

2013 Knox County Regional Solid Waste Plan Reporting 2012 Waste and Recycling Data

Purpose of Document

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

The Board Chair will have the opportunity to verify the data and narrative sections in the Re-Trac system prior to signoff. Once accepted by a vote of the Board, and the Board Chair signoff is completed through the Re-Trac system, this document shall serve as an updated Regional Solid Waste Plan. The plan will be used as a reference document for decisions by the Regional Solid Waste Board.

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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III. Contact Information

Regional Solid Waste Administrative Contact Information

Regional Solid Waste Board Members	Title	Jurisdiction	Address	Zip Code	Term Ends
Dirk Pohlmann	Chairperson	Knox County	103 Big Tree Drive	37934	3/31/2015
Mark Donaldson	Member	Knox County	400 Main Street, Suite 403	37901	3/31/2015
Kim Davis	Member	Knox County	226 W. Glenwood Ave	37917	3/31/2018
Catherine Wilt	Member	Knox County	311 UT Conference Center	37996	3/31/2018
Grant Barton	Member	City of Knoxville	1942 Maplewood Drive	37920	4/25/2013

Planning Region Report Author	Title	Organization	Address	Zip Code
Drew Thurman	Compliance Manager	Knox County Government	205 West Baxter Avenue	37917

County Contacts	Title	Organization	Address	Zip Code
Tim Burchett	Mayor	Knox County Government	400 Main Street, Suite 615	37902
Tom Salter	Solid Waste Director	Knox County Government	205 West Baxter Avenue	37917
Zachary Johnson	Recycling Coordinator	Knox County Government	206 West Baxter Avenue	37917

Other Key Contacts	Title	Organization	Address	Zip Code
David Brace	Public Service Director	City of Knoxville	401 Main Street, Suite 467	37902
John Homa	Manager, Solid Waste	City of Knoxville	400 Main Street, Suite 467	37902
Edythe McNabb	Advisory Member	At Large	na	na

IV. Collection Systems & Diversion Activities

Did your local government have any household hazardous waste events?

No.

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

There were no significant disaster related solid waste activities that influenced diversion efforts in the region.

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.

City of Knoxville curbside trash pickup limits bulky waste to 5 items per pickup day and up to (4) four 32-gallon trash cans per pickup day. Household Hazardous Waste Materials are diverted to the Household Hazardous Waste Facility (HHW). The Knox County Region has a permanent HHW collection facility. Businesses are not allowed to use the HHW facility for anything other than computer system recycling but they are subject to fees for computer recycling.

The HHW facility has different limits for different materials. Limits are generous. The HHW facility does not accept HHW from outside the Knox County Region. There are restrictions for

items such as paint and other liquids. HHW will only accept (20) twenty gallons per day. Large televisions (over 27 inches) and 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 a landfill because they damage the equipment.

Recycling and Waste Drop-off Centers: Locations and Hours of Operation:

Knox County Convenience Centers	Hours	Address	City	Zip code	Permit#	Phone#
Carter	M-F 8am-6pm; Sat 7am-3pm	8815 Asheville Highway	Knoxville	37924	CCC470000027	865-215-5865
Dutchtown	M-F 8am-6pm; Sat 7am-3pm	10618 Dutchtown Road	Knoxville	37932	CCC470000022	865-215-5866
Forks of the River	M-F 8am-6pm; Sat 7am-3pm	3106 Water Plant Road	Knoxville	37914	CCC470000450	865-215-5867
Halls	M-F 8am-6pm; Sat 7am-3pm	3608 Neal Drive	Knoxville	37918	CCC470000483	865-215-5868
John Sevier	M-F 8am-6pm; Sat 7am-3pm	1810 John Sevier Highway	Knoxville	37920	CCC470000449	865-215-5869
Karns	M-F 8am-6pm; Sat 7am-3pm	6818 Oak Ridge Highway	Knoxville	37931	CCC470000023	865-215-5870
Powell	M-F 8am-6pm; Sat 7am-3pm	7311 Morton View Lane	Knoxville	37849	CCC470000024	865-215-5871
Tazewell/Gibbs	M-F 8am-6pm; Sat 7am-3pm	7201 Tazewell Pike	Knoxville	37721	CCC470000026	865-215-5872

