

**Anderson County  
Solid Waste  
Needs Assessment  
2009**

## Item # 1 Demographic Information

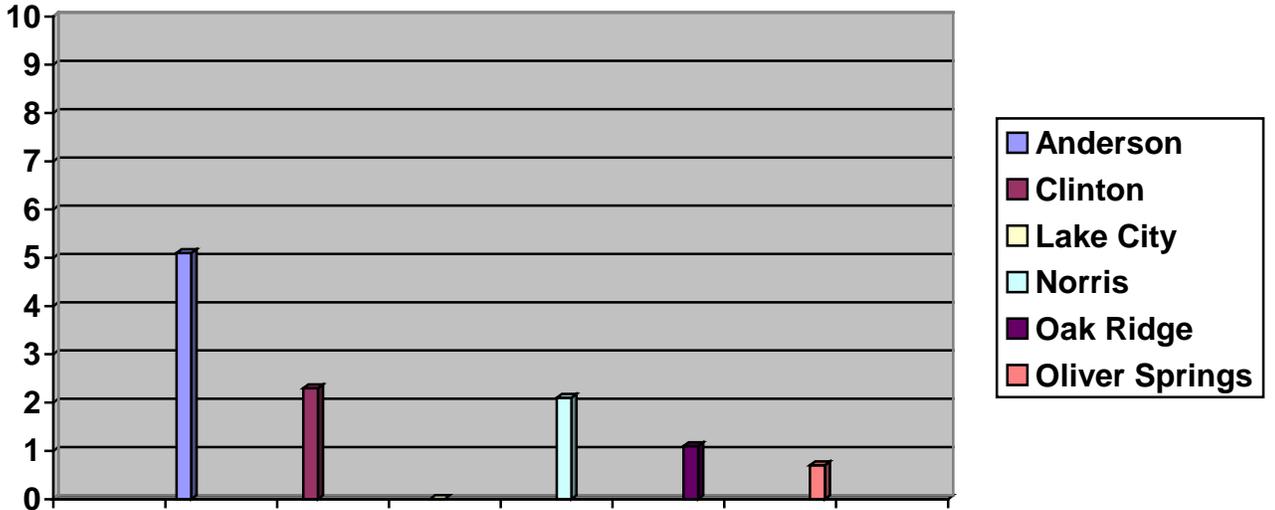
The following table and charts illustrate the population trends of the region, which includes respective municipalities, total municipal residents and county only residents. The 2010 and 2015 projects are based on existing trends for each jurisdiction as well as knowledge of the area.

The county as a whole is expected to continue to increase in population between 2000 and 2015. Anderson County is unique in its population increase in that with the development of Oak Ridge during the World War Era and the development of Tennessee Valley Authority and the Norris Dam Era. The Anderson County population increase was mostly seen during the 40's, 50's and 60's. Anderson County has seen modest increases from 1990 to 2000 as compared to other area Counties that showed 15-20% increases. The State in general has caught up to the growth of Anderson County. The 2000 census showed that the County was behind the State average of 6% and will continue to be slightly behind the 6% increase in upcoming years. The County will continue to grow in the future as more people look towards the lake areas for recreation and as Oak Ridge seems to be on the cusp of receiving more federal jobs in the future. The City of Clinton will continue to see population growth due to increasing their city boundaries. The City has been very active in attracting new industrial endeavors, which will also promulgate new residential development in the future. The City of Lake City has never recovered from the decline in Coal mining. Future trends suggest that they will continue to remain constant with very little growth in the future. The city of Norris will also remain constant in their growth that was largely the result of TVA and Norris Dam. As TVA has downsized their workforce new homes in the area are not being built to any large degree. Norris now sees people moving in and out of the area with a small growth in the future. The City of Oak Ridge exploding in the pre-1990's and has seen very modest increases in population. Their growth will largely depend on the activities of the federal agencies in the area. Another reason that Oak Ridge will see modest growth is that new jobs can easily be taken by people that commute into the area. The region of Anderson County and Oak Ridge has about a 50% commute pattern for jobs. The region of Anderson County is not going to see large increases in population in the future unless economic amenities are apparent, such as a new industrial plant that will affect population spurts. The rate of growth will vary depending on a host of local, regional, and national trends, as well as the employment of management tools that can affect this rate. These trends will impact countywide land use, housing, transportation and solid waste decisions.

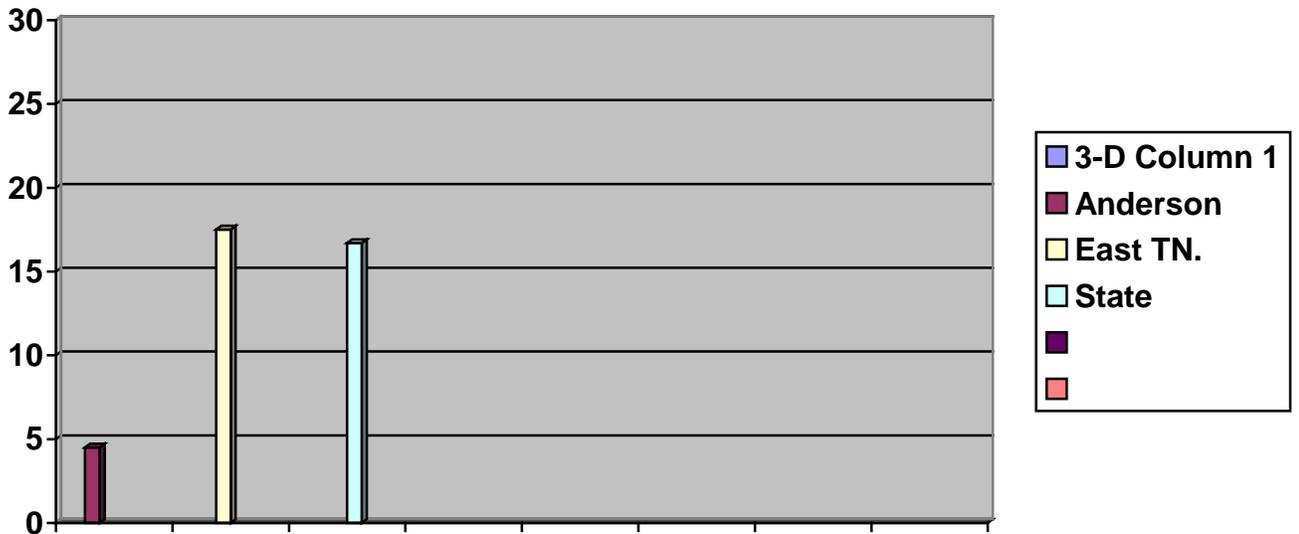
Jurisdiction	1990	2000/% change	2010 / %	2015 / %
Anderson County	68,250	71,330/4.5%	75,163/5.1%	76,583/1.9%
Clinton	8,972	9,409/4.9%	9,625/2.3%	9,721/1%
Lake City	2,078	1,888/<12.9%>	1,847/<2.2%>	1,847/0%
Norris	1,303	1,446/11.0%	1,477/2.1%	1,492/1%
Oak Ridge	24,743	27,387/.3%	27,677/1.1%	29,061/.5%
Oliver Springs	2,403	3,303/3.8%	3,326/.7%	3,334/.25%

