter Convenience Center                       | and renovation of the Carter                                  |                                 |
| facility              | Recycling/Waste Reduction   | Expansion/Relocation                            | Convenience Center  | County budgetary requests       |
| racility              | recycling/ vv aste reduction  | Expansion//Telocation                           | additional attended donation                                  | County budgetary requests       |
|                       |   |   | centers at Knox County  |                                 |
| facility              | Recycling/Waste Reduction   | attended donation centers                       | Convenience Centers   | County budgetary requests       |
| raciity               | 1 to by oming/ v v abito i to add thori   | attoriated acriation collicis                   | CONTROLING CONTROLS   | County budgetary requests       |

## Recycling Facilities

Provide the Name and Physical Street Address of the Facility(s) where your recyclables (paper, plastic, glass and metal) are taken, sorted, and prepared for market, after they are collected at your convenience centers, through your curbside program, or other collection points.

| Facility                                   | Address                        | City       |    | Zip Code | Material        | Used By |
|--|--------------------------------|------------|----|----------|-----------------|---------|
| Environmental Enterprises                  | 4650 Spring Grove Avenue       | Cincinnati | ОН | 45232    | hazardous waste | Both    |
| Goodwill Industries of Knoxville           | 5307 Kingston Pike             | Knoxville  | TN | 37919    | textiles        | Both    |
| Green Energy Biofuel                       | 1756 Alcoa Hwy                 | Knoxville  | TN | 37902    | cooking oil     | Both    |
| Liberty Tires (legacy MTR)                 | 1700 Transport Way             | Knoxville  | TN | 37914    | tires           | Both    |
| PSC Metals                                 | 5205 N National Drive          | Knoxville  | TN | 37914    | metal           | Both    |
| Southeastern Recycling                     | 2518 Cherry Arcade St          | Knoxville  | TN | 37917    | plastic/carpet  | Both    |
| Spectra                                    | 1627 Robert C. Jackson Dr.     | Maryville  | TN | 37801    | mixed           | Both    |
| Westrock                                   | 1323 Proctor Street, Knoxville | Knoxville  | TN | 37921    | mixed           | Both    |
| Certified Cylinder                         | 3415 US 70                     | Crossville | TN | 38555    | metal           | City    |
| Dynamic Recycling                          | N5549 County Rd Z              | Onalaska   | WI | 54650    | e-waste         | City    |
| Enterprise Waste Oil Co. Inc.              | 5201 Middlebrook Pike          | Knoxville  | TN | 37921    | auto oil        | City    |
| Master Battery                             | 6667 Clinton Hwy               | Knoxville  | TN | 37912    | batteries       | City    |
| Air Cycle Corporation                      | 2200 Ogden Avenue, Suite 100   | Lisle      | IL | 60532    | bulbs           | County  |
| Battery Services Inc.                      | 233 East Woodland Avenue       | Knoxville  | TN | 37917    | batteries       | County  |
| Briceville Enterprise, LLC                 | 154 Boyer Road                 | Knoxville  | TN | 37705    | metal cylinders | County  |
| Batteries Plus                             | 222 North Peters Road          | Knoxville  | TN | 37923    | batteries       | neither |
| HCC Environmental (Heritage Crystal Clean) | 2300 Sycamore Drive            | Knoxville  | TN | 37921    | auto fluids     | neither |
| Onsite Environmental                       | 922 Deleware Avenue            | Knoxville  | TN | 37921    | grease          | neither |
| Right Way Recycling                        | 3700 Shotsman Lane             | Knoxville  | TN | 37918    | metal           | neither |
| Tennessee American Recycling               | 200 W. Springdale Avenue       | Knoxville  | TN | 37917    | mixed           | neither |
| Valley Protien                             | PO Box 3588                    | Winchester | VA | 22604    | grease          | neither |

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Are you considering becoming a hub or participating as a spoke for an existing Hub? No (Re-TRAC will show nothing, qualifying statement below)

The Knox County region is already a de facto hub for the recycling and associated industries and would not likely be eligible for this TDEC grant funding source as it is designed to create hubs and spokes where there is no market.

Is your local government actively seeking and facilitating opportunities for public/private partnerships for collection and processing of recyclables?
Yes

The public sector will take advantage of favorable market developments. Waste recycling and disposal options offered by municipalities are anticipated to remain the same unless new private sector waste hauling, processing, recycling, or disposal solutions become feasible or demonstrate a better, more cost effective or environmentally friendly solution. Public institutions will only support private sector activities that operate in accordance with all relevant laws, rules, regulatory procedures, and permitting processes.

There is public and private sector interest in studying the feasibility of new forms of waste reduction, recycling, or disposal methods such as waste to energy or anaerobic digestion. New methods that lower waste disposal costs, turn waste into resources, or that produce less

environmental impact are desired. In the event that a new method or processing is financially feasible, a variety of funding mechanisms would be explored including grant funding or public private partnerships resulting from competitive solicitations such as a request for proposals (RFP).

The Board encourages innovative approaches to turning waste or recyclable material into something of value. However all activities, even those considered most innovative, must strictly follow all permitting processes including all local, state and federal rules, regulations and laws. The Solid Waste Regional Board will not look favorably on solid waste activities that do not follow proper permitting procedures.

## Would you support or participate in the development or enhancement of online tools to facilitate materials processing/marketing?

No (Re-TRAC will show nothing, qualifying statement below)

There is no lack of a process for marketing materials collected in the Knoxville Region for recycling. If there is not a market for recycling in the local area it is not due to a lack of marketing, rather, a lack of a demand for a particular commodity. An example of this is glass. There is little to no national demand for recycled glass collected from public recycling programs. No amount of online marketing would increase the nationwide demand for glass.

## Is your local government supporting the development of scrap tire processing and end markets for tire-derived materials in your area?\*

No (Re-TRAC will show nothing, qualifying statement below)

There is a large supply of recycled tires from the Knox County region. The costs associated for recycling them is covered by and large from a revenue share of a \$1.35 pre-disposal fee levied on the sale of all new tires sold in the State of Tennessee. No amount of supply will increase downstream demand. The State of Tennessee could impact by requiring or incentivizing the use of waste tires in asphalt but there no is such law.

## Does your local government incorporate sustainable materials management in public purchasing decisions?

Yes

Cost is the primary consideration of tax supported public purchasing programs. However, where feasible, public institutions are increasingly investing in items that are more sustainable. Whether the choice is to buy goods that have longer operating periods, use less resources, reduce energy consumption, or some other consideration if incorporating sustainability reduces cost is a likely choice. The investment may be indirect but an example of this would be the investment in a compactor for compacting recyclables. The cost to invest in a compactor for plastic compaction is considerable but it allows for a 10:1 compaction rate thereby reducing several associated costs like fuel, wear and tear, risk from accidents, frequency of hauling, etc. The investment in a compactor for plastic compaction allows for more sustainable material management by the owner.