Knox County Convenience Centers	Metals	Paper	Glass	Batteries	Plastic	Textiles	Pallets	Tires	Used Oil	Antifreeze	E-Scrap	Paint	Other
Carter Convenience Center	yes	yes	yes	yes	yes	no	no	no	yes	yes	no	no	yes
Dutchtown Convenience Center	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	yes	no	yes
Forks of the River Convenience Center	yes	yes	yes	yes	yes	no	no	yes	yes	yes	no	no	yes
Halls Convenience Center	yes	yes	yes	yes	yes	yes	yes -fee	yes	yes	yes	yes	no	yes
John Sevier Convenience Center	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	yes	no	yes
Karns Convenience Center	yes	yes	no	yes	yes	no	no	yes	yes	yes	no	no	yes
Powell Convenience Center	yes	yes	yes	yes	yes	no	no	yes	yes	yes	no	no	yes
Tazewell/Gibbs Convenience Center	yes	yes	yes	yes	yes	no	no	yes	yes	yes	no	no	yes

Centers separate metal food and beverage cans from scrap metal. Some special wastes like old cylinders and 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.

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

There were no significant changes to convenience centers in 2012.

2.3 **Calculated number of County Convenience Centers required by State of Tennessee.**

8 **Total number of County Convenience Centers present in County.**

5.7 **Difference.**

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

Not applicable.

Does your county have any green boxes?

No.

Transfer Stations?

Yes.

Transfer Station	Address	City	Zip Code	Permit ID	Phone #
City of Knoxville Transfer Station	1033 Elm Street	Knoxville	37917	SWP470000069	865-215-6700
Knoxville Transfer Station	1300 Prosser Road	Knoxville	37914	TRF470001050	865-546-1125
Medical Waste of America, LLC	5102 Middlebrook Pike	Knoxville	37921	TRF470001441	865-558-3103
Waste Management - Heiskell Facility	9504 Diggs Gap Road	Heiskell	37754	TRF470001442	865-525-0529

Does your county have any recycling drop off locations not associated with convenience centers?

Yes.

City of Knoxville -Recycling ONLY Centers	Hours	Address	City
Bearden at Knox Plaza City Recycling Center	open 24 hours, 7 days a week	4918 Kingston Pike	Knoxville
Cedar Bluff City Recycling Center	open 24 hours, 7 days a week	341 Parkvillage Road	Knoxville
Chilhowie Park City Recycling Center	open 24 hours, 7 days a week	210 Alice Street	Knoxville
Downtown City Recycling Center	open 24 hours, 7 days a week	400 State Street	Knoxville
Kroger @ I-640 Plaza City Recycling Center	open 24 hours, 7 days a week	4440 Western Ave.	Knoxville
Metler City Recycling Center	open 24 hours, 7 days a week	820 Metler Drive	Knoxville
W. Moody Ave. City Recycling Center	open 24 hours, 7 days a week	225 W. Moody Avenue	Knoxville

City of Knoxville Recycling Centers	Metals	Paper	Glass	Batteries	Plastic	Textiles	Pallets	Tires	Used Oil	Antifreeze	E-Scrap	Paint	Other
Bearden at Knox Plaza City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
Cedar Bluff City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
Chilhowie Park City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
Downtown City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
Kroger @ I-640 Plaza City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
Metler City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes
W. Moody Ave. City Recycling Center	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no	yes

Restricted items are directed to alternate collection sites like the Household Hazardous Waste Facility or other public and private collection programs.

Does your county Utilize a Pay As You Throw System

No.

List the locations of largest five roadside dumps, types of materials that make up these roadside dumps, and the Tons associated with the dumps.

Location	Types of Materials	Tons
Burnett Creek Road	Litter, tires, furniture, MSW, bulky items, etc.	19
John Sevier Highway	Litter, tires, furniture, MSW, bulky items, etc.	5
Everett Road	Litter, tires, furniture, MSW, bulky items, etc.	5
Maynardville Highway	Litter, tires, furniture, MSW, bulky items, etc.	5
Tazewell Pike Road	Litter, tires, furniture, MSW, bulky items, etc.	5

Does your county have a Higher Level of Service-Alternative?