**Anderson County and Cities**

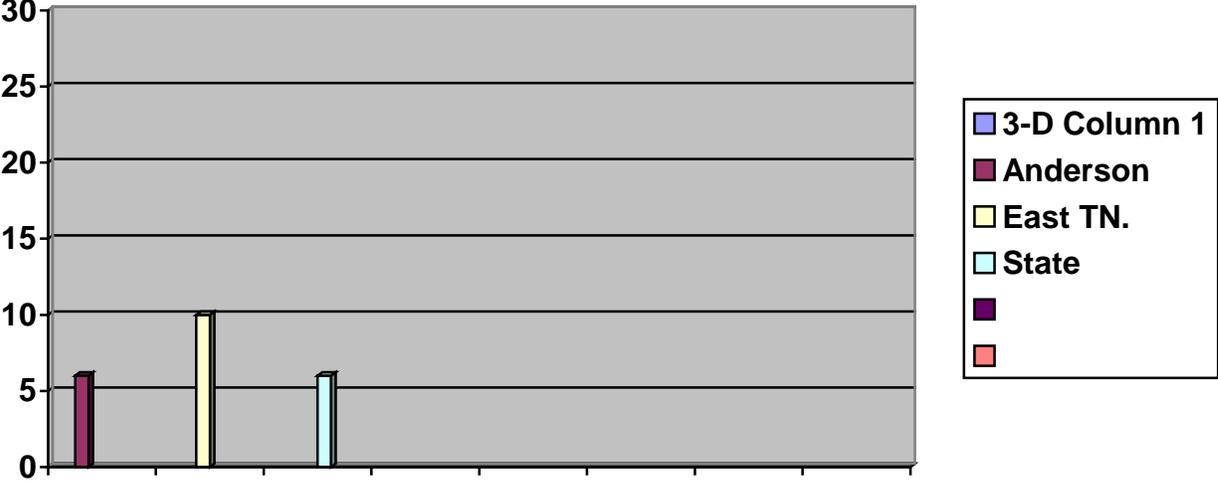
**Population Growth Percentage: 2000 - 2010**



**Population Growth: 1990-2000**



# Population Growth: 2000 - 2010



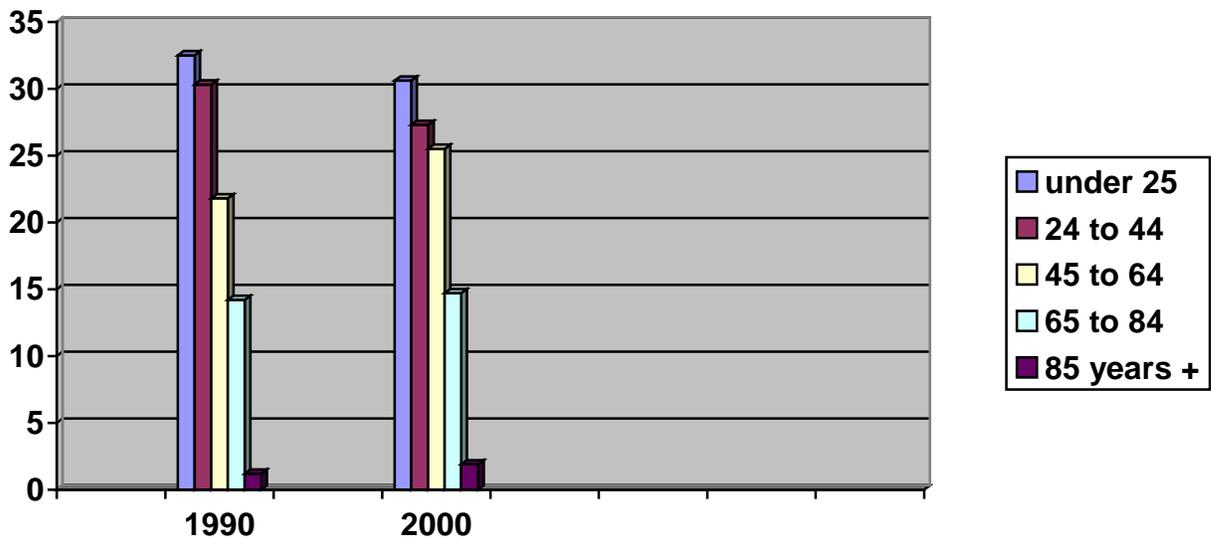
## Item 2 Region Economies

The following table and charts show the per capita incomes for the county and each municipality in 1989 and 1999 and estimates for 2007, 2010 and 2015. The existing trends are expected to continue for each municipality and the county, though increases will likely be smaller in the future for most municipalities.

In looking at per capita incomes one must realize that this purchasing power is largely affected by the in-migration of working-age people, 25 to 64 years of age. Conversely, the higher proportions of young and old people are often associated with lower rates of per capita income growth. The median age in Anderson County has increased every census year from 1980, 32.5 to 1990, 36.5 and 2000, 39.9. As the region gets older, one could suggest that more recycling will be done in the future that will help to reduce the amount of waste that is going into the landfill. Also, the amount of waste per household will also go down as families get older and children move out of the home.