## Objective 4: Increase Diversion of Organics

Describe the region's current composting, solid waste processing, waste-to-energy, and incineration capacity and strategies. Note any future or expected changes.

There is only one major mulching operation in the region and they are Natures Best Organics. They primarily grind greenwaste, yard waste, leaves, and/or untreated pallet wood and turn it into mulch or mix it with non-regulated materials to make soil amendments. Natures Best offers public drop off for a fee from residences or businesses that bring material for disposal.

The largest <u>single</u> source of greenwaste material is the City of Knoxville residential collection which has a contract with Natures Best Organics.

The County is currently operating outside of a contract for greenwaste disposal. Material is being delivered to Natures Best Organics as needed. The county generates incidental amounts of greenwaste generated from county property (mostly downed limbs in parks or from road maintenance). The County does not intend to increase generation of material or extend additional services to residents. Residents in the County outside of the City may pay landscapers to remove greenwaste or self-haul material to a greenwaste facility.

Over the past several years the City and County have been approached by numerous waste to energy firms. While they often present technology that could turn greenwaste and other organics into energy the feasibility is unknown with respect to a publicly funded collection program.

Some firms have expressed interest in the creation of a food waste collection program from local restaurants. The interest is often hampered because TDEC rules and regulations.

The City and County solid waste offices as well as personnel working in the field of sustainability in the Knox County Region continue to consult with interested businesses and industries on ways to reduce waste and/or handle their waste more efficiently, including organics. Furthermore the Solid Waste Region encourages innovative approaches to turning waste or recyclable material into something of value but all activities, even those considered most innovative, must strictly follow all permitting processes including all local, state and federal rules, regulations and laws.

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Do you provide information to businesses and citizens about strategies for reducing the disposal of food residuals?
Yes

City and County solid waste offices strongly advocate best practices by businesses and residents. The City and County support backyard composting. Several truckload sales for backyard composters and rain barrels have been held over the years. The City and County personnel will continue to offer composting bin sales in cooperation with the Water Quality Forum, and Keep Knoxville Beautiful where feasible.

As stated in the former section, the primary legal barriers to organics recovery, handling, and associated composting/processing are imposed by State of Tennessee.

## Are you currently providing resources to expand collection, processing and/or end use of residential organics?

Yes

The County participates in compost and rain barrel sales to promote best practices at the household level.

Are you increasing composting/processing of organics generated at county owned and/or state facilities?

Nο

Are you providing financial, technical and/or local ordinance support to implement organics processing at institutions/commercial locations?

No

Would you support updated policy for local organics recovery? Yes

The Solid Waste offices would support statewide policies that promote and encourage best practices for handling organics. Particularly if the policies were associated with grant funding or logistical support with implementation.

## Objective 5: Support New Waste Reduction and Recycling Technology

#### New Technologies

In the coming years, what new programs, or modifications to existing programs, will be enacted to increase the amounts of material being reduced/recycled?

The public sector will take advantage of favorable market developments. Waste recycling and disposal options offered by municipalities are anticipated to remain the same unless new private sector waste hauling, processing, recycling, or disposal solutions become feasible or demonstrate a more cost effective or environmentally friendly solution. Public institutions will only support private sector activities that operate in accordance with all relevant laws, rules, regulatory procedures, and permitting processes.

There is public and private sector interest in studying the feasibility of new forms of waste reduction, recycling, or disposal methods such as waste to energy or anaerobic digestion. New methods that lower waste disposal costs, turn waste into resources, or that produce less environmental impact are desired. In the event that a new method or process is feasible a variety of funding mechanisms would be explored including grant funding or public private partnerships resulting from competitive solicitations such as a request for proposals (RFP).

The Board encourages innovative approaches to turning waste or recyclable material into something of value. However all activities, even those considered most innovative, must strictly follow all permitting processes including all local, state and federal rules, regulations and laws. The Solid Waste Regional Board will not look favorably on solid waste activities that do not follow proper permitting procedures.

## In the coming years, what new waste reduction and recycling technologies will be utilized in your programs?

Any new waste reduction and recycling technology utilized would be dependent on the availability of technology in the region.

## 2025 Statewide Solid Waste and Materials Management Plan Implementation

## Would you support state policy that encourages new waste reduction and recycling technology?

Yes

The Solid Waste offices would support statewide policies that would result in the most cost effective and efficient management of solid waste in the best interest of the citizens of Knox County. Particularly if the policies were associated with grant funding or logistical support with implementation.

## Are you providing guidance to other local governments as they consider new waste reduction and recycling technologies? Yes

If asked waste professionals in the region look toward the County Technical Advisory Service (CTAS) for assistance as well as the East Tennessee Development District when assistance is needed. The City and County government agencies are both staffed with professional solid waste staff that are able and willing to assist and collaborate with other government agencies where missions align.

## Work with partners to identify and support projects using new technology that may help achieve state waste diversion and recycling goals. Yes

The Region and solid waste personnel working for the City and County are always willing to work with partners to identify and support projects that may help achieve diversion and recycling goals.