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	0%	100%	0%	100

Does your county 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	30%	Fiber/Paper; Glass; Plastic; Metals; Other	Co-mingled
Private Subscription Services (WC, WM, KRC, et cetera)	6%	Fiber/Paper; Glass; Plastic; Metals; Other	Co-mingled

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	Organization
Batteries Plus	222 North Peters Road	Knoxville	37923	batteries	City
Battery Services Inc.	233 East Woodland Avenue	Knoxville	37917	batteries	County
Clean Energy Biofuels	117 S. Gay Street	Knoxville	37902	cooking oil	County
Creative Recycling	8108 Krauss Blvd #110	Tampa	33619	e-waste	City
Enterprise Waste Oil Co. Inc.	5201 Middlebrook Pike	Knoxville	37921	auto oil	City
Environmental Enterprises	4650 Spring Grove Avenue	Cincinnati	45232	hazardous waste	City
FCC Environmental	2115 Speedrail Court	Concord	28025	auto oil	County
Goodwill Industries of Knoxville	5307 Kingston Pike	Knoxville	37919	textiles	Both
Knoxville Recycling Coalition	317 N. Gay Street	Knoxville	37917	mixed	Both
Liberty Tires (legacy MTR)	1700 Transport Way	Knoxville	37914	tires	Both
PSC Metals	5205 N National Drive	Knoxville	37914	metal	Both
Rock Tenn Recycling	1323 Procter Street, Knoxville	Knoxville	37921	mixed	Both
Tennessee American Recycling	200 W. Springdale Avenue	Knoxville	37917	mixed	County

V. Solid Waste Planning and Implementations

Are there any publicly owned landfills in the region?

No.

Equipment and Facilities

Project All New Recycling & Solid Waste Equipment Needs for the Next 3 Years.

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	Disposal	Street sweeper	To sweep street at City Transfer Station	City budgetary requests
Equipment	Recycling	Recycling trailer	Trailer for collecting event recycling	City budgetary requests
Equipment	Disposal	Replacement compactors	Replacement Compactors for City Transfer Station	City budgetary requests
Equipment	Disposal	Waste compactors and swap boxes	Waste compactors and swap boxes for Convenience Centers	County budgetary requests
Facility	Both	Karns Convenience Center	Relocation, expansion, or renovation of Karns Convenience Center	County budgetary requests
Facility	Both	Carter Convenience Center	Relocation, expansion, or renovation of Carter Convenience Center	County budgetary requests
Equipment	Recycling	Recycling boxes (roll-off)	Roll-off recycling boxes for Convenience Centers	County budgetary requests
Equipment	Recycling	Recycling compactor and swap box	Recycling Compactor and swap box for Convenience Centers	County budgetary requests
Equipment	Recycling	Roll-off truck	Roll-off truck for convenience center	County budgetary requests
Facility	Recycling	Attended donation center	Additional attended donation center at County Convenience Centers	County budgetary requests

Future Marketing and Educational Initiatives Marketing

County marketing and educational activities will primarily encourage people to recycle more at County Centers. Target audiences will be educated about the savings to the taxpayer from recycling versus throwing waste into the trash. Increased emphasis will be placed on increased recycling and diversion and its relation to green industry and job creation.

City and County will target the general public to promote solid waste activities, events, and special projects. Due to changing media habits and budgetary limitations much of the marketing is achieved through social networking, earned media. Paid advertising is used for large events where critical masses of attendees are needed for success.

Education

Education			
Target Audience Group	Projected Served	Projected Cost	Repetitions or Number
Adult/General Public	305,850	\$18,250	1
Business/Industry	2,773	\$18,251	1
Government/Institutional	21,500	\$18,252	1
Children/Educators	10,224	\$18,253	1

Narrative:

County educational activities will primarily encourage people to recycle more at County Centers. Target audiences will be educated about the savings to the taxpayer from recycling versus throwing waste into the trash. The County pays for a team of Americorps volunteers used for center engagement where users are educated about the costs of waste and recycling

operations and how recycling saves tax dollars. The County also contracts with local community organizations to provide Recycling and Litter Education throughout the Knox County Region.

City and County will target the general public to promote solid waste activities, events, and special projects. Due to changing media habits and budgetary limitations much of the marketing is achieved through social networking and earned media. Paid advertising is used for large events where critical masses of attendees are needed for success.

Disaster Debris Management

Does your local government have a Disaster Debris Management Plan?

No.

Are pre-event contracts in place?

No.

Are staging areas identified?

Yes.

Where?

City and County owned properties throughout the jurisdictions.

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

Not applicable.

VI. Problem Management and Education Management

Complaints

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

Yes.

Provide the total number of reported solid waste complaints:

10,000 estimated

Provide the number of solid waste complaints resolved:

10,000 estimated

Describe the nature of the complaints:

Callers request information about facilities, report litter and dumping, complain about solid waste policies, complain about solid waste facilities and/or personnel. Incidentally, the Knox County Solid Waste Webpage has an estimated 88,000 unique page views per year.

