

2018 Knox County Regional Solid Waste Plan Reporting 2017 Waste and Recycling Data

Purpose of Document

The following is an update to the Regional Solid Waste Plan and an annual progress report on public and privately funded regional solid waste efforts. Waste and recycling totals conveyed in this document are estimates entered into an online reporting software called Re-TRAC. Regular solid waste plan updates and annual reporting to the Tennessee Department of Environment and Conservation (TDEC) is required under state law. Efforts are made to capture all available waste and recycling data but actual totals may differ from estimates entered into Re-TRAC. TDEC reserves the right to adjust numerical waste, recycling, and diversion totals the region reports if they have reason to believe the numbers should be changed. TDEC officials review and issue a letter on the status of the reporting later in the calendar 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 or send an email to solidwaste@knoxcounty.org.

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PART 1 GENERAL INFORMATION

Administrative Contact Information

Regional Solid Waste Board	Title	Jurisdiction	Term Ends
Catherine Wilt	Member	Knox County	3/31/2024
Kim Davis	Member	Knox County	3/31/2024
David Collins	Member	Knox County	3/31/2021
Nick Jackson	Chair	Knox County	3/31/2021
Grant Barton	Member	City of Knoxville	3/31/2019
Planning Region Report Author	Title	Organization	
Drew Thurman	Compliance Manager	Knox County Solid Waste	
County Contacts	Title	Organization	
Tim Burchett	Knox County Mayor	Knox County Government	
Tom Salter	Solid Waste Director	Knox County Solid Waste	
Other Key Contacts	Title	Organization	
Patience Melnik	Solid Waste Manager	City of Knoxville	
Zachary Johnson	Convenience Center Supervisor	Knox County Solid Waste	

Demographic Information (entered by TDEC in Re-TRAC)

The Knoxville Knox County Metropolitan Planning Commission annually publishes a brochure and statistical summary of local physical, social, cultural, government, and economic conditions in the Knoxville area. The most up to date brochure is included in the Appendices of this document. Source: <https://knoxmpc.org/locldata/knoxff.htm>

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.

Tires Managed						
Year	2012	2013	2014	2015	2016	2017
Tons Managed	4,829	5,575	4,584	3,243	3,366	4,065
Tons Sent to Beneficial Use	4,829	5,575	4,584	3,243	3,366	4,065
Tires Landfilled	0	0	0	0	0	0

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 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	2017
Tonnage processed at HHW Facility	120.0	169.0	146.0	155.0	143.0	204.1	153.5	150.8
Est tons of latex paint solidified	73.2	103.1	89.1	94.6	87.2	124.5	92.1	101.0
Est tons of HHW (w/o latex paint)	46.8	65.9	56.9	60.5	55.8	79.6	61.4	49.8

Landfill Data

Type	County	Landfill Name	TDEC Permit:	Tons	
Class I	Anderson	Chestnut Ridge Landfill	SNL01-000-0160	207,664.41	
Class I	McMinn	Meadow Branch Landfill	SNL54-000-0174	126,746.30	
Class I	Scott	Volunteer Regional Landfill	SNL76-000-0271	68,776.71	
Class I	Loudon	Loudon County Landfill	SNL53-000-0203	1,423.23	
Class I	Hamblen	Lakeway San. & Recyc Landfill	SNL32-000-0280	25.15	
Class I	Marshall	Cedar Ridge Landfill, Inc	SNL59-000-0238	10.89	
Class III/IV	Knox	Riverside C&D Landfill	DML47-000-0011	144,306.00	
Class III/IV	Knox	Poplar View C&D Landfill	DML47-000-0057	106,044.00	
Class III/IV	Knox	Yarnell C&D Demolition Landfill	DML47-000-0069	66,748.00	
			Total Sent to Landfill	721,745	100%
			City/County funded collection	148,984	21%
			Class I Landfilled	404,647	56%
			City/County funded collection	97,297	24%
			Knox County	32,896	8%
			City of Knoxville	64,402	16%
			Class III/IV Landfilled	317,098	44%
			City/County funded collection	51,686	16%
			Knox County	13,299	4%
			City of Knoxville	38,388	12%

Waste Disposal Fees

- Knox County disposal tip fee Class I landfill \$23.02 per ton
- Knox County disposal tip fee Class III/IV landfill \$17.64 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 \$22.35 per ton
- City of Knoxville disposal tip fee Class III/IV landfill \$22.00 per ton
- City pays \$4.20 per household for curbside trash
- City pays \$2.82 per household for curbside recycling
- City charges small commercial customers \$100/quarter (beginning July 2018)
- 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).

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 27,000). Effective January 1st 2017 the City of Knoxville issued uniform 95 gallon trash carts to all eligible households and implemented a “contents of cart” program (no excess trash beside the container and no trash overflowing) on April 1st 2017. Recycling is also collected in 95 gallon totes 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 does not currently accept HHW from outside the Knox County Region. The HHW facility has different limits for different materials. Limits are generous, with a general 100 pound daily limit on HHW. Starting March 1st latex paint will no longer be accepted at the permanent HHW facility. There are restrictions for liquids. HHW will only accept (20) twenty gallons of oil or lead based paint 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 Program	Is This Program Separated or Co-mingled
City of Knoxville Curbside Program -Residents	46%	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.