Ages	1990 Number of People	Percent	2000 Number of People	Percent
Under 25	22,240	32.5	21,816	30.6
24 to 44	20,708	30.3	19,474	27.3
45 to 64	14,814	21.8	18,171	25.5
65 to 84	9,710	14.2	10,458	14.7
85 years and older	775	1.2	1,366	1.9

### Age Distribution

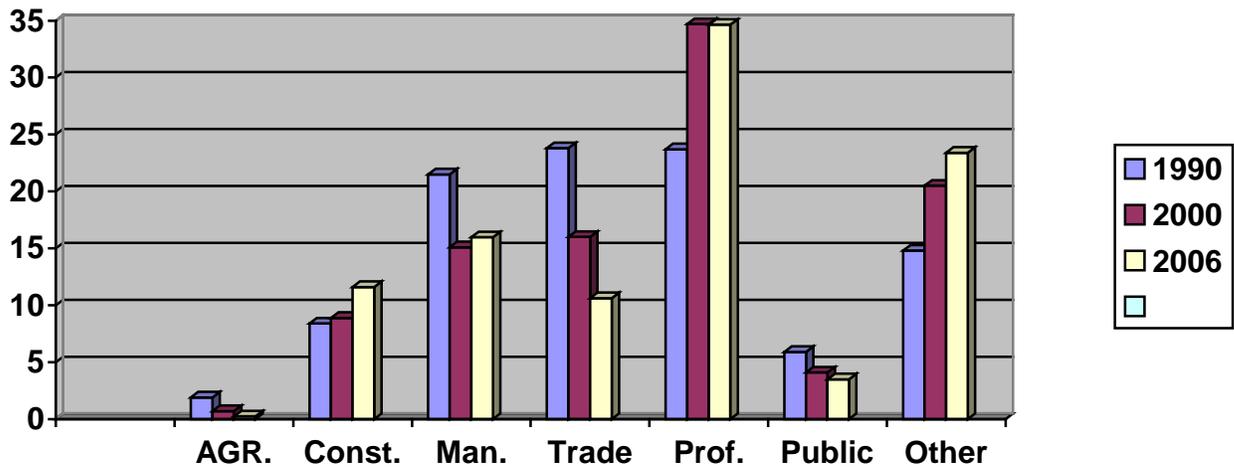


The estimates for the current per capita incomes show that most all entities have experience an increase in the purchasing power of their residents. Most residents are likely to use this increased purchasing power to spend more monies in the future. This is likely to mean an overall increase in solid waste generated by economic growth. However, this increase in solid waste will be from the consumer industries and not large industries that have the potential to create problem waste. Per capita increase of 30% between 1989 to 1999 and 16% between 1999 would suggest that a the region has seen a lot of the higher paying jobs leave due to downsizing of TVA and federal jobs in Oak Ridge. It should be shown that the per capita income should increase in comparison with the State of about 14% in 2015 that is based on data in the East Tennessee area. It should be noted that any changes in TVA or the federal agencies in Oak Ridge could drastically change the per capita income for the region. However, these changes would not generate a large amount of waste due to more of a consumer base and the fact that more recycling from these households would diminish the increase in solid waste.

Jurisdiction	1989	1999	2010	2015
Anderson County	\$13,182	\$19,009	\$22,617	\$25,783
Clinton	\$13,187	\$17,730	\$21,146	\$24,106
Lake City	\$7,634	\$10,615	\$12,660	\$14,432
Norris	\$15,325	\$29,832	\$35,579	\$40,560
Oak Ridge	\$16,860	\$24,793	\$29,569	\$33,709
Oliver Springs	\$10,179	\$15,818	\$18,939	\$21,590
Tennessee	\$12,255	\$21,587	\$23,418	\$27,165

The following table takes a look at the types of business in Anderson County that can have an effect in the amount of solid waste being generated. The table looks at the percentage of each classified work from 1990, 2000 & 2007. As the table shows consumer industry has grown. This basically results in less garbage that is produced in terms of large volume. The consumer industry will produce a lot of cardboard and paper that can be recycled. Also, the professional industry that has always been the leader in the region will continue to be the main emphasis on jobs. The waste from these jobs is mostly paper and will not put any extra burden on the waste stream in the future. Jobs have increased from 30,758 to 31,309 during 1990 and 2000 census for Anderson County.

Industry	1990	2000	2007
Agriculture, Forestry, Fisheries, Mining	1.9%	.7%	.25%
Construction	8.4%	8.9%	11.6%
Manufacturing	21.5%	15.1%	15.98%
Trade and Finance	23.8%	16%	10.63%
Professional Services	23.7%	34.7%	34.65%
Public Administration	5.9%	4.1%	3.5%
Other (consumer industry)	14.8%	20.5%	23.39%

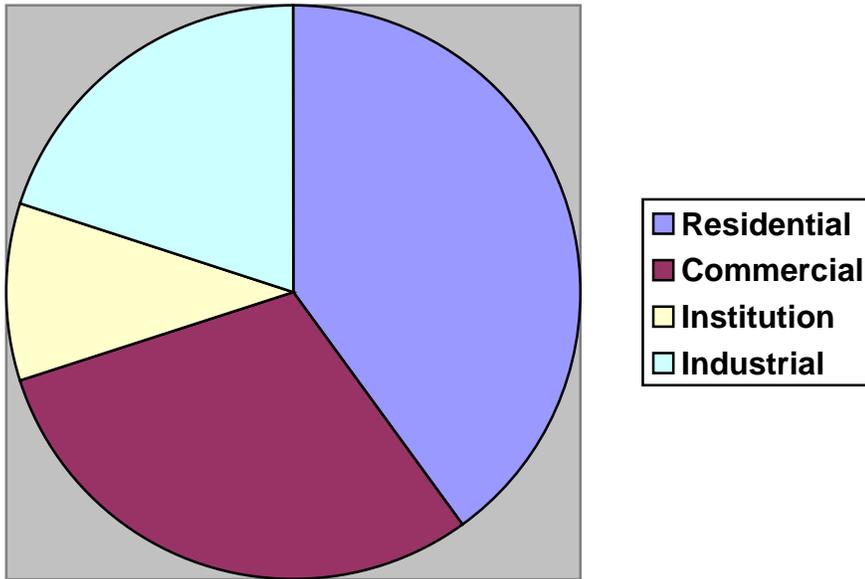


Service jobs tend to be the norm in the East Tennessee area and that will play a factor on the Cities of Lake City and Oliver Springs. The technology corridor of Oak Ridge will still play a large role in the make up of the region. The shift from more of the labor intensive jobs to the white collar jobs will continue along the technology corridor and will affect the Cities of Oak Ridge and Norris. The Region of Anderson County will continue to experience a large increase in retirees along the lakes that will shift some of the taxes being spent to more environmental programs that will create more opportunities to divert waste from Class I landfills. The region of Anderson County is unique with over 50% of their employees from outside the region. This will provide more of a steady climate for future waste being generated in that any new jobs created will not be solely taken by Anderson County residents that will be building houses and creating more residents in the area that will create more of a burden on the waste stream.