Past Education Efforts

Name	Sponsor	Program Effectiveness	Program Type	Program Target	Number Served	Description
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.
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 interact with thousands of individuals every year where they are educated about waste, educated about recycling & waste reduction, are informed of ongoing activities, and sometimes recruited as volunteers on future projects. Constituents wishing to receive expert waste and recycling consultation are also obliged to the extent possible.
City of Knoxville Residential Curbside Program Waiting List	City of Knoxville	Positive Result - Noticeable increase in materials or quality after campaign	Advertisement, Public Access, Tour, Community Outreach, Other	Adult & General Public, Media, Other	Other-City of Knoxville Residents	The City of Knoxville is allowing residents to sign up for the future expansion of the residential curbside recycling program. Once significant interest has been expressed by the public a cost analysis will be performed to expand the program pending administrative approval and funding.
County AmeriCorps Center Engagement (County AmeriCorps Team)	County with State Recycling Rebate Support	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	The County pays for a team of (4) four AmeriCorps volunteers. The team has several core missions, which are to engage center users and explain the economic benefits of recycling, plan and organize regular events, serve as liaisons on inter-departmental or inter-agency initiatives, and to promote waste reduction and recycling within the Knox County Region.
City Solid Waste and Recycling AmeriCorps	City of Knoxville	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 - City of Knoxville Predominately	The City pays for an AmeriCorps volunteer. The member has several missions, which are to engage center users and explain the economic benefits of recycling, plan and organize regular events, serve as liaisons on inter-departmental or inter-agency initiatives, and to promote waste reduction and recycling within the City of Knoxville
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.
Get Caught Recycling Promotion	City, County, Local Non-profits	Positive Result - Noticeable increase in materials or quality after campaign	Community Outreach, Other	Adult & General Public, Media	County - Convenience Center Users	Knox County partnered with Keep Knoxville Beautiful to catch Knox County Convenience Center users recycling. Residents were enrolled, given a sticker, caught recycling, and entered into a grand prize drawing. The promotion lasted for three months leading up to the America Recycled Day event held in November.
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 in 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 City and County have now collected over 6000 lbs of medication and over 2 ton of recycled packaging since November of 2008

VII. Program Summary

Solid Waste Planning - Detail Strategies on Diversion

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

Name and title of individual(s) who answers the following questions:

Document prepared by Drew Thurman*

*The following individuals served in an advisory capacity for updating the Regional Solid Waste Plan subject to the approval of the Knox County Regional Solid Waste Board:

- Drew Thurman, Knox County Compliance Manager
- Tom Salter, Knox County Solid Waste Director
- Zach Johnson, Knox County Recycling Coordinator
- John Homa, City of Knoxville Solid Waste Project Manager
- David Brace, City of Knoxville Deputy Director of Public Service Division

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

County Solid Waste operations have improved remarkably over the past 4 years. The department reports significant increases in efficiency while also accomplishing more with less budgetary appropriations. Recycling revenue has increased from \$200,000 to approximately \$650,000 dollars. County Convenience Centers have begun recycling fluorescent tubes from residents at all 8 centers.

Recycling revenues have been decreasing due to lower commodity prices.

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

- 1) Changing individuals' behavior and attitudes towards waste to increase waste reduction and recycling.
- 2) Lack of understanding by a significant number of citizens that waste and recycling has a significant cost (indirectly through taxes or through direct payment to waste haulers) and that recyclable material has considerable value that has great potential to offset disposal costs and generate revenue.
- 3) Lack of regional capability to dispose of and/or recycle special wastes such as tires, sewage sludge, shingles, et cetera.

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

Municipalities in the region will address identified obstacles through a combination of public education, procurement of equipment and technology, and taking advantage of favorable market developments. Problem waste recycling/disposal options offered by municipalities are anticipated to remain the same but new private sector solutions may meet market demand. Private sector solutions must follow all relevant laws, rules, regulatory procedures, and permitting procedures. The County Solid Waste Offices also plans procure services for managing debris arising from disasters. Disaster debris removal services procured will maximize diversion and recycling where feasible and cost effective.

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

1) Lack of money and start-up costs associated with initial investment for bins, operating costs for hauling curbside recycling, and capital improvements in the recycling program.

2) There is a greater demand by the public for comingled (single stream) recycling collection programs. Comingled material is less valuable to the entity collecting the material and currently is processed at a cost. More people are willing to participate in recycling when the barrier of sorting by commodity is removed therefore increasing diversion by weight and volume. However, the shift from source separated recyclable commodity collection may eliminate much of the revenue currently generated from collected recyclables.