Total number of curbside recycling programs present in jurisdiction:

There may be others that are not known by City and County waste staff. There is only one publicly supported curbside program in Knox County and it is provided by the City of Knoxville. There are other curbside recycling services available from the private sector. Waste Connections, Waste Management, and Tennessee Waste all three offer curbside recycling along with curbside trash services for a subscriber fee.

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)

City of Knoxville -Recycling ONLY Centers	Hours	Address	City	Zip 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
Shopping Center at I-640 Plaza City Recycling	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	Batteries	Plastic	Textiles	Pallets	Tires	Used Oil	Antifreeze	E-Scrap	Paint	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
Shopping Center at I-640 Plaza City Recycling	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) Oil and lead based pain 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 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 a \$1.35 pre-disposal fee (tax) from consumers 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 based on the amount of fees they collect. The County also pays for the disposal of tires collected by the City and County publicly operated facilities.

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

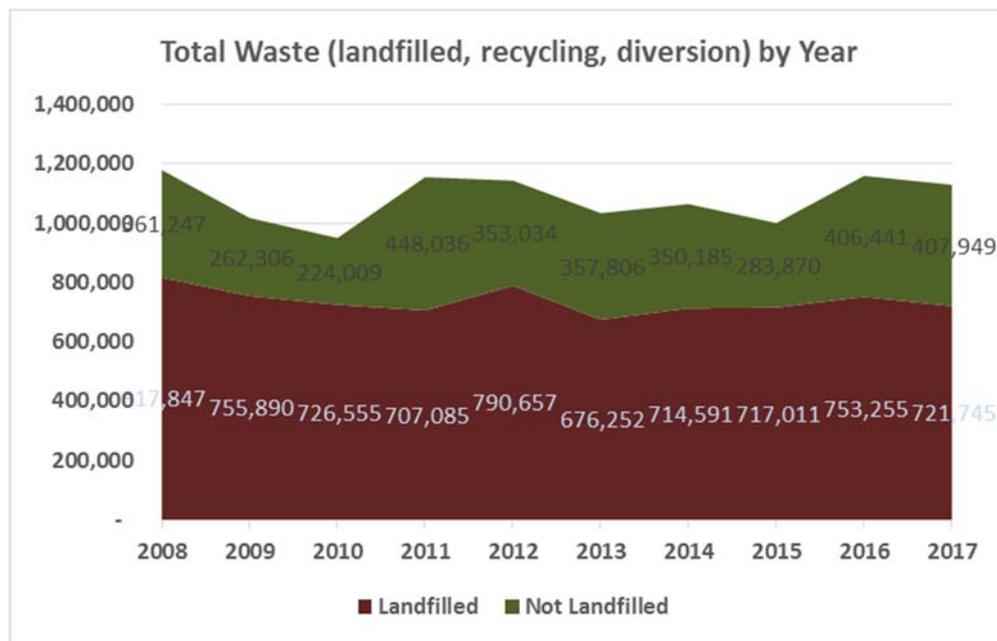
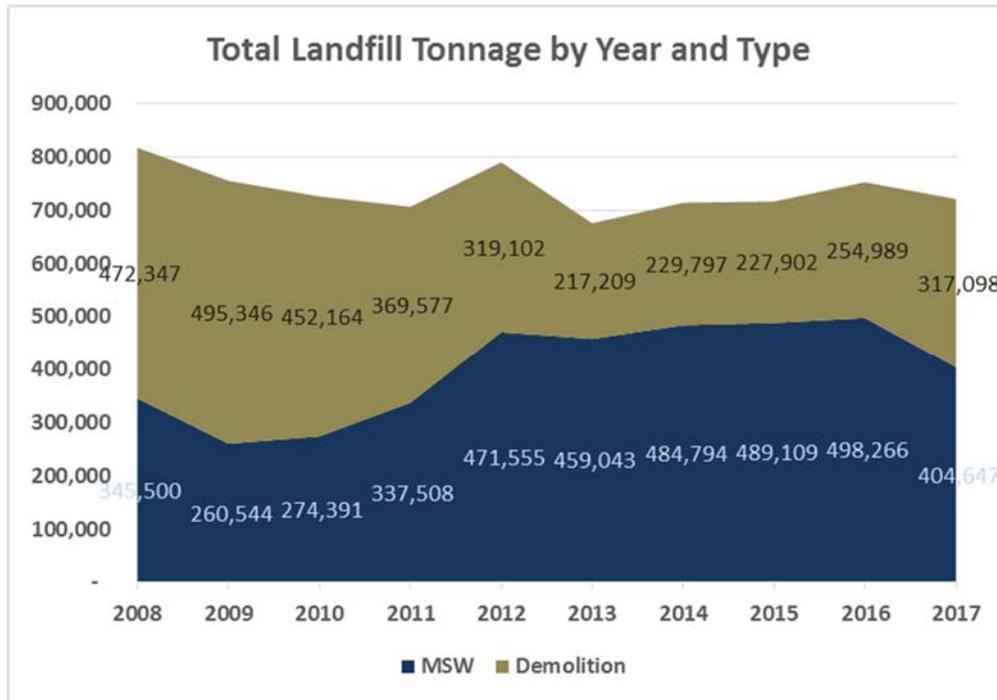
can cause damage to the recyclers' equipment if placed in the same collection bins. Contamination from wishful recycling can ruin the loads, slow processing, and drive up costs. Glass recycling is problematic and it is being phased out of area public and private curbside collections due to an inability 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 of 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 trends for the region correlate with population and economic activity. Total Waste (landfill disposal, recycling, and diversion) shows a steep decline in 2008, followed by a sharp recovery in 2012 then remaining relatively steady. The percentage of waste not being buried in a landfill is steady at ~30% with slight fluctuations. The decline and recovery from 2008-2012 is attributable to the economic collapse. Interestingly in 2012 the majority of landfilled waste shifted from being mostly Class III/IV construction and demolition to mostly Class I. The shift is not entirely understood but could be attributable to improved recycling of heavy construction materials like concrete. Natural disasters are also noticeable. They can be observed as a spike in disposal and diversion in 2011 due to severe storms. The majority of waste and recycling activity in the region is not controlled by the county or municipality. Waste collection paid for by Knox County and The City of Knoxville account for only 21% of landfill disposal and 12% of recycling/diversion totals.