### Item # 3 Region Waste Stream

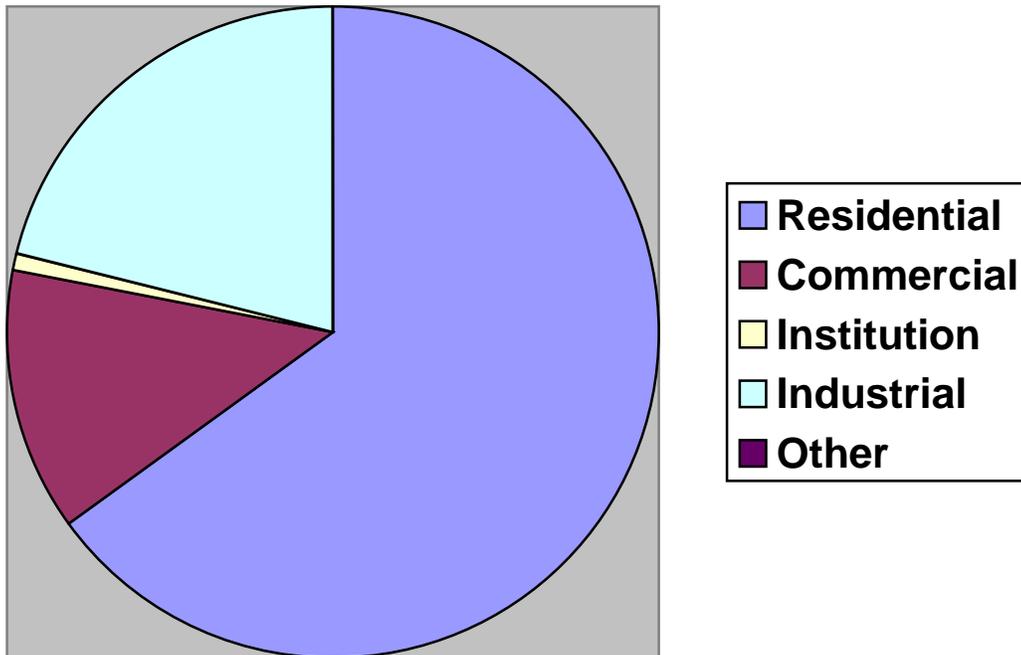
Anderson County solid waste stream is shown below.

Residential 40%  
Commercial 30%  
Institution 10%  
Industrial 20%



The waste stream during the last needs assessment looked like the following.

Residential 65%  
Commercial 13%  
Institution 1%  
Industrial 21%



This can be further broken down into the following:

Recycling – 3,382 – 4%

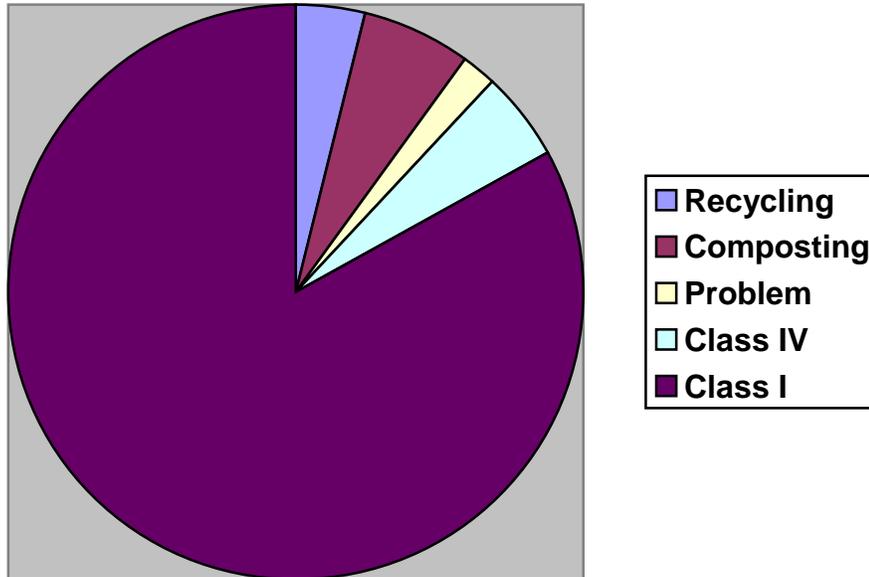
Composting – 5,222 – 6%

Problem Waste – 1,246 – 2%

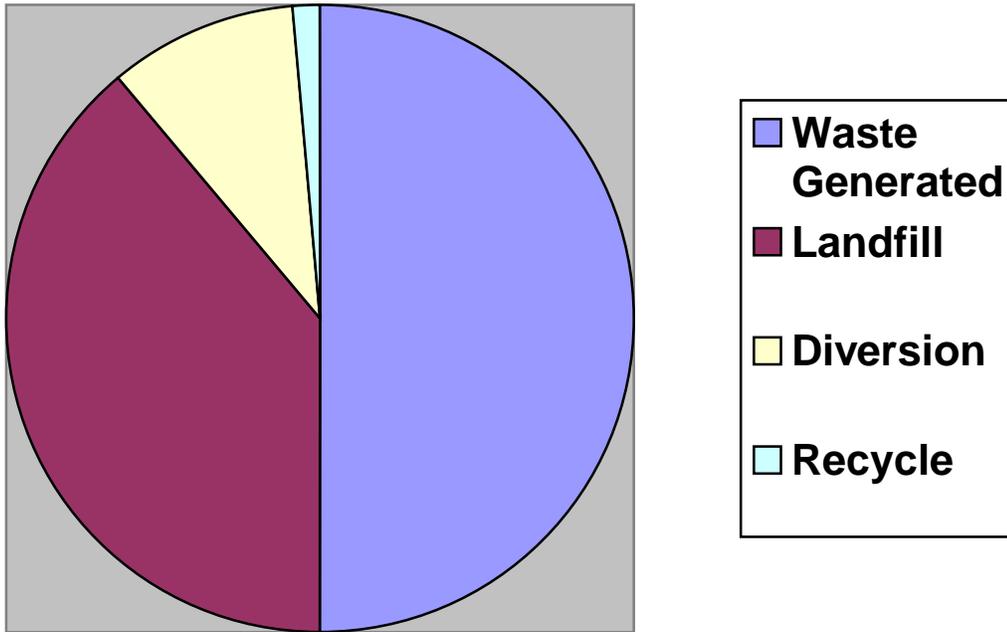
Class IV Waste – 4,000 – 5%

Class I Waste – 70,012 – 83%

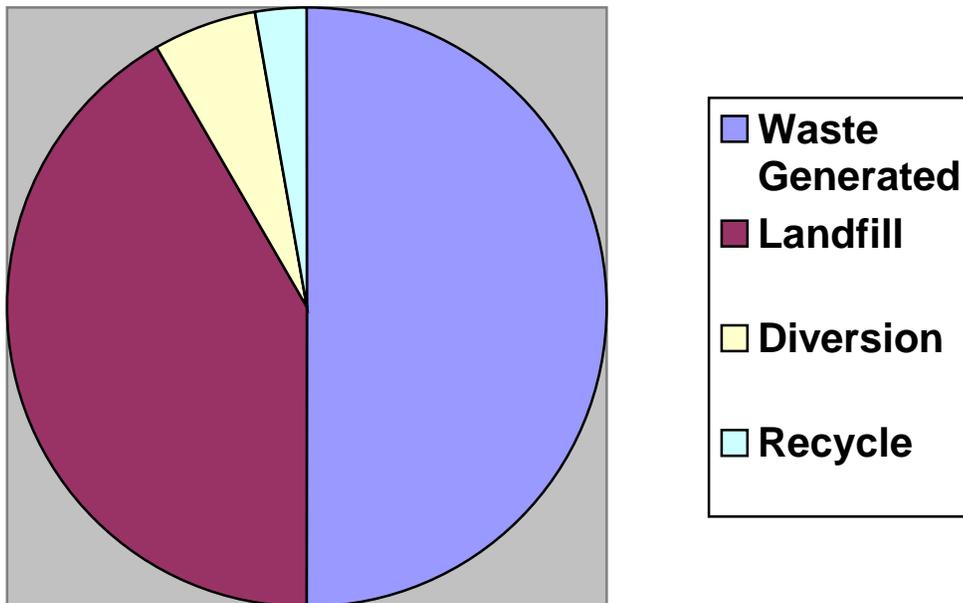
Total = 83,862.00 – 100%



**Waste Stream 1998 Totals**



**Waste Stream 2008 Totals**



## Waste Stream 2008 Totals

The pie charts show the percentage of waste that has changed from the 1998 needs assessment to the current needs assessment. Landfill waste was shown as 78% in 1998 and is now 83% of the waste. Diversion methods shown as 19% in 1998 are now shown as 11 %, Recycling efforts shown as 3% in 1998 are now shown as 6%. The chart shows that the generated waste has seen a slight increase increased from 1998 to 2008 of 1,115 tons and that the tons per person has decreased from 1.21 tons per to 1.17 tons per. The numbers show a distinct difference in the region of Anderson County from other regions in that the tons per person has diminished and does not coincide with the increase in income earnings in the region. Historical data shows that people with higher paying professional jobs tend to be more environmentally conscious then those with lower paying consumer related jobs.

Anderson County does have a large regional landfill that takes in waste from other regions in East Tennessee. The benefit to the Anderson County Region is that the region and all of its entities receive a lower cost per ton for a tipping fee. The region currently pays a \$19.75 per ton tipping fee. All of Anderson Counties waste that is generated in the region is staying within the region and is taken to the regional landfill.

The components of solid waste are being handled the following way by the entities in the Anderson County Region.

**Class I waste** is being handled using (6) six convenience centers and (2) two green box sites that are scatted throughout the county. All of the convenience centers have a trash compactor with a roll off container that is located in the center of the convenience center for use on both sides of the container. The containers are the property of Waste Connection. All of the waste is taken by way of a contract with waste connection to the regional landfill in Anderson County. The City of Oak Ridge contracts with Waste Connections for the collection and disposal of residential solid waste with a backdoor program once a week. The City of Clinton also contracts with Waste Connection and they do a curbside collection once a week for their residents. The City of Clinton also picks up about 150 small commercial establishments in the downtown district. The City of Norris contracts out with Waste Connection for the collection of residential refuse once a week. The Town of Oliver Springs contracts out with Waste Connection for the collection of residential refuse once a week. The City of Lake City provides their own collection of refuse once a week utilizing three people and rear loader. The City of Lake City does charge a \$10.50 fee for the collection of the waste. All waste that is collected is taken to the Class I regional landfill, Chestnut Ridge located in Anderson County. A total of 70,012 tons of waste was collected and transported to a Class I landfill for disposal.

**C&D waste or Class IV waste** is taken by residents and contractors to Poplar View landfill. The waste is reported to Anderson County during the annual solid waste report. No Class IV waste is being handled at any of the convenience centers. The Cities will pick up some Class IV waste from residents and take it the landfill for proper disposal. A total of 4,000 tons of waste was collected and diverted from a Class I landfill.

**Waste Tires** are collected at the Blockhouse Valley Site and a small amount at a couple of the convenience centers, Briceville and Frost Bottom. None of the other centers collect tires and none of the Cities in the region provide services for tires to be collected. Tires are allowed to be brought in on Wednesday for disposal. The tires are placed onto an over the road trailer by the attendants at the Blockhouse Valley site. The employee will call when the trailer is full and Mac Tires will collect the trailer and take the tires to an end user. A total of 1,103 tons of tires were collected and diverted from a Class I landfill.

**Used Oil** is collected at all six of the convenience centers. The oil is then transported to the Blockhouse Valley site. The Anderson County Region has used oil heaters at the maintenance garage in Clinton for use of the oil as heat for the fleet building. The City of Clinton also has a used oil heater for their public works building. The City of Clinton started their program in 2008 and uses the oil to heat their public works building. The City of Oak Ridge collects used oil at their convenience center and the waste is given to an end user. City of Lake City collects used oil in-house for proper disposal and given to an end user for proper disposal. The Town of Oliver Springs does not collect used oil. There are no other public used oil collection sites in the region. A total of 62 tons of used oil was collected in 2008.

**E-Waste** is collected at the Blockhouse Valley site. Residents can bring their materials into the site and they are placed on concrete for storage. The attendant at the Center will call Scott Recycling for pickup. None of the cities in the region provide collection of e-waste for their residents. An estimated total of 10 tons of electronic waste was collected in 2008.

**White Goods / metals** are collected at three of the convenience centers; Wolf Valley, Glen Alpine and Green Valley Convenience Center in a 40 cu.yard open top. Residents are allowed to dump the materials into the container and when full it is hauled to Blockhouse Valley site for storage. The Blockhouse Valley site also collects white goods and metals. The City of Clinton will collect white goods twice a year for city wide clean-up and take to the Blockhouse Valley site. The City of Lake City has a spring clean-up and will also take white goods on a call in basis. The material is taken to the Blockhouse Valley site. The City of Oak Ridge will also pick up white goods on a call in basis. The City of Norris has a spring cleaning, when residents are allowed to bring out white goods that are taken to the Blockhouse Valley site. The Town of Oliver Springs also provides a clean-up day once a year and takes the metal collected to the Blockhouse Valley site for disposal. The material is stored until a full load is made and Environmental Recycling, Inc. brings a portable baler that crushes the metal and hauls off the bales for sale to the market place. A total of 346 tons was collected at the Blockhouse Valley site.