3) Data shows there may be a plateau for participation in voluntary recycling programs and because of this additional increments in rates of recycling will be minimal. Public resistance to changes in waste handling programs is a major obstacle.

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

1) A variety of funding methods will be explored in order to purchase new recycling equipment, such as: compactors, roll off containers, vehicles, collection trailers, and other equipment necessary to improve the logistical operations surrounding the recycling program.

2) A comprehensive re-branding program will continue at all County Centers. County Center messaging is being changed in order to create the perception that recycling is mandatory. Emphasis will be placed on removing the stigma that Centers are simply dumps rather than comprehensive recycling and household waste disposal sites.

3) Although the City of Knoxville has implemented a curbside recycling program for 20,000 homes, expansion will require additional capital and operating costs. The City is exploring the possibilities of expanding the service to a wider constituency. The City is interested in conducting research on all the City Solid Waste services so that policy can reflect the needs of the residents.

4) A comprehensive waste and recycling study is funded and will occur over the next three years. Results will inform policy makers about best practices for waste and recycling in the region. The City and County are discussing the size and scope of the study. Information gained through such a study will be valuable in updating the Regional Solid Waste Plan.

5) The Solid Waste Region encourages innovative approaches to turning waste or recyclable material into something of value. However the Solid Waste Region expects all activities, even those considered most innovative, to 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.

Improvements Remediation

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

1) City and County operations plan to submit several capital improvement requests for the Fiscal Year 2014 budget. The City Transfer Station will undergo upgrades, maintenance, and repair due to damages incurred during normal operations. Budget requests have been submitted. The City plans to purchase a pavement sweeper in order to keep the grounds safe

and clean. County Solid Waste will continue maintenance and repair of existing facilities and equipment in order to prolong operational life. The County instituted an aggressive preventative maintenance check and repair procedural program on equipment at County Centers in order to keep expensive industrial equipment operational and to rehabilitate equipment that has not aged well over its operational life.

2) The Karns and Carter County drop off centers are both in need of improvements. The County plans to upgrade and/or relocate the Karns and Carter facilities. Capital improvement funds are budgeted.

3) All County Centers are undergoing a major re-branding to include but not be limited to performing long neglected equipment and facility maintenance, repainting equipment, repairing equipment, placing new signage at centers, and providing a better outlet for education and solid waste policies, rules, etc. in the form of informational bulletin boards and kiosks.

4) The Region recognizes the need for private businesses and institutions to expand their capabilities to process waste and recycle materials in ways that cannot fully be anticipated. The expansions could include additional services, buildings, equipment, land, efficiency improvements, jobs, and more.

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 convenience centers or transfer stations:

No remediation is expected.

Waste Stream Estimate*

Name	Residential	Commercial	Institutional	Industrial
Give approximate percentages of each category of waste that make up your county's MSW stream.	18.5%	38.5%	0.0%	43.0%

*Determined in 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 waste and recycling survey can supply a better estimate as general waste trends have not changed

Successes and Setbacks

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

1) The number of recycling companies in the Knox County Solid Waste Region has been reduced resulting in less competitive pricing for services and sale of recyclable commodities.

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 very accurate waste data. The information is being collected and analyzed in order to determine recycling rates, participation, who is recycling, who is not recycling, and why. The findings are being used to tailor specific messages, design programs and projects to specific target audiences in order to increase recycling and encourage proper waste disposal practices.

2) The County has created a system to account for the cost of waste disposal and cost avoidance savings due to recycling in order to promote the advantages of waste reduction and recycling as alternative to land filling.

3) City and County support several local events and festivals. Increased visibility increases the total numbers of individuals in which have direct educational interaction with the Solid Waste Offices. Solid Waste officials are increasingly being called to serve as expert consultants for several presentations, task forces, event committees, green initiatives, and sustainability projects.

4) The City successfully launched a curbside recycling program for up to 20,000 households in 2011. Over 5100 tons were recycled from January to December 2012. There is currently a waiting list for expansion.

5) Over the past 3 years the Regional Solid Waste Board has become more engaged in City/County/Private Sector waste management practices, has conducted an internal review of its power and authority, has increased meeting frequency from once a year to multiple times/year.

Describe how you manage each of the following problem wastes: batteries, paint, electronic scrap, tires, oil and antifreeze. Please include information on any difficulties you have had with each:

Batteries) Batteries are picked up from County Convenience Centers and the Household Hazardous Waste Facility (HHW) by contractors who make bread runs or pick up regularly. The contractors pay revenue for the batteries collected.