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. 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 27,000 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, tri-plexes and 4-plexes. In 2011 the city initiated a curbside recycling pilot program that now serves approximately 46% of the households (27,000 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. Oil and lead-based 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

The five most populous counties according to the annual census released by the United States Census Bureau and their cities that manage solid waste are eligible for the Recycling Rebate. Rebates may be used for a variety of recycling purposes such as establishing new programs or collection sites; preparing recovered materials for transport and marketing; identifying markets for recovered materials; and developing educational programs for adults and children to help them understand solid waste issues, management options, costs and the value of waste reduction and recycling efforts. If a local government provides collection or disposal services (TCA §68-211-825 (b)(2), recycling rebates are offered. A local match equal to the rebate amount must be expended by the eligible local government. Recycling rebates may be used to assist these local governments in their achievement of their 25% waste reduction and diversion goal and should be limited in scope to recycling programs and projects.

This the year the TDEC Materials Management Program invited the Recycling Rebate participants to meet with each other and discuss our successes and challenges related to solid waste and recycling management. The effort to meet and learn from each other is expected to continue.

Jurisdiction	Description
Knox County	Knox County is using the Recycle Rebate to pay for recycling equipment for the Carter Convenience Center renovation
City of Knoxville	The City of Knoxville is using the Recycle rebate to promote recycling, improve signage, and manage trash volumes primarily at the household level.

Equipment and Facilities

Project all new recycling & solid waste equipment needs for the next 3 years.

The following table only reflects City of Knoxville and Knox County equipment or facility needs.

Private sector needs are not known.

Equipment or Facility	Purpose (Disposal or Recycling/Waste Reduction)	Name of Equipment or Facility	Brief Description of Equipment/Facility	Brief Description of Funding Source
equipment	Recycling/Waste Reduction	heavy trucks/loaders	waste and recycling trucks/loaders operational needs	City budgetary requests
equipment	Recycling/Waste Reduction	fleet vehicles	replacement vehicles for an aging fleet	City budgetary requests
facilities	Recycling/Waste Reduction	expansion of city drop off recycling facilities	drop-off recycling facilities	City budgetary requests
equipment	Recycling/Waste Reduction	curbside recycling carts/totes	City wishes to provide unified recycling containers to every resident receiving curbside recycling pickup	City budgetary requests
facilities	Recycling/Waste Reduction	downtown collection areas	expand collection corrals downtown for waste and recycling	City budgetary requests
facility	Recycling/Waste Reduction	City Solid Waste Management Facility (transfer station)	continue to upgrade facility with needed improvements	City budgetary requests
facility	Recycling/Waste Reduction	HHW expansion	Improvements recommended by David Nightingale of Special Waste Associates and Larry Sweetser of Sweetser and Associates in their 2014 assessment of HHW facility	City-County budgetary requests with State of Tennessee funding support
equipment	Recycling/Waste Reduction	recycling containers (roll-off)	roll-off recycling boxes for Convenience Centers and events	County budgetary requests
equipment	Disposal	waste containers (roll-off)	roll-off recycling trash boxes for Convenience Centers and events	County budgetary requests
equipment	Recycling/Waste Reduction	recycling compactors and swap boxes	recycling compactors and swap boxes for Convenience Centers	County budgetary requests
equipment	Disposal	trash compactors and swap boxes	waste compactors and swap boxes for Convenience Centers	County budgetary requests
equipment	Recycling/Waste Reduction	heavy trucks/loaders	waste and recycling trucks/loaders operational needs	County budgetary requests
equipment	Recycling/Waste Reduction	fleet vehicles	replacement vehicles for an aging fleet	County budgetary requests
facility	Recycling/Waste Reduction	attended donation centers	additional attended donation centers at Knox County Convenience Centers	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 OH	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 Delaware 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 Living Earth (formerly 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. Living Earth offers public drop off for a fee from residences or businesses that bring material for disposal.