## **Objective 6: Expand and Focus Education and Outreach**

| Educational   | Program   | Program   | D  | B   | Number                   | Name of the Control o |
|---|---|---|--|---|--------------------------|--|
| Program<br>Community  | Sponsor(s) City, County,  | Positive Result -   | Program Type Community   | Program Target Adult & General Public,  | Served<br>County-Wide    | Narrative City and County Solid Waste Offices are sponsors and/or partners for   |
| Recycling<br>Events   | Non-profits,<br>Businesses  | Noticeable<br>increase in<br>materials or<br>quality after<br>campaign                      | Outreach,<br>Other   | Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other                            | county made              | several recycling events that take place on a yearly basis. Among them are EarthFest, America Recycles Day, regional medication collection events, electronic waste events, municipal events/facility recycling, thermometer exchanges, and small scale event recycling for community groups/activities. The primary educational goal of these initiatives is to show best practices for waste disposal but events are also used to promote a broader awareness and familiarity for recycling at other locations in the community.   |
| Expos, Trade<br>Shows, Public<br>Outreach, &<br>Consultation              | City and County   | Positive Result -<br>Noticeable<br>increase in<br>materials or<br>quality after<br>campaign | Community<br>Outreach  | Adult & General Public,<br>Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other | County-Wide              | Solid Waste offices will place an exhibit at any trade show that offers to provide a free space. In some instances, both City and County Solid Waste offices will pay for spaces and furnish additional exhibit space(s) for partner organizations to be co-located. Furthermore, constituents wishing to receive a presentation from an official are obliged. Trade show booths and group speaking settings allow Solid Waste offices to  |
| CAC<br>AmeriCorps   | City, County,<br>State, Non-<br>profits, Utilities,<br>Businesses | Positive Result -<br>Noticeable<br>increase in<br>materials or<br>quality after<br>campaign |  | Adult & General Public,<br>Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other | County-Wide              | The City and County solid waste offices as well as other waste and recycling concerned agencies and organizations are recipients of CAC AmeriCorps volunteers. CAC AmeriCorps leverages the skills, passions and ideals of the youth of our great nation in addressing pressing local environmental issues and interconnected social needs in Knoxville and surrounding areas. This is accomplished through empowering each member to use their hands, heart and mind to build capacity in partner organizations and uplift the community both through traditional conservation practice as well as professional technical application. CAC AmeriCorps has been in operation since 1994 and is the longest running environmental service corps in the State of Tennessee. CAC AmeriCorps is a member of the Corps Network and a 21st Century Conservation Service Corps.   |
| County Litter<br>Prevention<br>Education<br>(Keep Knoxville<br>Beautiful) | County with<br>State Litter<br>Grant Support                      | Positive Result -<br>Noticeable<br>increase in<br>materials or<br>quality after<br>campaign | Classroom,<br>Advertisement,<br>Public Access,<br>Tour,<br>Community<br>Outreach,<br>Other | Adult & General Public,<br>Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other | County-Wide              | Knox County Solid Waste contracts with Keep Knoxville Beautiful (KKB) for litter prevention education in the community based on funding from the State of Tennessee Litter Grant Program. The contract allows for a wide variety of activities to reach citizens of Knox County. KKB's activities include but are not limited to promoting waste reduction, promoting proper waste disposal in the community, encouraging groups to pick up waste along public rights of way, and encouraging communities to take ownership of their litter problems by adopting roads, parks, and streams. For the most part its activities do not overlap with the recycling education activities.   |
| Regional<br>Medication<br>Collection<br>Program                           | City, County,<br>State, Non-<br>profits, Utilities,<br>Businesses | Positive Result -<br>Noticeable<br>increase in<br>materials or<br>quality after<br>campaign | Outreach, Other  | Adult & General Public,<br>Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other | County-Wide,<br>Regional | An unwanted medication program was created at the end of 2008 to address the growing concern of pharmaceuticals and personal-care waste products. When medications and prescriptions change, expire, if loved ones die, or if they are simply unwanted most individuals pour them down the drain or flush them down the toilet. Medications that are poured down the sewer ultimately make their way into waters of the state because waste water treatment systems were not designed to filter out pharmaceuticals. If medications aren't disposed of properly they can end up in the hands of children or addicted relatives. Medication collection events are held regularly to collect this waste and to promote the existence of a permanent collection box located at the City of Knoxville Police Department. The program continues to be successful, attendance is steady, and the collection of medication is growing.  |
| Awards  | City, County,<br>State, Non-<br>profits, Utilities,<br>Businesses | Positive Result-<br>Noticeable<br>increase in<br>materials or<br>quality after<br>campaign  | Advertisement,<br>Community<br>Outreach,<br>Other  | Adult & General Public,<br>Business & Industry,<br>Government &<br>Institutional, Children &<br>Educators, Media, Civic<br>& Environment, Other | Special                  | Waste and recycling agencies in the region recognize the importance of recognition for successful people, programs, and events. There are several award programs available for peer or self-nomination and regularly apply to these programs in order recognize and publicize successful efforts.  The most recent recipient of an award was John Homa who was the recipient of the "Tom Hattle Memorial Award" given by the Tennessee Recycling Coalition (TRC). At the annual TRC conference awards dinner, Recycler of the Year 2016 recipients were honored for their contributions to recycling efforts. John's dedication to recycling, outreach and leadership have, to a great extent, positively impacted the community and the environment.  |

Please describe the marketing and educational initiatives you plan in the next year. Local governments within the region will continue implementing marketing and educational strategies as have been done in the past. The region has no control over private sector marketing and educational initiatives.

Describe current waste reduction strategies for the region. Include effectiveness. If positive waste reduction efforts are not occurring, describe why and lay out strategy with timeline to address negative result efforts.

The City and County solid waste offices as well as personnel working in the field of sustainability in the Knox County Region continue to consult with interested businesses and industries on ways to reduce waste and/or handle their waste more efficiently. Furthermore the Solid Waste Region encourages innovative approaches to turning waste or recyclable material into something of value but all activities, even those considered most innovative, must strictly follow all permitting processes including all local, state and federal rules, regulations and laws. The Solid Waste Regional Board will not look favorably on solid waste activities that do not follow proper permitting procedures.

Describe public information and education strategy, target, and general effectiveness.

The City and County are available to provide information or waste reduction and recycling by a variety of methods including but not limited to telephone, web pages, social media, informational publications, tabling at events and expositions, arranging tours, giving presentations, sponsorship of events, paid advertisements on the radio, TV and print publications, and other education and outreach conducted by staff departmental staff and/or AmeriCorps volunteers where possible. The City and County consider their public information campaigns to be very effective.

Describe current recycling strategies. If capture rate for commodities are less than the percentage described in the region's plan for available materials, what will be done to address this issue. Give time table of projects, responsible parties, and method to determine success that will be used to attain this.

The current recycling strategy relies heavily upon private sector recycling companies combined with tax supported collection programs to collect and haul materials from residential generators where revenue from the sale of the valuable commodities offsets parts of the operational costs associated with collection. A very large portion of recycling activity in the region takes place in the private sector primarily driven by market forces.

## Describe your successes in the implementation of your Solid Waste Management Plan. What are you doing well to promote waste reduction:

- 1) City and County Solid Waste Offices collect accurate waste data. Information is collected and analyzed in order to determine recycling rates, participation, who is recycling, who is not recycling, and why. Findings are used to tailor messages, design programs and projects to target audiences in order to increase recycling and encourage proper waste disposal practices.
- 2) The County created a system to account for the cost of waste disposal and cost avoidance savings due to recycling in order to promote advantages of waste reduction and recycling as alternative to land filling.

- 3) City and County support local events and festivals. Increased visibility maximizes the numbers of individuals with direct educational interaction with the Solid Waste Offices. Solid Waste officials are called to serve as expert consultants for several presentations, task forces, event committees, green initiatives, and sustainability projects.
- 4) In 2017 the City modernized its trash collection program by providing standardized 95 gallon carts to all eligible households with a contents of cart program intending to increase participation in the recycling program
- 5) The Regional Solid Waste Board is more engaged in City/County/Private Sector waste practices. Procedures were established in order to be fair and consistent in the event an application for Board approval is made. The Board is ready to thoughtfully consider alternative waste management strategies that come before the Board providing applicants follow proper permitting procedures and all other laws, rules, and regulations.