**Brush / Compost materials** are not collected at any of the convenience center sites. There is room at the Blockhouse Valley site to accept brush in case of a natural disaster. The City of Oak Ridge does have a brush pickup schedule in the spring and a leaf pickup schedule in the fall. The material collected is taken to a public site that can be used for mulch. The City of Clinton also has brush and leaf pickup schedules. The City of Clinton also has a public owned place to dispose of their waste. The City of Lake City provides brush and leaf collection on a call in basis. They will during the fall run a route throughout the City. The City of Lake City has a site for disposal next to the public works building. The City of Norris also provides brush and leaf collection for their residents and utilize a public owned site for disposal. The Town of Oliver Springs also provides a brush and leaves collection program for its residents. A total of 4,803 tons was reported by the region of Anderson County in 2008.

**Sewer Sludge** is not being collected at any of the convenience center sites. The City of Oak Ridge is in the process to have the equipment necessary to begin land application in 2009. It is estimated that 500 tons a year will be diverted from the landfill. The Clinton Utilities Board takes their sludge to the landfill. The City of Lake City and the City of Norris take their waste to the landfill, but have purchased sludge presses that reduce the amount of waste that is taken to the landfill. The Town of Oliver Springs takes their waste to the landfill. No tonnage was reported in 2008.

**Paint** is taken at the Blockhouse Valley site every Wednesday and 1<sup>st</sup> and 3<sup>rd</sup> Saturday of each month. No paint is collected at the Convenience Centers. The Cities do not accept or collect any paint. The paint cans are placed by the residents at the utility shed. The attendants will mix the useable paint together and that paint is used in house or given away. The unusable paint or contaminated paint is mixed with mulch and solidified for disposal in the landfill. The region currently arranges with TDEC for the disposal of the paint.

**Paper and cardboard** is collected at each convenience center by waste connection. Waste Connection set out a 20 cu yd container for newspaper that is collected when full and taken to the landfill. Mixed paper is handled by having residents placing the paper in bags and the attendant collects the bags and the region provides a recycling truck that picks up the convenience centers along with the schools in the region. The blockhouse valley site also has a container for residents to drop off their newspaper, mixed paper and cardboard. Waste Connection provides the proper disposal of the materials when a full container is collected. Anderson County provides the collection of mixed paper at all of their schools in the region, except two and those will be provided the service in 2009. That is a total of (7) seven elementary schools, (3) middle schools and (1) high school. The City of Oak Ridge provide for the collection of the paper and cardboard at their convenience center and a door to door collection of residential homes. The materials are collected and disposed of by Waste Connection. The City of Norris also provides the collection of paper and cardboard at their recycling center and a curbside program. Waste Collection also collects the material for Norris and properly disposes of the items. The City of Clinton currently does not provide any services for their residents for the collection of paper or cardboard. The residents do have the ability to utilize Wolfe Valley in South Clinton and Blockhouse Valley sites for disposal of paper and cardboard.

The City of Lake City does not have any services and their residents can utilize Briceville and Green Valley sites for the disposal of paper and cardboard. The Town of Oliver Springs does not provide this service and the residents can utilize the Marlow Center for the collection of paper and cardboard. A total of 2,056 tons of paper and cardboard were collected and properly disposed of in 2008.

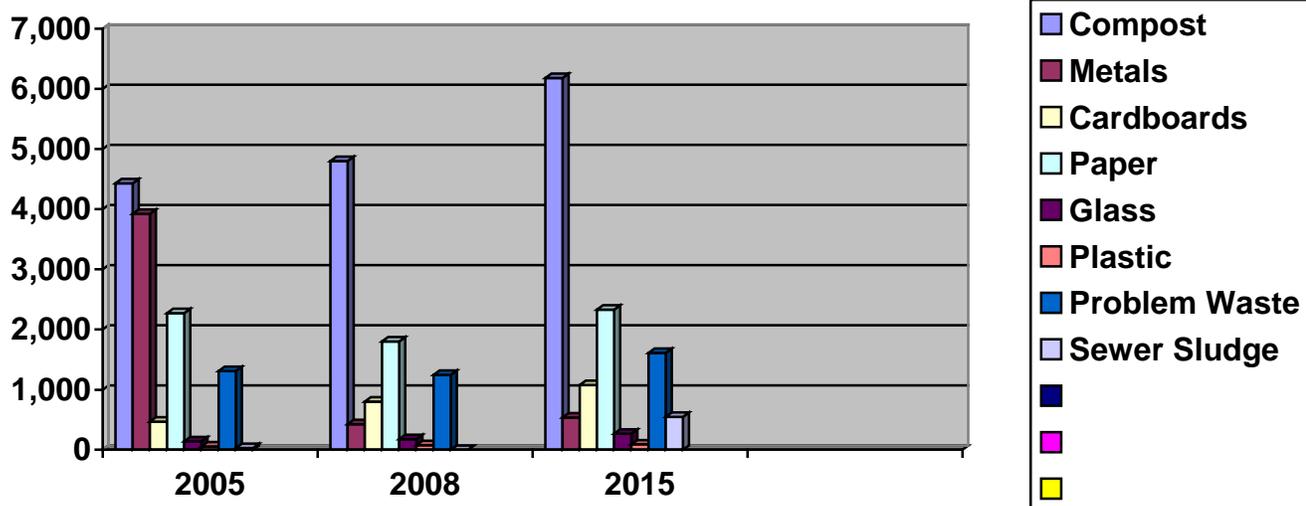
**Plastic** is collected at all (6) six convenience centers. Residents must bring the plastic in a plastic bag and place at predetermine site at the convenience center. The attendant will monitor the site and call the County, when it needs to be picked up and taken to the blockhouse valley site for storage. The City of Oak Ridge and the City of Norris provide door to door collection of plastic for their residents. The City of Oak Ridge also provides for the collection of plastic at their convenience center. Both cities have contracts with waste connection for the collection and disposal of plastic. The Cities of Clinton, Lake City and the Town of Oliver Springs do not provide this service. Their residents have the same option to utilize the convenience centers provided by the County that are used for cardboard and paper. A total of 6 tons was reported in 2008.

**Glass** is collected at all (6) six convenience centers. Residents must bring the glass in a plastic bag and place at predetermine site at the convenience center. The attendant will monitor the site and call the County, when it needs to be picked up and taken to the blockhouse valley site for storage. The City of Oak Ridge and the City of Norris provide door to door collection of glass for their residents. The City of Oak Ridge also provides for the collection of glass at their convenience center. Both cities have contracts with waste connection for the collection and disposal of glass. The Cities of Clinton, Lake City and the Town of Oliver Springs do not provide this service. Their residents have the same option to utilize the convenience centers provided by the County that are used for cardboard, paper and plastic. A total of 178 tons was reported in 2008.