The largest single source of greenwaste material is the City of Knoxville residential collection which has a contract with Living Earth.

The County is currently operating outside of a contract for greenwaste disposal. Material is being delivered to Living Earth 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 but the TDEC compost permitting process is somewhat cumbersome which may prove to be a barrier to entry for commercial enterprises.

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.

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?

No

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.

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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 Programs

Educational Program	Program Sponsor(s)	Program Effectiveness	Program Type	Program Target	Number Served	Narrative
Community Recycling Events	City, County, Non-profits, Businesses	Positive Result - Noticeable increase in materials or quality after campaign	Community Outreach, Other	Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & Environment, Other	County-Wide	City and County Solid Waste Offices are sponsors and/or partners for 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 Shows, Public Outreach, & Consultation	City and County	Positive Result - Noticeable increase in materials or quality after campaign	Community Outreach	Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & 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 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.
CAC AmeriCorps	City, County, State, Non-profits, Utilities, Businesses	Positive Result - Noticeable increase in materials or quality after campaign		Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & Environment, Other	County-Wide	
County Litter Prevention Education (Keep Knoxville Beautiful)	County with State Litter Grant Support	Positive Result - Noticeable increase in materials or quality after campaign	Classroom, Advertisement, Public Access, Tour, Community Outreach, Other	Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & 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 Medication Collection Program	City, County, State, Non-profits, Utilities, Businesses	Positive Result - Noticeable increase in materials or quality after campaign	Community Outreach, Other	Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & Environment, Other	County-Wide, 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, State, Non-profits, Utilities, Businesses	Positive Result - Noticeable increase in materials or quality after campaign	Advertisement, Community Outreach, Other	Adult & General Public, Business & Industry, Government & Institutional, Children & Educators, Media, Civic & 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 on 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 providing 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. Plans are underway for the City 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 for 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 clean outs, commercial accounts using residential trash services, and set out limit code violations. The City Transfer Station updated their payment system and is now accepting credit card payments. The City Transfer Station now operates a "free for city residents' day" once per month where residents may bring waste free from charges.

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 commingled single stream systems. The City announced that due to this market change glass would no longer be accepted in the City's single stream collection. Sorted glass is still accepted at the City's five Recycling Centers, as well as the County Convenience Centers.

***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

Knox County Convenience Centers	Hours	Address	City	Zip 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	Batteries	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)?

The Carter Convenience Center is being renovated. 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.

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

Knox County internal calculation: Three (3) required for Knox County.

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 programs percentage coverage within the jurisdiction	Total Percentage of Each Category of Service for the Jurisdiction
City of Knoxville -Residents	5%	95%	0%	100

The City of Knoxville operates a small collection in the downtown area using City-owned vehicles and City of Knoxville personnel which is estimated to be 5%. The City of Knoxville contracts with a waste hauler to provide waste services the rest of the households and that is reflected with the 95%.

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:

12,500

Provide the number of solid waste complaints resolved:

12,500

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
Raccoon Valley Road	Litter, tires, furniture, MSW, bulky items, etc.	20
Twin Creek Road	Litter, tires, furniture, MSW, bulky items, etc.	20
Keck Road	Litter, tires, furniture, MSW, bulky items, etc.	2
3305 Mill Road / Loves Creek	Litter, tires, furniture, MSW, bulky items, etc.	2
100 Mayfield Avenue SW	Litter, tires, furniture, MSW, bulky items, etc.	2

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 Solid Waste has had a litter or environmental crimes officer investigator on staff for years. The department is currently looking at improvements to this model. One improvement would be to pay for a Sherriff Deputy to be stationed at Solid Waste to investigate litter and dumping crimes as well as other environmental offenses (code violations, air, and stormwater).

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 35 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 is being renovated. 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 marketed as Convenience Centers for 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 planning capital improvements to the facility and equipment upgrades that would substantially increase capacity. Eventually more staff may be needed. The City is currently purchasing and outfitting a mobile HHW unit and will soon be able to collect HHW from outlying areas in the county. 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.