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Would you participate in developing and promoting a statewide recycling campaign? Yes

Local governments are willing to consider participation in a program if a statewide program is developed.

Are you promoting sustainable materials management (recycling, organics diversion, waste reduction) in Tennessee schools and public institutions?
Yes

Waste and recycling personnel within the region are always available to speak and discuss recycling and waste reduction upon request.

**Do you promote sustainable materials management to Tennessee businesses?** Yes

Waste and recycling personnel within the region are committed to proving consultation to local/area businesses in sustainable materials management.

Promote HHW services to local governments and assist them in promoting HHW and BOPAE collection services.

Yes

The City of Knoxville in collaboration with Knox County and TDEC runs one of four statewide Household Hazardous Waste (HHW) disposal programs. The HHW Collection Center allows City and Knox County residents to dispose of HHW free of charge. Over the next 5 years, the City plans to expand and improve the current HHW program by making it safer for the employees and the public, making the HHW facility more cost effective and efficient, increasing City and County participation of proper HHW disposal, increasing participation in the reuse program, and offering HHW services to surrounding counties that have no access to HHW

disposal. The Solid Waste Office will accomplish these improvements through extensive facility upgrades, creative and diversified marketing, outreach, and education, and investment into mobile HHW waste disposal operations.

## Objective 7: Ensure Sufficient and Environmentally Sound Disposal

### Page 1 Solid Waste Planning

## List and discuss the three largest obstacles to your solid waste disposal system:

- 1) Costs and operational constraints to providing waste disposal services are not well understood. Residents, businesses, and institutions are not aware of the costs of their waste disposal or how it is funded. Commercial generators often pay flat monthly rates or their waste services or waste services (like a dumpster out back) are included in commercial property rental fees. For the most part, the public and private disposal system allows varying amounts of waste to be disposed of for the same price. In most instances there are no financial incentives to reduce waste. Recipients of publicly provided waste services (at the curb by the City, Convenience Centers by the County) do not understand that there are significant costs associated with offering those services. There is also not much understanding that disposal costs can be offset by reducing their waste generation, buying recycled/recyclable goods, and by recycling high value commodities.
- 2). Residents, businesses, and institutions are often not aware of who provides their waste disposal service. There are several businesses and institutions that do not know that they are paying for waste disposal from a private company. Businesses are often unaware of how to dispose of material that is not the normal bagged trash they can place in their dumpster. Residents inside the City are not fully aware of all the services available to them. For example they may not know about the City Transfer Station or the fact they can use County Convenience Centers. County residents outside of the City tend to know about the Convenience Centers but many County residents outside of the City are unaware that curbside trash service they pay for is not actually a service provided by the government. Residents that use the centers may not know all the different things they can recycle at the Convenience Centers. Center users may not know of all the options for signing up for private subscription services. Property owners living in a homeowner's associations are often unaware they pay for trash service via their dues.
- 3) There are financial, market related, and political obstacles to making changes in the waste disposal system. Waste is constantly being generated and everyone produces it. Even a minor change in solid waste disposal policies or services could substantially impact a large portion of people, businesses, or institutions. For this reason solid waste services both public and private remain relatively unchanged from year to year.

## In the coming years, how do you plan to handle disposal of waste differently to better address these issues?

The public sector will address identified obstacles through a combination of public education, procurement of equipment and technology, and taking advantage of favorable market developments. Waste recycling and disposal options offered by municipalities are anticipated to remain the same unless new private sector waste hauling, processing, recycling, or disposal

solutions become feasible or demonstrate a better more cost effective or environmentally friendly solution. Public institutions will only support private sector activities that operate in accordance with all relevant laws, rules, regulatory procedures, and permitting processes.

There is public and private sector interest in studying the feasibility of new forms of waste reduction, recycling, or disposal methods such as waste to energy or anaerobic digestion. New methods that lower waste disposal costs, turn waste into resources, or that produce less environmental impact are desired. In the event that a new method or processing is financially feasible a variety of funding mechanisms would be explored including grant funding or public private partnerships.

## Looking back on the Plan from this current year, what changes have been made in the way the county handles & prioritizes Solid Waste?

The City and County are committed to improving the handling and prioritization of waste.

Waste and recycling planning reported herein is reported for the entire Knox County region as best known by public sector waste staff. With the exception of private sector contractors handling public sector waste and recycling, there is not much coordination between the public and private actors. Furthermore Knox County Government and the City of Knoxville plan and prioritize waste and recycling goals independently although they keep each other informed. The private sector plans and prioritizes waste and recycling completely independently from the public sector. The public sector's share of waste and recycling activity is small in comparison to the overall waste and recycling activity taking place within the Knox County region.

In 2017 the City modernized its trash collection program by providing standardized 95 gallon carts to all eligible households with a contents of cart program intending to increase participation in the recycling program. Another benefit of standardized garbage carts was annual cost savings of approximately \$2 million dollars due to the efficiencies of automated collection.

City officials are working together to curb abuse of the residential trash program by enforcing landlord tenant house cleanouts, commercial accounts using residential trash services, transfer station use by City residents, and set out limit code violations. The City Transfer Station updated their payment system and is now accepting credit card payments.

The City also made the public aware that the local recycling processor was no longer able to find a market for glass collected from the comingled singe stream systems. The City announced that due to this market change glass would no longer be accepted in the City's single stream collection.

#### Description of the Municipal Solid Waste Region

## State or revise current responsibilities of each local government in the region by jurisdiction.

The Regional Solid Waste Board plans and reports solid waste, diversion, and recycling data annually to the State of Tennessee. The Regional Solid Waste Board is a (5) five-member board established by Knox County Commission resolution R-92-11-127. The primary and prevailing

purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans. The Board is charged with the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste and is in the best interest of the citizens of Knox County. The board is empowered to utilize the existing Knox County governmental personnel, to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies to utilize Knox County's services, facilities, and records completing this task.

The only government agencies that offer waste disposal in the region are Knox County and the City of Knoxville. Those municipal collection programs account for roughly 30 percent of the total landfilled waste originating from the region.

The County is responsible for operating county convenience centers, managing a state funded tire recycling program, managing a state funded litter dumping cleanup program, and a state funded litter dumping abatement education program. Knox County and The City of Knoxville jointly fund (with additional state funding) a permanent household hazardous waste facility (HHW).

The City provides a higher level of service to its residents including curbside trash pickup, curbside recycling options, drop off recycling centers, and litter/dumping control.

## Describe and provide an analysis of the Current Solid Waste Management System within the region.

The region has excellent public and private sector systems in place to manage most solid waste recycling and disposal needs.