Paint) Liquid paint is not allowed at County Centers. Dried latex paint is accepted providing it has been mixed with a hardener and dried to a slug. All other paint is directed to the permanent Household Hazardous Waste Facility (HHW).

Electronic Waste) Most types of ewaste are collected at HHW free of charge from households and for a modest fee from institutions and businesses. Television recycling is available for a modest fee at the City Transfer Station. The City and County support regular electronic collection recycling events operated by other non-profit institutions. Knox County Convenience Centers have entered into a contract with Goodwill Industries for Goodwill to collect most types of ewaste and televisions free of charge from the public.

Tires) Tires continue to be a problem. Knox County processes more tires than the state tire grant allows for reimbursement. The City of Knoxville Transfer Station accepts for a fee up to (4) four tires per person. The City of Knoxville will also accept a limited number of tires similar to its regular household trash collection for no additional fee from residents. All city tires are collected and then transferred to the Transfer Station, then, later taken to the County tire contractor.

Oil and Antifreeze) Oil and Antifreeze are picked from Knox County Convenience Centers and the City of Knoxville Household Hazardous Waste Facility (HHW) by contractors. The material is collected regularly or along bread runs. The contractors pay revenue to the City and County for the oil collected and they charge fees to process the antifreeze and used oil filters.

***Description of the Municipal Solid Waste Region
State or revise current responsibilities of each local government in the region by jurisdiction.***

Knox County is a single county region. The only government agencies that offer waste disposal in the region are Knox County and the City of Knoxville. Those municipal collection programs only 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 grant 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 the growth trends, waste projections, and system structure of the region.

City and County government waste trends have been flat in recent years. Modest increases in recycling have occurred with corresponding decreases in landfilled weight. The total weight changes are modest.

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.

Strategies for waste reduction include but are not limited to education of the public by municipalities, private industry, and the non-profit sectors, public and private infrastructure improvements and investments, the free-market competition for recycling services, and significant non-profit activities and events that promote recycling and waste reduction

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.

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 recycling strategy for the region is to encourage convenient, free or low-cost recycling options to individuals, organizations and businesses. There is not a specific target rate set for recycling commodities. In recent years, the real-time diversion rate for the region has been around 60%.

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

There are no permitted composting facilities in the region. There are multiple public and private solid waste processing facilities in the region. The public and private sectors collect tires, waste oils, wood waste, waste chemicals, cooking oil, grease, and methane for waste-to-energy use.

Incineration is not permitted in Knox County due to air quality management regulations. There are no anticipated changes in the current system.

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. TDEC should make this determination.

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

Due to the scope and nature of the private sector activities in the region this information cannot be adequately summarized. The region's knowledge of public sector's activity is limited. This question was addressed in great detail under education programs but the answers are limited to known municipal programs previously outlined.

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 Household Hazardous Waste Facility (HHW) by contractors who make bread runs or pick up regularly. The contractors pay revenue for the batteries collected.

Oil and Antifreeze) Oil and Antifreeze are picked from Knox County Convenience Centers and the City of Knoxville Household Hazardous Waste Facility (HHW) by contractors. The material is collected regularly or along bread runs. The contractors pay revenue to the City and County for the oil collected and they charge fees to process the antifreeze and used oil filters.

Paint) Liquid paint is not allowed at County Centers. Dried latex paint is accepted providing it has been mixed with a hardener and dried to a slug. All other paint is directed to the permanent Household Hazardous Waste Facility (HHW).

Electronic Waste) Most types of ewaste are collected at HHW free of charge from households and for a modest fee from institutions and businesses. Television recycling is available for a modest fee at the City Transfer Station. The City and County support regular electronic collection recycling events operated by other non-profit institutions. Knox County Convenience Centers have entered into a contract with Goodwill Industries for Goodwill to collect most types of ewaste and televisions free of charge from the public.

HHW) Knox County leverages state funding and the City of Knoxville Solid Waste Offices to offer a permanent Household Hazardous Waste (HHW) facility. HHW is limited to residents of Knox County only.

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 working directly under the purview of City and County Solid Waste Offices. Municipal staff is sufficient to meet operational needs.

VIII. Landfill - Annual Material Tonnage

Landfill totals reflect the total amount of waste reported from landfills as originating in the Knox County Region being disposed in landfills for the calendar year. This is the first increase in total waste landfilled in a few years.