City and County Municipal Solid Waste Spending Estimates			
State Budget Category	City	County	Total
Expense			
51000 General Administration	\$626,341.00	\$ 442,721.00	\$ 1,069,062.00
55710 Sanitation Management	\$ -	\$ -	\$ -
55720 Sanitation Education/Information	\$ -	\$ -	\$ -
55731 Waste pickup	\$ -	\$ -	\$ -
55732 Convenience centers	\$ -	\$ 2,823,861.00	\$ 2,823,861.00
55733 Transfer stations	\$1,189,662.00	\$ -	\$ 1,189,662.00
55734 Problem waste centers	\$ -	\$ 84,242.00	\$ 84,242.00
55735 Bailing Centers	\$ -	\$ -	\$ -
55739 Other waste collection	\$ -	\$ -	\$ -
55751 Recycling Center	\$ -	\$ 271,066.00	\$ 271,066.00
55752 Compost Center	\$ -	\$ -	\$ -
55753 Waste incinerator	\$ -	\$ -	\$ -
55754 Landfill Operation and Maintenance	\$ -	\$ -	\$ -
55759 Other waste disposal	\$ -	\$ 350,000.00	\$ 350,000.00
55770 Post closure care costs	\$ -	\$ -	\$ -
64000 Highways litter and trash collection	\$ -	\$ 250,553.00	\$ 250,553.00
70000 Education	\$ -	\$ -	\$ -
90000 Capital projects	\$267,500.00	\$ -	\$ 267,500.00
Contracted Services	\$10,073,133.00	\$ -	\$ 10,073,133.00
Total	\$ 12,156,636.00	\$ 4,222,443.00	\$ 16,379,079.00
Revenue			
40000 Local Taxes	\$ -	\$ -	\$ -
40100 County Property Taxes	\$ -	\$ -	\$ -
40200 County Local Option Taxes	\$ -	\$ 2,500,000.00	\$ 2,500,000.00
42000 Fines, forfeitures and penalties	\$ -	\$ 55,000.00	\$ 55,000.00
43106 Commercial and industrial waste collection	\$87,323.00	\$ -	\$ 87,323.00
43107 Residential waste collection charges	\$ -	\$ -	\$ -
43108 Convenience Center waste collection charge	\$ -	\$ -	\$ -
43109 Transfer waste stations collection charge	\$1,344,320.00	\$ -	\$ 1,344,320.00
43110 Tipping Fees	\$ -	\$ -	\$ -
43111 Surcharge-State	\$ -	\$ -	\$ -
43112 Surcharge-Host Agency	\$ -	\$ -	\$ -
43113 Surcharge-General	\$ -	\$ -	\$ -
43114 Solid waste disposal fee	\$ -	\$ -	\$ -
44145 Sale of recycled materials	\$200,008.00	\$ 350,000.00	\$ 550,008.00
44165 Commodity rebates	\$ -	\$ -	\$ -
46170 Solid waste grants	\$34,048.00	\$ 85,849.00	\$ 119,897.00
46430 Public Works grants - Litter Program	\$ -	\$ 169,000.00	\$ 169,000.00
468511 State Revenue Sharing	\$ -	\$ 445,966.00	\$ 445,966.00
47230 Federal government disaster relief	\$ -	\$ -	\$ -
48000 - Other Governments and Citizens Groups	\$59,617.00	\$ -	\$ 59,617.00
49800 - Transfer from General Fund	\$8,555,322.00	\$ 673,880.00	\$ 9,229,202.00
Total	\$ 10,280,638.00	\$ 4,279,695.00	\$ 14,560,333.00
Assets			
13100 Fixed Assets - Landfill Facilities Development	\$ -	\$ -	\$ -
13200 Land	\$ -	\$ 3,600,000.00	\$ 3,600,000.00
13300 Fixed Assets - Buildings and Improvements	\$ -	\$ 3,000,000.00	\$ 3,000,000.00
13700 Machinery and Equipment	\$ -	\$ -	\$ -
Total	\$ -	\$ 6,600,000.00	\$ 6,600,000.00
Liabilities			
21870 Accrued liability for landfill closure/post closure care costs - Current	\$ -	\$ -	\$ -
27700 Accrued liability for landfill closure/post closure care costs	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -

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. A substantial amount of fees paid by customers at landfills are not directly returned to municipalities but some portion of them are returned by way of the Recycle Rebate or other TDEC Solid Waste grant funding.

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

The City and County are going to utilize a template document developed and provided to Counties by the State of Tennessee. Work on the plan will begin after March of 2018. The goal will be to have a completed plan in place by March 2019.

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, Knox County and other municipalities or stakeholders such as the University of Tennessee or local utilities. 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 in T.C.A. about Plans and Annual Reporting

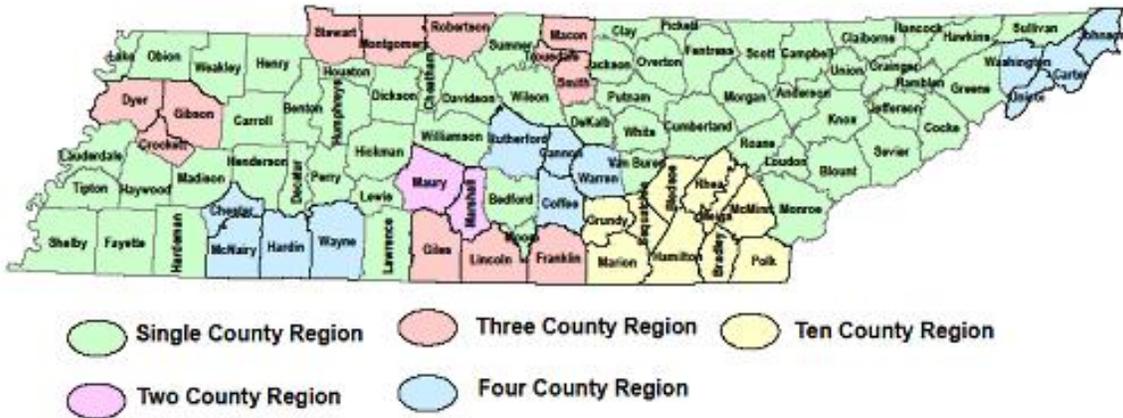
T.C.A. 68-211-814 Municipal solid waste region plans — Authority of region or solid waste authority after approval. —