## Describe current waste collection and transportation systems. Include any expected changes or revisions to this plan.

Most waste is collected and transported by the private sector. The exceptions are: Knox County operates convenience centers for collection of household waste and recyclables and transports collected recyclables to buyers. At this time the municipalities anticipate continuing to outsource the vast majority of waste collection and transportation to the private sector. There is also significant private sector waste and recycling collection and transportation that does not involve the government.

## What is the current disposal capacity for the solid waste processing facilities used by the region?

Landfills located in and/or utilized by entities in the region are privately owned and operated and they are regulated by TDEC. Furthermore, other regions utilize those same sources for disposal. Current landfill disposal capacity is not currently known by the public sector. The City and County collection capacity is sufficient to meet current demand and projected growth for years to come.

#### Waste Stream Estimate

Give approximate percentages of each category of waste that make up your county's MSW stream.

| Residential | Commercial | Institutional | Industrial |
|-------------|------------|---------------|------------|
| 19.0%       | 39.0%      | 0.0%          | 42.0%      |

Estimated March 2010 by surveying landfills owned and operated by Waste Management and Waste Connections and averaging their estimates. The landfills did not collect separate metrics for institutional waste. This figure will be used until a better system for estimation is established.

#### Convenience Centers

### Do you have any convenience centers?

Yes

|                                 |                          | Zip                                    |           |       |             |              |  |
|---------------------------------|--------------------------|--|-----------|-------|-------------|--------------|--|
| Knox County Convenience Centers | Hours                    | Address                                | City      | code  | Permit#     | Phone#       |  |
| Carter                          | M-F 8am-6pm; Sat 7am-3pm | 8815 Asheville Highway                 | Knoxville | 37924 | CCC 47-0027 | 865-215-5865 |  |
| Dutchtown                       | M-F 8am-6pm; Sat 7am-3pm | 10618 Dutchtown Road                   | Knoxville | 37932 | CCC 47-0022 | 865-215-5865 |  |
| Halls                           | M-F 8am-6pm; Sat 7am-3pm | 3608 Neal Drive                        | Knoxville | 37918 | CCC 47-0483 | 865-215-5865 |  |
| John Sevier                     | M-F 8am-6pm; Sat 7am-3pm | 1950 West Governor John Sevier Highway | Knoxville | 37920 | CCC 47-0449 | 865-215-5865 |  |
| Karns                           | M-F 8am-6pm; Sat 7am-3pm | 6930 Karns Crossing Lane               | Knoxville | 37931 | CCC 47-0563 | 865-215-5865 |  |
| Powell                          | M-F 8am-6pm; Sat 7am-3pm | 7311 Morton View Lane                  | Knoxville | 37849 | CCC 47-0532 | 865-215-5865 |  |
| Tazewell/Gibbs                  | M-F 8am-6pm; Sat 7am-3pm | 7201 Tazewell Pike                     | Knoxville | 37721 | CCC 47-0526 | 865-215-5865 |  |

#### **Material Accepted at Convenience Centers**

#### **Convenience Center Summary**

| Knox County Convenience Centers | Metals | Paper | Glass | <b>Batteries</b> | Plastic | Textiles | Pallets | Tires | Used Oil | Antifreeze | E-Scrap | Paint | Other |
|---------------------------------|--------|-------|-------|------------------|---------|----------|---------|-------|----------|------------|---------|-------|-------|
| Carter                          | yes    | yes   | 2017  | yes              | yes     | no       | no      | yes   | yes      | yes        | no      | no    | yes   |
| Dutchtown                       | yes    | yes   | yes   | yes              | yes     | yes      | no      | yes   | yes      | yes        | yes     | no    | yes   |
| Halls                           | yes    | yes   | yes   | yes              | yes     | yes      | no      | yes   | yes      | yes        | yes     | no    | yes   |
| John Sevier                     | yes    | yes   | yes   | yes              | yes     | yes      | no      | yes   | yes      | yes        | yes     | no    | yes   |
| Karns                           | yes    | yes   | yes   | yes              | yes     | yes      | no      | yes   | yes      | yes        | yes     | no    | yes   |
| Powell                          | yes    | yes   | yes   | yes              | yes     | no       | no      | yes   | yes      | yes        | no      | no    | yes   |
| Tazewell/Gibbs                  | yes    | yes   | yes   | yes              | yes     | no       | no      | yes   | yes      | yes        | no      | no    | yes   |

#### Please identify ANY changes that occurred to your convenience center(s)?

Two industrial waste compactors were installed at the recycling area in order to provide recycling compaction for both cardboard and mixed plastic collection. The compactors made more room because (multiple loose plastic containers were replaced with one compactor) to establish multiple lanes and safer recycling conditions. The compactors also increase efficiency and save money by reducing the amount of hauling and associated risks. Reduced hauling also minimizes the amount of times a container is removed for hauling making the recycling collection more available for residents. The previous compactor used for Cardboard was converted to trash.

Open top roll-off containers were staged at all Convenience Centers to provide constant collection availability in case the electricity goes out and compactors are not operational. Open top containers can also be uses as overflow to accommodate very bulky items that cannot be easily compacted.

The Carter Convenience Center lease was expanded to allow for a renovation and expansion during 2017. Design and construction plans are in development and construction is expected to be completed in the 2017 calendar year.

The State of Tennessee will input the number of County Convenience Centers required as computed using this worksheet (click here):

Calculated 3 for Knox County using previous years' demographic data.

Total number of Convenience Centers present in jurisdiction:

7

If you have fewer convenience centers than are required, what steps will be taken to provide collection assurance?

Not applicable.

List Higher Level of Service-Alternative Disposal Collection Systems
Does any local government have curbside waste collection (Higher Level of Service-Alternative Disposal Collection System)?

Yes

| Jurisdiction                 | Public Program Percentage of Coverage Within the Jurisdiction | Publicly Contracted Programs Percentage Coverage within the Jurisdiction | Privately contracted<br>programs percentage<br>coverage within the<br>iurisdiction | Total Percentage of Each<br>Category of Service for<br>the Jurisdiction |
|------------------------------|---|--|--|---|
| our routotion                | our louistion   | ou louistion   | janicaloni   | tilo ourioulotion   |
| City of Knoxville -Residents | 5%  | 95%  | 0%   | 100   |

Public Collection (Green Box)

Does your local government have any green boxes?

No

Transfer Stations

Does your local government have any transfer stations?