Landfill Disposal				
Disposed	Landfill Class	Landfill Name	Solid Waste Tons	
Inside Tennessee	Class I	Chestnut Ridge Landfill And Recycling Center - SNL010000160	305,216	
Inside Tennessee	Class I	Meadow Branch Landfill Inc - SNL540000174	119,888	
Inside Tennessee	Class I	Volunteer Regional Landfill - SNL760000271	46,451	
Inside Tennessee	Class III/IV	Poplar View Class Iii Landfill - DML470000057	158,549	
Inside Tennessee	Class III/IV	Riverside C&D Landfill, Llc - DML470000011	100,553	
Inside Tennessee	Class III/IV	Yarnell Demolition Landfill - DML470000069	60,000	
Total Landfill			790,657	100%
Class I			471,555	60%
Class III/IV			319,102	40%
<i>Landfilled 2011</i>			<i>707,085</i>	
<i>Landfilled 2010</i>			<i>626,555</i>	
<i>Landfilled 2009</i>			<i>655,890</i>	

IX. Recycling and Diversion Reported

Recycling and diversion estimates are reported for all recyclers, recycling haulers, or recycling processors reporting to the Solid Waste Office. The majority of recycling activity in the region is attributable to the TDEC commercial/industrial classification where recycling buyers or sellers pay to recycle or are compensated for recyclable commodities as part of their business model. Some recycling activity goes un-reported because of non-responsive recycling businesses or unknown activities. Official numbers will be determined and accepted by TDEC.

Recycling and Diversion Reported				
Recycling / Diversion	Collection Type:	Name	State	Tons
Recycling	Commercial/Industrial	PSC Metals, Inc.	Tennessee	138,310
Recycling	Commercial/Industrial	RockTenn	Tennessee	31,944
Recycling	Commercial/Industrial	Waste Connections of TN, Inc	Tennessee	16,761
Recycling	Commercial/Industrial	Goodwill Industries Knoxville, Inc.	Tennessee	10,221
Recycling	Residential - (Public government collected)	Knox County Solid Waste	Tennessee	9,977
Recycling	Residential - (Public government collected)	City of Knoxville	Tennessee	8,329
Recycling	Commercial/Industrial	TnWaste LLC Recycling facility	Tennessee	6,756
Recycling	Commercial/Industrial	Tennessee Metals Co. LLC	Tennessee	5,853
Recycling	Commercial/Industrial	Waste Management Inc.	Tennessee	4,602
Recycling	Commercial/Industrial	Tennessee American Recycling	Tennessee	4,343
Recycling	Commercial/Industrial	Enterprise Waste Oil Company, Inc.	Tennessee	3,031
Recycling	Institutional (Universities)	University of Tennessee, Knoxville	Tennessee	1,897
Recycling	Commercial/Industrial	SP Recycling Southeast, LLC.	Tennessee	1,604
Recycling	Commercial/Industrial	Safety-Kleen Systems, Inc.	Illinois	1,427
Recycling	Commercial/Industrial	Liberty Tires Recycling, LLC	Tennessee	716
Recycling	Commercial/Industrial	Knoxville Recycling Coalition	Tennessee	576
Recycling	Commercial/Industrial	Battery Service Inc.	Tennessee	146
Recycling	Commercial/Industrial	FCC Environmental	North Carolina	45
Recycling	Commercial/Industrial	Blue Rhino	North Carolina	8
Diversion	Commercial/Industrial	Nature's Best Organics	Tennessee	37,846
Diversion	Residential - (Public government collected)	City of Knoxville	Tennessee	34,641
Diversion	Commercial/Institutional/Industrial	Knoxville Utilities Board	Tennessee	26,978
Diversion	Commercial/Industrial	Clean Harbors	Tennessee	4,000
Diversion	Commercial/Industrial	Griffin Industries	Tennessee	1,300
Diversion	Commercial/Industrial	Valley Proteins, Inc.	West Virginia	949
Diversion	Institutional - (University)	University of Tennessee, Knoxville	Tennessee	628
Diversion	Residential - (Public government collected)	Household Hazardous Waste Facility (HHW)	Tennessee	146
Total Recycling and Diversion Reported 2012			2012	353,034
Diversion Recycling Reported 2012			2012	106,488
Residential 2012			2012	53,093
<i>Residential 2011</i>			<i>2011</i>	<i>68,206</i>
<i>Residential 2010</i>			<i>2010</i>	<i>42,371</i>