**Aluminum Cans** is collected at all (6) six convenience centers. Residents must bring the cans in a plastic bag and place at predetermine site at the convenience center. The attendant will monitor the site and call the County, when it needs to be picked up and taken to the blockhouse valley site for storage. The City of Oak Ridge and the City of Norris provide door to door collection of cans for their residents. The City of Oak Ridge also provides for the collection of cans at their convenience center. Both cities have contracts with waste connection for the collection and disposal of cans. The Cities of Clinton, Lake City and the Town of Oliver Springs do not provide this service. Their residents have the same option to utilize the convenience centers provided by the County that are used for cardboard, paper, plastic and glass. A total of 21 tons was reported in 2008.

Material	Material – 2005	Material –2008	Material –2015
Sanitation - Land filled	53,188	70,012	71,579
Metals / White Goods	3,921	424	537
Cardboard	466	800	1,075
Paper	2,271	1,800	2,330
Glass	138	178	269
Plastic	58	79	90
Problem Waste – tires, batteries, automotive fluid, e-waste, paint.	1,310	1,246	1,613
Sewer Sludge	30	0	550
Compost	4,431	4,803	6,183
Class III/IV	23,600	4,000	5,376
Total Generated	89,413.00	83,342.00	89,602.00

The 2015 number for waste generated is based on the current 1.17 tons per person times the estimated population of 76,583. The line item numbers was estimated based on the current percentage that is being done in 2008. One could make a correlation that the amount of waste being land filled is going down based on the fact that as the region gets older and the environmental teachings have had longer time to take hold on the youth. Residents are more aware of the need to divert as much waste from the landfill as possible. Below is the numbers for materials that are not being land filled in either Class I or Class IV.



#### **Item # 4: Waste Collection System and Life Cycle**

The Region of Anderson County utilizes (6) six convenience centers to collect Class I waste for Anderson County. The Cities of Oak Ridge, Clinton, Oliver Springs and Norris contract out their collection and disposal of their Class I waste with Waste Connection. The City of Lake City collects their own waste and transports the waste to Chestnut Ridge Landfill. Class IV waste can be taken by residents of the region to Poplar View for collection and disposal. The Region does not provide collection sites for the disposal of Class IV waste. The cities do provide occasional collection of Class IV waste from residents during annual or semi-annual cleanups. Waste Connection also provides assistance in the collection of recyclables by providing containers for Anderson County and Oak Ridge. Waste Connection also provides door to door collection of recyclables for the cities of Oak Ridge and Norris. The region of Anderson County is currently being charged \$19.75 per ton for the disposal of their waste and the region gets a percentage of that back from being the host county. It is estimated that the County actually pays about \$14 a ton after the rebate.

The citizens of Anderson County currently don't have any designated locations to drop off brush. In case of a natural disaster, the region does have room to accept brush at the Blockhouse Valley Site. The City of Oak Ridge, Clinton, Norris, Oliver Springs and Lake City all have brush and leaf collection programs for their residents. All of the cities have public owned sites for the disposal of the brush and leaves. The cities and/or residents have the capability to collect the by product for use as mulch.

Tires are collected at the Blockhouse Valley Site. The tires are placed into a trailer and hauled to an end user by the contracted company. Small amounts of tires are collected at a couple of the larger convenience centers. The Cities don't have any drop off sites for tires.

White Goods are collected at the Blockhouse Valley site. The cities don't have any drop off sites for white goods. However, the cities will occasionally collect white goods from residents and transport the goods to the Blockhouse Valley site. The white goods are stored until a full load is collected and a contracted company bales the material on site and transports to the market place.

Recyclable items are collected at all of the convenience centers in the area. The items are either transported to the Blockhouse Valley site for further collection or taken directly to the market place by a contracted company. The cities of Oak Ridge and Norris provide door to door collection of recyclable items. The City of Oak Ridge also provides a convenience center site for their residents to drop off recyclables.

Used oil is collected at all of the convenience centers and transported to the Blockhouse Valley site for further processing. The City of Oak Ridge also collects used oil at their Convenience Center. The City of Clinton collects used oil at their public works building. The majority of the used oil is burned in heaters throughout the region of Anderson County.

E-waste is collected at the Blockhouse Valley site. None of the convenience centers collect e-waste. None of the cities collect e-waste. The cities do provide collection of e-waste during annual clean-up events.

Paint is collected at the Blockhouse Valley site. Residents can drop off their paint cans at the site and the paint is processed at the site and reused or taken away for disposal. None of the convenience centers allow for paint to be dropped off. None of the cities provide for the collection of paint.

Sewer Sludge is not being accepted at any of the convenience centers and is not accepted at the Blockhouse Valley site. Currently, no cities are providing any kind of disposal other than taken the sludge to the landfill. In 2009, the City of Oak Ridge should be ready to start land application, diverting the sludge from the landfill. The other cities are providing sludge presses that provide a source reduction of waste that is being taken to the landfill.

## Section 5 – Anderson County Reduction Rate

Current Year Generation	Current Year Disposal	Base Year Disposal	Current Year Population	% Reduction compared to Base Year	Real Time Comparison
83,862	70,012	71,072	74,169	5%	21%

The Region of Anderson County did not meet the 25% waste reduction goal in 2008 as shown in the table above. Below is an illustration on what items are needed or in the process of starting that will help the Region to meet the goal in the future. The region based on 21% diversion of Class I waste from 83,862 tons of waste generated = 13,850 tons diverted. 25% diversion of Class I waste from 83,862 tons of waste generated = 20,965 tons diverted. This leaves the region of Anderson County needing 7,115 tons of waste diverted from the Class I landfill to meet the 25% reduction rate. Initial review of last years annual report showed that one industry reported. A cursory look at some of the larger industry in the area makes it obvious that the region has met it goals. Carlisle Tire & Wheel with 400 employees should be producing over 2,000 tons of by product. Eagle Bend Manufacturing with over 450 employees should produce over 2,000 tons of metal by-products. Aisin Automotive Castings with over 475 employees should produce 1,000 tons of metal by product. Omega Cabinetry with over 300 employees should produce over 1,000 tons of wood by-products. Carton Service with over 170 employees should produce over 1,000 tons of cardboard by-products. Clayton Homes with over 179 employees will produce over 600 tons of by product based on their other operations in other regions. ORNL produced over 684 tons in 2008 that was not reported. These numbers alone would produce about 8,584 tons that would be more then enough for the region to meet the 25% waste reduction goal. That being said, we will look at ways that the region can meet the 25% waste reduction goal based on pubic entities.

Since the original solid waste plan was implemented the Region of Anderson County has not been inactive in the pursuit of providing recycling opportunities for their citizens. The region has added such items as white goods, oil-based paint, Latex pain, Fluorescent light bulbs; oil filters; antifreeze; household batteries; cell phones; toner/printer cartridges; computers/electronics; gas grill tanks and plastics. These items are in addition to the glass, cardboard, mixed paper, metals and composting efforts that are available in the region.