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. —

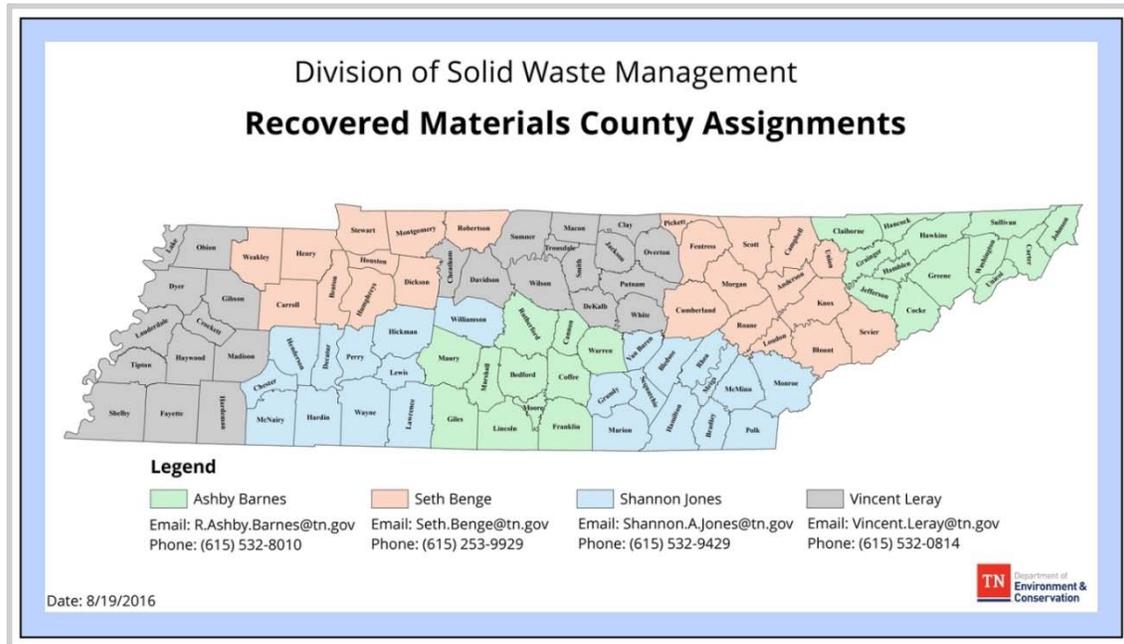
Appendix B: Municipal Solid Waste Planning Regions Map as of 4/11/2007

Municipal Solid Waste Planning Regions



As of 4/11/07

Appendix C: Recovered Materials TDEC Staff Map as of 08/19/2016



Appendix D: Knoxville Area Facts & Figures 2017 (MPC)

Knoxville Area Facts & Figures 2017



POPULATION & HOUSING

Population - 2016

City of Knoxville	186,239
Knox County (including city).....	456,132
Metropolitan Area*.....	868,546

Dwelling Units - 2016

Knox County	203,730
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Residential Building Activity - 2016

Knox County	
New Housing Units	3,070
New Construction Value	\$446.9 million

Median Home Sales Price - 2017

Knox County	\$177,000
Metropolitan Area	\$164,300
U.S.	\$232,200

Median Monthly Rent - 2015

Knox County	\$805
Metropolitan Area	\$756
U.S.	\$959

** Metropolitan Area refers to Anderson, Blount, Campbell, Grainger, Knox, Loudon, Morgan, Roane, and Union counties.*



LOCATION AND CLIMATE

Founded in 1791 where the French Broad and Holston Rivers meet to form the Tennessee River, Knoxville is the largest city in East Tennessee. Its corporate limits comprise 104 square miles of the 526-square mile total for Knox County. Knoxville is the urban heart of the metropolitan statistical area, which consists of nine counties – Anderson, Blount, Campbell, Grainger, Knox, Loudon, Morgan, Roane, and Union.

Knoxville is located in a broad valley between the Cumberland Mountains to the northwest and the Great Smoky Mountains to the southeast. These two ranges afford an attractive natural setting and moderate, four-season climate, with normal daytime temperatures of 48 degrees in January and 88 degrees in July. Downtown Knoxville is 936 feet above sea level.



LIVABILITY

Quality of life in Knoxville gets high marks. It is touted among the nation's best places to live, to raise a family, to bicycle, and to own a business, among its many accolades. It is also one of the most affordable cities in the U.S.