Yes

The City of Knoxville operates a Solid Waste Management facility that acts as a transfer station. The City facility is actually a solid waste processing facility per the TDEC permit. All facilities serving as transfer stations are listed below. The only facility operated by local government is the City of Knoxville Solid Waste Management Facility.

| Transfer Station                                  | Address               | City      | Zip Code | Permit ID    |
|---|-----------------------|-----------|----------|--------------|
| City of Knoxville Solid Waste Management Facility | 1033 Elm Street       | Knoxville | 37921    | SWP470000069 |
| Knoxville Transfer Station                        | 1300 Prosser Road     | Knoxville | 37914    | TRF470001050 |
| Medical Waste of America, LLC                     | 5102 Middlebrook Pike | Knoxville | 37921    | TRF470001441 |
| Waste Management - Heiskell Facility              | 9504 Diggs Gap Road   | Heiskell  | 37754    | TRF470001442 |

## Publicly Owned/Operated Landfills Are there any publicly owned landfills, currently operating in the region? No

## Complaints

Is a method provided to receive complaints from the public related to solid waste issues? Yes

**Provide the total number of reported solid waste complaints:** 10,000

**Provide the number of solid waste complaints resolved:** 10,000

#### Describe the nature of the complaints:

Knox County and the City of Knoxville regularly take calls and complaints from the public about the items below. The total amount of complaints to the private sector waste companies is unknown.

- Missed trash/recycling pick up
- Where to take materials
- Explaining policies
- Location of facilities
- · Facility hours
- Litter reports
- Dumping reports
- Explaining market forces as they relate to recycling collection
- Noise complaints
- In some situations the public calls to complain about solid waste policies, facilities, and/or personnel

### Roadside Dumps

List the locations of the largest five roadside dumps and the materials that make up these dumps.

| Location             | Types of Materials                               | Tons |
|----------------------|--|------|
| Luttrell Road        | Litter, tires, furniture, MSW, bulky items, etc. | 1    |
| Neubert Springs Road | Litter, tires, furniture, MSW, bulky items, etc. | 1    |
| Brushy Valley Road   | Litter, tires, furniture, MSW, bulky items, etc. | 1    |
| Alex Bales Road      | Litter, tires, furniture, MSW, bulky items, etc. | 1    |
| Beck Road            | Litter, tires, furniture, MSW, bulky items, etc. | 1    |

## 2025 Statewide Solid Waste and Materials Management Plan Implementation

Is your local government monitoring the capacity of the Class I landfills you use? No (Re-TRAC will show nothing, qualifying statement below)

This activity is the purview of the State of Tennessee.

## Would you support, review, and strengthen environmental regulations/policies relative to solid waste management facilities?

No (Re-TRAC will show nothing, qualifying statement below)

This activity is the purview of the State of Tennessee.

## **Are you currently addressing illegal disposal of materials?** Yes

Knox County employs an environmental crimes investigator. The environmental crimes investigator is responsible for investigation and enforcement related to the illegal disposal of waste as well as potential codes and stormwater violations. The Knox County environmental crimes investigator also participates in a regional environmental crimes task force that includes other local law enforcement agencies and the EPA.

Money generated from tire pre-disposal fees will continue to be used for sending tires for processing into beneficial end uses. Unpermitted waste tire disposal sites (tire dumps) continue to pose a County-wide problem. The County will begin using surplus tire pre-disposal fee funding to operate an unpermitted waste tire site removal program. When unpermitted waste tire disposal sites are identified the County will seek right of entry permission from the property owner(s) and remove tires in order to minimize the negative impact of waste tires such as mosquitos or fire hazards. Property owners not willing to sign right of entry paperwork may be issued notices of violation and may also face civil or criminal penalties for dumping.

Illegal dumping continues to be a problem in the City of Knoxville. Area supervisors schedule crews based on employee observations during routine operations and to citizen complaints.

The Tennessee Department of Transportation TDOT Litter grant continues to fund a litter pickup program along state or state aid eligible roads. A portion (currently 30 percent) of the TDOT litter grant must be spent on education.

## Objective 8: Develop Sustainable Funding Sources for Sustainable Materials Management

## Solid Waste Management Program

Describe any setbacks encountered in your solid waste management program and how these setbacks will be resolved in future plans:

No real setbacks

## Briefly describe the current level of staff and how the program is funded.

Due to the scope and nature of the private sector activities in the region this information cannot be adequately summarized. The number of staff from public and private sectors in the region is significant. Only public sector data is available. There are approximately 50 staff members (mostly facility operators and drivers) working directly under the purview of City and County Solid Waste Offices. Municipal staff is sufficient to meet operational needs.

#### Improvements Remediation

Facility Improvements - Project any facility improvements needed for processing and/or managing solid waste and diversion efforts:

- 1) City and County plan to submit capital improvement budgetary requests. The City continues to maintain and upgrade the City Transfer Station including the Household Hazardous Waste facility (HHW) and associated fleet vehicles. County Solid Waste will continue maintenance and repair of existing facilities and equipment in order to prolong operational life. Some Convenience Center facilities are starting to show wear along roofs, siding, gutters, decking, fixtures, et cetera. The County will need to repair or renovate some of the older facilities.
- 2) The Carter Convenience Center lease was expanded to allow for a renovation and expansion. Design and construction plans are in development and construction is expected to be completed in the 2017 calendar year. The renovated Carter Center will provide expanded services, similar to those currently offered at the other 6 County Convenience Centers. When the Carter center expansion is complete all Knox County Convenience Centers will all be large enough to handle projected demand for several years.
- 3) County Centers will continue to be branded as recycling and household waste drop off centers rather than "dumps" in order to reinforce that waste handling can be handled in a clean manner that also maximizes recycling collection. The County will continue to keep equipment and facilities nicely maintained, painted, in working order, with printed signage and clearly defined solid waste policies, rules, etc. available in the form of educational pamphlets, bulletin boards, documents downloadable from the website and/or kiosks.
- 4) The State of Tennessee asked the City and County to propose ways to increase the capacity of the Household Hazardous Waste (HHW) Facility. Management at the facility is currently looking at capital improvements to the facility and equipment upgrades that would substantially increase capacity. Eventually more staff may be needed. With added capacity and more staff the HHW could consider going out into the community to collect material from residents at targeted pickup-events in the community. The State may partner with the Knox County HHW facility in the future to accept material from residents outside of the County. The City and County will utilize grant funding to improve HHW facilities and equipment.
- 5) The Region recognizes the need for private sector institutions to expand their capabilities to process waste and recyclable materials in ways that cannot fully be anticipated. The expansions could include additional services, buildings, equipment, land, efficiency improvements, jobs, and more. Private sector capacities may become public sector contractors providing the services they provide are more cost effective or are better for the environment.

Monitoring Cost Projections - Project any future monitoring, remediation, or mandated improvements over the next five years by the county for county owned solid waste facilities, including but not limited to, convenience centers, transfer stations, active landfills, or landfills in post-closure monitoring:

There are no anticipated costs associated with monitoring in the near future.