X. Municipal Recycling - Annual Financial Data

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			
55700 General Administration	\$ 1,369,846.37	\$ 310,403.00	\$ 1,680,249.37
55710 Sanitation Management			\$ -
55720 Sanitation Education/Information		\$ 230,287.00	\$ 230,287.00
55731 Waste pickup			\$ -
55732 Convenience centers		\$ 2,774,848.00	\$ 2,774,848.00
55733 Transfer stations			\$ -
55734 Problem waste centers		\$ 77,704.00	\$ 77,704.00
55735 Bailing Centers			\$ -
55739 Other waste collection		\$ 278,212.00	\$ 278,212.00
55751 Recycling Center			\$ -
55752 Compost Center		\$ 48,511.00	\$ 48,511.00
55753 Waste incinerator			\$ -
55754 Landfill Operation and Maintenance			\$ -
55759 Other waste disposal			\$ -
55770 Post closure care costs			\$ -
64000 Highways litter and trash collection		\$ 96,666.00	\$ 96,666.00
70000 Education		\$ 42,177.00	\$ 42,177.00
90000 Capital projects			\$ -
Contracted Services	\$ 9,132,858.20		\$ 9,132,858.20
Total	\$ 10,502,704.57	\$ 3,858,808.00	\$ 14,361,512.57
Revenue			
40000 Local Taxes			\$ -
40100 County Property Taxes		\$ 2,400,000.00	\$ 2,400,000.00
40200 County Local Option Taxes			\$ -
42000 Fines, forfeitures and penalties		\$ 58,558.00	\$ 58,558.00
43106 Commercial and industrial waste collection	\$ 68,655.89		\$ 68,655.89
43107 Residential waste collection charges			\$ -
43108 Convenience Center waste collection charge			\$ -
43109 Transfer waste stations collection charge	\$ 1,262,112.64		\$ 1,262,112.64
43110 Tipping Fees			\$ -
43111 Surcharge-State			\$ -
43112 Surcharge-Host Agency			\$ -
43113 Surcharge-General			\$ -
43114 Solid waste disposal fee			\$ -
44145 Sale of recycled materials		\$ 716,670.00	\$ 716,670.00
44165 Commodity rebates			\$ -
46170 Solid waste grants	\$ 72,825.00	\$ 417,398.00	\$ 490,223.00
46430 Public Works grants - Litter Program		\$ 121,079.00	\$ 121,079.00
468511 State Revenue Sharing			\$ -
47230 Federal government disaster relief			\$ -
48000 - Other Governments and Citizens Groups			\$ -
49800 - Transfer from General Fund	\$ 9,099,111.04	\$ 12,900.00	\$ 9,112,011.04
Total	\$ 10,502,704.57	\$ 3,726,605.00	\$ 14,229,309.57
Assets			
13100 Fixed Assets - Landfill Facilities Development		\$ 600,000.00	\$ 600,000.00
13200 Land		\$ 3,600,000.00	\$ 3,600,000.00
13300 Fixed Assets - Buildings and Improvements		\$ 1,590,000.00	\$ 1,590,000.00
13700 Machinery and Equipment			\$ -
Total	\$ -	\$ 5,790,000.00	\$ 5,790,000.00
Liabilities			
21870 Accrued liability for landfill closure/post closure care costs - Current			\$ -
27700 Accrued liability for landfill closure/post closure care costs			\$ -
Total	\$ -	\$ -	\$ -

XI. Municipal Household Hazardous Waste (HHW) - Tonnage

The HHW Facility is operated by the City 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. In 2011, this facility was visited by 6,131 vehicles and processed 146 tons of HHW, 75% of which was latex paint.

Household Hazardous Waste

Year	2012	2011	2010
Tons	146	169	120

XII. Appendices

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

Regional Plan Update via Re-Trac (under planning summary)

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

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

T.C.A. 68-211-815 Municipal solid waste region plans — Contents. —

T.C.A. 68-211-871 Annual report — Contents — Annual progress report — Sanctions for noncompliance — Annual reports by recovered materials facilities. —

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

Municipal Solid Waste Planning Regions



- Single County Region
- Two County Region
- Three County Region
- Four County Region
- Ten County Region

As of 4/11/07

Appendix C: Re-Trac Report

The Re-Trac reporting system general report starts on the next page. TDEC may make adjustments to recycling totals after they are entered therefore numbers may have changed after the generation and publication of the attached report. Other Re-Trac reports may be generated by TDEC or other authorized users such as the Knox County Solid Waste Department or Regional Solid Waste Board Chair. Requests for additional information may be made to TDEC or Knox County Solid Waste offices. Re-Trac privileges are issued and limited by TDEC.