The American

Chamber of Commerce Researchers Association reports a 2016 cost-of-living score of 83.8, much lower than the national average of 100.

ARTS AND CULTURE

Knoxville Symphony, Knoxville Opera Company, and Dogwood Arts are among the many exceptional local arts organizations. Several performance venues, including the Tennessee and Bijou Theaters, bring live entertainment to the city each year, like touring Broadway productions, ice shows, and concerts. Local radio station WDVX hosts "The Blue Plate Special" throughout the week, offering live performances from local, national, and international musicians.

Knoxville Museum of Art and Emporium Center for Arts and Culture feature changing exhibits throughout the year, while the area's libraries, historic sites, and museums, such as East Tennessee History Center,

C I V I C

Local Government

City of Knoxville

Mayor/9 Council Members (4-year terms)

Knox County

Mayor/11 Commissioners (4-year terms)

Schools

College Enrollment - 2017-18

University of Tennessee 28,321

Pellissippi State Community College ... 11,168

Business/Vocational Schools20

Knox County Population with

Bachelor's Degree or Higher - 2015 36.2%

Knox County Elementary - High Schools - 2017

Public Schools91

Enrollment.....60,313

Teachers3,663

Per Pupil Expenditures \$9,098

Graduation Rate 90.3%

Average ACT (Composite)21.1

Private Schools49

Libraries - 2017

Knox County Public Library System

Main Library and Branches 18

Special Collections: Knox County Archives,
McClung Historical Collection

Hospitals - 2017

Knox County

General 8

Children's 1

Licensed Beds 2,418

Parks and Recreation - 2017

Knoxville and Knox County

Park Area6,217 acres

Greenways/Walking Trails 175 miles

Recreation/Community Centers 19

Senior Centers 4

Skateparks 3

Dog Parks 6

Public Golf Courses 10

Newspapers - 2017

Anderson County: *Oak Ridger*

Blount County: *Daily Times*

Knox County: *Knoxville News-Sentinel,*

Knoxville Focus, Farragut Press,
Shopper News

Loudon County: *News Herald*

Sevier County: *Mountain Press*

Union County: *Union News Leader*

Radio and Television - 2017

Radio Stations49

Television Stations 10

Theaters - 2017

Knox County

Movie Screens93

Live Performance Theaters 10

McClung Museum of Natural History and Culture, Museum of Appalachia, and Beck Cultural Exchange Center, celebrate regional heritage.

Special seasonal events include spring's Big Ears Music Festival and Dogwood Arts, Kuumba Festival

and the International Biscuit Festival in the summer, Hola Festival and Brewers Jam in the fall, and December's Christmas in the City.



RECREATION AND TOURISM

Knoxville is gaining an international reputation as an outdoor adventure destination. Just three miles from downtown are 1,000 forested acres and 50 miles of multi-use trails in Knoxville's Urban Wilderness. Ijams Nature Center and Zoo Knoxville attract visitors both young and old. And residents and tourists alike enjoy Knox County's parks, rec centers, golf courses, and greenways. The region also is home to Great Smoky Mountains National Park, the country's most visited, with 11.3 million guests in 2016.



For sports fans, Knoxville has much to offer. The University of Tennessee's NCAA Division 1 football, basketball, and other teams draw hundreds of thousands of enthusiasts to games each year. Tennessee Smokies, the AA affiliate of the Chicago Cubs, provide minor league professional baseball in neighboring Sevier County, while the Knoxville Ice Bears bring minor league hockey to local fans. The city also is host to the Women's Basketball Hall of Fame.

Knoxville supports an active tourism and convention trade with a 500,000-square foot convention center located downtown at World's Fair Park. Other local facilities are a large civic coliseum/auditorium and UT's 22,000-seat Thompson Boling Arena.

E C O N O M Y

Cost of Living - 2016

Metropolitan Area 83.8
 U.S. Average 100.0

Earnings - Average All Industries - 2017

Knox County
 Hourly \$23.53
 Weekly \$941
 Annually \$48,932

Employment - 2017

Knox County
 Labor Force 235,280
 Unemployment Rate 3.7%
 Metropolitan Area
 Labor Force 415,290
 Unemployment Rate 4.1%

METRO AREA NON-FARM EMPLOYMENT - 2017	
Industry	Employment
Natural Resources, Mining, Construction	17,200
Manufacturing	38,800
Wholesale Trade	17,200
Retail Trade	48,500
Transportation, Warehousing, Utilities	15,000
Information	5,600
Finance	19,600
Professional and Business Services	61,200
Educational and Health Services	51,900
Leisure and Hospitality	43,400
Other Services	15,100
Government	56,800
TOTAL NON-FARM EMPLOYMENT	390,300

Tennessee Department of Labor and Workforce Development, June 2017

Total Establishments - All Industries - 2017

Knox County 12,013
 Metropolitan Area 19,139

Service Establishments - 2017

Knox County 6,105
 Metropolitan Area 9,240

Wholesale Establishments - 2017

Knox County 1,025
 Metropolitan Area 1,403

Manufacturing Establishments - 2017

Knox County 433
 Metropolitan Area 818

Retail Establishments - 2017

Knox County 1,521
 Metropolitan Area 2,511

Retail Sales - 2016

Knox County \$9,928,871,229
 Sales Per Capita \$21,767

EDUCATION

Knox County Schools operates 91 elementary, middle, and high schools, as well as non-traditional/adult education centers. Included are five magnet schools offering enhanced arts and science curriculum and a Science, Technology, Engineering, and Mathematics (STEM) Academy. There are an additional 49 private schools offering elementary and secondary instruction in Knox County.