#### Green Boxes

According to rule 0400-11-01-.10 5(a) requires each county to include in their Annual Progress Report a plan for eventual elimination of collection receptacles or conversion of unmanned collections site to manned convenience centers. Please summarize and describe below the county's plan to eliminate or convert green box site(s) to manned convenience center(s). Please also describe expenses that may occur during the transition and additional funding needed.

There are no Green Boxes in the Knox County Solid Waste Region.

Pay as You Throw

Does your local government have PAYT?

Yes

### Describe Type of PAYT System by local government:

Cart Size - Variable Pricing

#### Is system a Public or Private Implementation?

The City of Knoxville -Public

Each eligible City of Knoxville household is issued one 95 gallon trash cart. Households that cannot contain weekly household trash to one 95 gallon container are given the option to recycle (no additional fees), utilizing monthly "free for city residents day" at the City Transfer Station, taking their waste to a County Convenience Center (no fee), or paying for additional garbage carts through a monthly subscription fee. Overflow trash at the curb will not be picked up. Trash is picked up weekly. Recycling is picked every other week. The Transfer Station is open 6 days a week and charges \$50 per ton. The City operates 5 recycling drop off facilities. The County operates 7 Convenience Centers 6 days per week (free for all County residents).

## Financial Information Survey

City of Knoxville and Knox County budgetary estimates are extrapolated from fiscal year appropriated totals and do not coincide with the calendar year. Calendar year expenditures will differ from reported estimates. Fiscal year budgets may be obtained by submitting a document request to City of Knoxville or Knox County finance departments.

| State Budget Category                                |       | City          |    | County       |    | Total                  |
|--|-------|---------------|----|--------------|----|------------------------|
| Expense  |       | •             |    | •            |    |                        |
| 51000 General Administration                         | \$    | 636,244.31    | \$ | 434,767.00   | \$ | 1,071,011.31           |
| 55710 Sanitation Management                          |       |               | \$ | -            | \$ | -                      |
| 55720 Sanitation Education/Information               |       |               | \$ | -            | \$ | -                      |
| 55731 Waste pickup                                   |       |               | \$ | -            | \$ | -                      |
| 55732 Convenience centers                            |       |               | \$ | 2,894,559.00 | \$ | 2,894,559.00           |
| 55733 Transfer stations                              | \$    | 724,192.94    | \$ | -            | \$ | 724,192.94             |
| 55734 Problem waste centers                          |       | ·             | \$ | 84,242.00    | \$ | 84,242.00              |
| 55735 Bailing Centers                                |       |               | \$ | -            | \$ | -                      |
| 55739 Other waste collection                         |       |               | \$ | -            | \$ | -                      |
| 55751 Recycling Center                               |       |               | \$ | 232.717.00   | \$ | 232,717.00             |
| 55752 Compost Center                                 |       |               | \$ | -            | \$ | -                      |
| 55753 Waste incinerator                              |       |               | \$ | -            | \$ | -                      |
| 55754 Landfill Operation and Maintenance             |       |               | \$ | -            | \$ | -                      |
| 55759 Other waste disposal                           |       |               | \$ | 372,152.00   | \$ | 372,152.00             |
| 55770 Post closure care costs                        |       |               | \$ | 572,102.00   | \$ | -                      |
| 64000 Highways litter and trash collection           |       |               | \$ | 229,719.00   | \$ | 229,719.00             |
| 70000 Education                                      |       |               | \$ | 223,713.00   | \$ | 223,7 19.00            |
| 90000 Capital projects                               | \$    | 2,000,870.28  | \$ |              | \$ | 2,000,870.28           |
| Contracted Services                                  | \$    | 8.462.615.13  | \$ |              | \$ | 8,462,615.13           |
| Tota   | _     | 11,823,922.66 | \$ | 4,248,156.00 | \$ | 16.072.078.66          |
| Revenue  | ııl ə | 11,023,922.00 | Þ  | 4,246,136.00 | Þ  | 10,072,076.00          |
| 40000 Local Taxes                                    |       |               | \$ | 2,500,000.00 | \$ | 2,500,000.00           |
| 40100 County Property Taxes                          |       |               | \$ | 2,300,000.00 | \$ | 2,300,000.00           |
| 40200 County Local Option Taxes                      |       |               | \$ |              | \$ |                        |
| 42000 Fines, forfeitures and penalties               |       |               | _  | 62,899.00    |    |                        |
| 43106 Commercial and industrial waste collection     | \$    | 94 002 24     | \$ | 62,699.00    | \$ | 62,899.00<br>84,003.31 |
|  | Φ     | 84,003.31     | \$ | <u> </u>     |    | 04,003.31              |
| 43107 Residential waste collection charges           |       |               | \$ | -            | \$ | -                      |
| 43108 Convenience Center waste collection charge     | Φ.    | 4 000 050 50  | \$ |              | \$ | 4 000 050 50           |
| 43109 Transfer waste stations collection charge      | \$    | 1,068,959.50  | \$ | -            | \$ | 1,068,959.50           |
| 43110 Tipping Fees                                   |       |               | \$ | -            | \$ | -                      |
| 43111 Surcharge-State                                |       |               | \$ | -            | \$ | -                      |
| 43112 Surcharge-Host Agency                          |       |               | \$ | -            | \$ | -                      |
| 43113 Surcharge-General                              |       |               | \$ | -            | \$ | -                      |
| 43114 Solid waste disposal fee                       |       |               | \$ | <u>.</u>     | \$ |                        |
| 44145 Sale of recycled materials                     | \$    | 130,939.11    | \$ | 320,683.00   | \$ | 451,622.11             |
| 44165 Commodity rebates                              |       |               | \$ | -            | \$ | <u> </u>               |
| 46170 Solid waste grants                             | \$    | 91,164.39     | \$ | -            | \$ | 91,164.39              |
| 46430 Public Works grants - Litter Program           |       |               | \$ | 144,600.00   | \$ | 144,600.00             |
| 468511 State Revenue Sharing                         |       |               | \$ | 343,498.00   | \$ | 343,498.00             |
| 47230 Federal government disaster relief             |       |               | \$ | -            | \$ | -                      |
| 48000 - Other Governments and Citizens Groups        | \$    | 19,695.98     | \$ | -            | \$ | 19,695.98              |
| 49800 - Transfer from General Fund                   | \$    | 9,366,520.00  | \$ | -            | \$ | 9,366,520.00           |
| Tota   | ıl \$ | 10,761,282.29 | \$ | 3,371,680.00 | \$ | 14,132,962.29          |
| Assets   |       |               |    |              |    |                        |
| 13100 Fixed Assets - Landfill Facilities Development |       | -             | \$ | -            | \$ | -                      |
| 13200 Land   | \$    | -             | \$ | 3,600,000.00 | \$ | 3,600,000.00           |
| 13300 Fixed Assets - Buildings and Improvements      | \$    | -             | \$ | 2,922,482.00 | \$ | 2,922,482.00           |
| 13700 Machinery and Equipment                        | \$    | -             | \$ | -            | \$ | -                      |
| Tota   | 1 \$  | -             | \$ | 6,522,482.00 | \$ | 6,522,482.00           |
| Liabilities  |       |               |    |              |    |                        |
| 21870 Accrued liability for landfill closure/post    |       |               |    |              | 1  |                        |
| closure care costs - Current                         | \$    | -             | \$ | -            | \$ |                        |
| 27700 Accrued liability for landfill closure/post    |       |               |    |              |    |                        |
| closure care costs                                   | \$    |               | \$ |              | \$ | -                      |
|  |       |               |    |              |    |                        |