Post-secondary education is available at 11 public and private four-year institutions in Knox County and surrounding area. Largest among them, The University of Tennessee was ranked 46th among the nation's best public universities in 2017 by U.S. News and World Report. Three community colleges offer two-year associate degree programs, and several vocational and technical institutions also serve the area.

CIVIC ORGANIZATIONS

The Knoxville Chamber has over 2,200 members who participate in economic development, general commerce, and community affairs. United Way, Community Shares, Community Action Committee, and Helen Ross McNabb Center, support many youth, family, and social service programs. More than 250 neighborhood associations and many civic groups are active throughout the city and county.

COMMERCE AND INDUSTRY

Economic diversity characterizes Knoxville's commerce and industry, with companies like media giants Regal Entertainment Group (the largest movie theater chain in America) and Scripps Networks Interactive (HGTV, Food, Travel, DIY, Cooking, and GAC) calling the area home. Also here are national and global leaders Clayton Homes, Brunswick Corporation, Keurig Green Mountain, Bush Brothers, Pilot Flying J, and Ruby Tuesday.



The area hosts Oak Ridge National Laboratory, the largest U.S. Department of Energy research facility, employing more than 4,300 scientists and engineers in 100 disciplines, with an annual operating budget of \$1.25 billion.

Knox County has seven business parks and a Technology Corridor to meet a wide range of corporate facility needs, and the area is promoted by Knoxville-Oak Ridge Innovation Valley Inc., an economic development partnership for regional business growth.

TAXES

Residential property in Tennessee is assessed at 25 percent of appraised value, and taxes are levied on each \$100 of assessed value. Commercial/industrial property is assessed at 40 percent. The current tax rate for Knox County is \$2.32 per \$100 assessment. Knoxville's rate is \$2.7257 per \$100. Knoxville property owners pay both city and county taxes.

The state sales tax rate is 4.0 percent on food and 7.0 percent on all other tangible personal property. The local rate, applicable countywide, is 2.25 percent, bringing the total sales tax rate in Knox County to 9.25 percent.



TRANSPORTATION

Air - 2016

Airlines: Allegiant, American, Delta, Frontier, and United

Daily Flights.....	120
Passengers.....	1,827,989
Cargo Services.....	2
Cargo Freight.....	42,415 tons

Bus - 2017

Knoxville Area Transit (KAT)

Routes.....	23
Vehicles.....	95
Passengers.....	3 million +
Long-distance : Greyhound, Trailways, and Megabus	

Highway - 2016

Interstates 40, 75, 81, 140, 275, and 640	
Average Daily Trips (I-40/75 within Knox County)	196,707
Trucking Companies.....	125

Rail - 2017

Systems: CSX and Norfolk Southern
Miles of Track (within Knox County)..... 170

Water - 2015

Cargo through East Tennessee Locks	5,030,500 tons
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TRANSPORTATION

A multi-modal transportation network connects Knoxville to the U.S. marketplace. Nearly half of the nation's population is within a day's drive of Knoxville via six Interstate Highways which transect the area. For air travel, five airlines fly to 20 non-stop destinations out of Knoxville's McGhee Tyson Airport (TYS), located 12 miles from downtown. Also serving the area are two railroads and a barge shipping network, the latter directly linked to the Great Lakes and Gulf of Mexico.

Knoxville Area Transit (KAT) operates the city's public transit system with more than 20 routes and a fleet of full-sized buses, neighborhood service buses, and paratransit vans. KAT's downtown Knoxville Station Transit Center serves as the intermodal public transportation hub for metropolitan Knoxville.



COMMUNICATIONS

Knoxville businesses and residents have access to leading-edge communications technology. Comcast, WOW, Charter, TDS, and AT&T offer cable, high-speed Internet, and telephone service. The advanced communications network has attracted the telemarketing divisions of several large corporations to Knoxville.

UTILITIES

Knoxville Utilities Board (KUB) provides natural gas, water, and wastewater services and distributes electric power generated by the Tennessee Valley Authority throughout much of Knox County. Beyond KUB's service area, residents receive electricity from two local power companies, and water is supplied by seven utility districts, six of which also provide wastewater treatment.

KNOXVILLE KNOX COUNTY METROPOLITAN PLANNING COMMISSION

City County Building, Suite 403

400 Main Street

Knoxville, Tennessee 37902

865-215-2500

www.knoxmpc.org