### 2025 Statewide Solid Waste and Materials Management Plan Implementation

Would you support increased tipping fee surcharges on disposed solid waste? No (Re-TRAC will show nothing, qualifying statement below)

This activity is the purview of the State of Tennessee

The City and County government agencies are indirectly paying this surcharge (currently levied at Class I landfills by the State of Tennessee) because the local municipalities are customers at regional Class I landfills. The substantial amount of fees paid are not directly returned to municipalities but some portion of them are returned by way of the Recycle Rebate which is allocated based on the total amount of waste disposed of from the regions. The City Transfer Station charges a fee but it is in order to offset the cost of the disposal once delivered to the landfill.

Are you currently reviewing new sources to raise revenue for waste reduction, recycling and integrated solid waste management?
Yes

Both public and private waste and recycling providers are always searching to maximize revenue.

Are you developing sustainable funding strategies for local programs?
Yes

The County Convenience Centers are tax supported collection facilities. The City contracts out services for tax supported residential pickup programs. The City also operates a fee-based collection program for the Central Business Improvement District (CBID). Revenue from the sale or recyclables is used to offset the tax and fee based funding sources.

## PART 3 DISASTER DEBRIS PLANNING

## Disaster Debris Planning

**Does your local government have a Disaster Debris Management Plan?**No

Are pre-event contracts in place?
Yes

#### With whom and for what service:

The County has pre event contracts in place for the following services.

**Emergency Debris Removal Services** 

- -Crowder Gulf (primary)
- -Phillips & Jordan (backup)

Emergency Debris Monitoring Services
-Tetra Tech

## Are staging areas identified?

Yes

#### Where?

Not in the way that would be addressed in a Federal Emergency Management Agency (FEMA) debris management plan but there are continuity of operations plans where City and County owned properties could be utilized during or after an emergency if necessary. Now the County has all necessary emergency debris contracts are in place the County plans to use one of the firms to develop a FEMA approved debris management plan. Planning may be in conjunction with the City of Knoxville and the Town of Farragut. The Knoxville Emergency Management Agency (KEMA) will be involved which is a jointly funded emergency response agency.

## How is Waste Reduction and Diversion addressed in the local disaster debris management plan?

Recycling, grinding preferred, specified where possible unless otherwise directed.

## Comment on any disaster related solid waste activities that may have influenced diversion efforts with your local government.

There were several Localized large storm events in 2009-2011 and in 2017 there was a large forest fire in Sevier County. While the existing public and private solid waste disposal capacity was sufficient to absorb the higher amount of generated waste the storm events led to a greater awareness and recognition for increased emergency debris planning.

## **PART 4 APPENDICES**

## Appendix A: References to T.C.A. for Annual Reporting

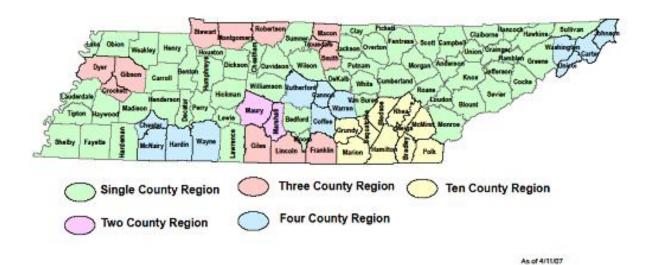
## Regional Plan Update via Re-TRAC (Re-TRAC Dashboard)

The Region's 10-Year Plan outlined a strategy to manage solid waste. In lieu of developing a complete update of this Plan as required by **TCA 82-211-814**, answer the following survey sections and associated questions in as much detail as possible. These questions should be answered by the government body responsible for directly determining solid waste policy within the Region.

- **T.C.A. 68-211-814** Municipal solid waste region plans Authority of region or solid waste authority after approval. —
- T.C.A. 68-211-815 Municipal solid waste region plans Contents. —
- **T.C.A. 68-211-871** Annual report Contents Annual progress report Sanctions for noncompliance Annual reports by recovered materials facilities. —

## Appendix B: Municipal Solid Waste Planning Regions Map as of 4/11/2007

## Municipal Solid Waste Planning Regions





September 11, 2017

Ms. Catherine Wilt, Chair Knox Municipal Solid Waste Region 205 West Baxter Avenue Knoxville, TN 37934

Dear Ms. Wilt,

The Solid Waste Management Act of 1991 set a goal that each municipal solid waste (MSW) region in the State of Tennessee shall reduce Class I MSW landfill disposal and incineration by twenty-five percent (25%) since 1995 on a per capita basis. If regions do not achieve this reduction, rules allow the Department to use a real-time comparison methodology to determine whether 25% of the MSW generated in the current year was diverted or recycled.

Based on the information submitted in the 2016 Annual Progress Report, the Knox MSW Region **achieved the 25% waste reduction and diversion goal**. Using the base year methodology the region achieved a 15% (decrease since 1995) but using the real-time comparison methodology the region achieved a 55% (amount diverted or recycled) reduction.

Solid waste plans should include managing solid waste generated after disasters or emergencies. Currently, 33% of counties do not meet this requirement. Given this need, the Department is developing technical and financial resources for counties to create or update their disaster debris management plans. Future solid waste plan approvals will require these additional plans in accordance with the rules and statute. Progress toward fulfilling this requirement may be considered on a case-by-case basis.

If you should have any questions, please contact me at (615) 253-9929 or by email at Seth.Benge@tn.gov.

Sincerely,

Seth Benge

**Recovered Materials** 

CC: The Honorable Tim Burchett, Knox County Mayor Tom Salter, Knox County Solid Waste Director Zach Johnson, Knox County Recycling Coordinator John LeCroy, Regional Director for External Affairs Tim Hendrick, East Tennessee Development District