**Class IV waste** is a hard one for the County to promote due to the reduction in tipping fees at the Class I landfill, due to the region being a host County. In most cases the material taken to the landfill will be the same if not cheaper than material that are accepted at the Class IV landfill. That is why the number has drastically been reduced from over 26,000 to 4,000 tons of waste going to a Class IV landfill. The region has done a good job in letting residents and companies know what items are accepted at the Class IV landfill. However, if I have to drive a longer distance to dispose of waste that may cost me more per ton that realization is hard to overcome. I really don't see the region being able to increase Class IV landfill participation, unless the State prohibits such waste from Class I landfills. That is the only way that a regional landfill is going to turn away potential customers. Is it feasible for the region to construct their own Class IV landfill, not with the tipping fee that is being charged to the resident in the County at the Class I landfill?

**Waste Tires** are being handled efficiently by the region. The Anderson County Region is one of a few regions that allow commercial businesses to take their tires to the public own site.

**Used Oil** drop offs have been made accessible to most residents in the region. Anderson County would like to provide improve the collection of the used oil at the convenience centers with new tanks and covers at the sites. This will clean up the sites and might increase the usage of the used oil drop off sites. The City of Clinton just recently began a used oil drop off program that should increase the used oil collected in the City. One can estimate an additional **3-4 tons** of waste that will be diverted from the landfill.

**E-waste** will continue to increase in the future. The County has a very good program and the only drawback is that it is not convenient for all residents. Some of that problem has been taken care of by the Cities that provide clean up days that allow residents to set out their e-waste and the cities pick it up and take it to the Blockhouse Valley site. Don't see any deficiency in the program that could create more waste.

**White Goods / metals** are being collected at the Blockhouse Valley site for storage until enough is produced for an end user. The process seems to be efficient and the small amounts of these items are allowed at the convenience centers. The cities provide pickups during clean up days and those items are taken to the Blockhouse Valley site. Don't know of any white goods or metals being refused due to lack of space at the Blockhouse Valley site. Estimated **1 ton** of waste was not reported the Town of Oliver Springs in 2008.

**Brush / Compost** materials are being collected by all of the cities. In my research I was able to find **75 tons** of waste that was not being reported by the Town of Oliver Springs. Anderson County could provide a place at Blockhouse Valley site for the collection of brush and leaves. This could be done by allowing residents to bring in the material in bags of the back of trucks and dump to a specified location. In order for this to happen it would require that the Blockhouse Valley site have another person and a tractor to turn the material to produce a mulching product. Based on other regional reports that accept brush and leaves one could realize about **200 tons** of waste.

**Paint** is being accepted at the Blockhouse Valley site and the process is very labor intensive. The region cannot handle much more than what they already have due to lack of manpower. The region needs to have one more person at the Blockhouse Valley site that can help with the collection and processing of paint. All residents are directed to the Blockhouse Valley site and due to regulations the cities don't provide any services for the collection of paint. The region could possibly publicize the paint program more, if there was more help at the site. The region has looked at other methods of handling paint, but due to lack of manpower cannot use other methods at the present time.

**Sewer Sludge** is not being accepted at any of the convenience centers and is not accepted at the Blockhouse Valley site. Currently, no cities are providing any kind of disposal other than taken the sludge to the landfill. In 2009, the City of Oak Ridge should be ready to start land application, diverting the sludge from the landfill. Oak Ridge is showing the **4,912 tons** of waste will be diverted from the landfill. The other cities are providing sludge presses that provide a source reduction of waste that is being taken to the landfill. The source reduction should show a diversion of about **200 tons** a year.

**Paper and cardboard** is collected at each convenience center by waste connection. Mixed paper container was added to the Blockhouse Valley site that should see an increase in that collection by about **25 tons** a year. Anderson County has also added two more schools on the collection of mixed paper that should collect an additional **5 tons** a year. Anderson County has done a lot of work in providing containers and recycling drop off points for the collection of paper and cardboard. The only other area that the County could expand in is the collection of office paper in the governmental offices. This has worked very well for Union County region, but did require the region to purchase paper shredder in order to secure the information being disposed of. It is estimated that an additional **5 tons** of waste could be diverted with this process. The City of Oak Ridge provide for the collection of the paper and cardboard at their convenience center and a door to door collection of residential homes. The City of Norris also provides the collection of paper and cardboard at their recycling center and a curbside program. The City of Oak Ridge has gone to a recycling reward system that should increase their recycling numbers in the future. The City of Norris has gone to the single stream collection that should also increase their recycling numbers. The City of Clinton recently removed their recycling center from the city limits and now resident must use the recycling drop off sites that are located on both ends of town. It is expected to reduce the amount of recyclable items that are collected in Clinton due to the site being in the middle of town and right next to the City Hall and Community Center that made it convenient for the residents. Anderson County has already reported an increase in their numbers. The City of Clinton will need to look at providing house to house collection in the future in order to help the region meet the 25% waste reduction goal. It is estimated based on Oak Ridge and Norris that the City could recycle about **100 tons**. The Cities of Lake City and Oliver Springs need to look at placing recycling containers in the City limits to collect paper and cardboard. Both entities have shown an interest in doing this, if capital can be raised for this program. It is estimated that an additional **30 tons** of paper and cardboard could be diverted from the landfill. The City of Clinton has started a collection program at the school system that should result in **10 tons** of paper and cardboard diverted from the landfill.

The City of Oak Ridge school system could begin some kind of program in the future to help with the diversion. The school system currently has individual class rooms that may recycle, but no system wide recycling. It is estimated that an additional **10 tons** of paper and cardboard could be diverted from the landfill.

**Plastic** is collected at all (6) six convenience centers. The City of Oak Ridge and the City of Norris provide door to door collection of plastic for their residents. The City of Oak Ridge also provides for the collection of plastic at their convenience center. The City of Clinton school system has just gone from paper to plastic milk jugs and has started a collection system for those products. It is estimated that an additional **2 tons** of waste will be diverted from the landfill. Although, the City of Clinton should be commended for this change, the change is a matter of opinion. Anderson County and the City of Oak Ridge will need to decide if the change is beneficial to their children. If the change is made in Anderson County, they already have a system in place to collect the plastic. The City of Clinton reported about 11 tons collected at their recycling drop off site that has been eliminated. 50% of that number should be collected at the two other sites in Clinton that are operated by the County. The Cities of Oliver Springs and Lake City could provide the collection of plastic with the placement of containers, but the benefit would not be that great at the present time. The capital expense would far outweigh the return in capital and the beneficial diversion numbers to make the endeavor worthwhile at the present time.

**Glass** is collected at all (6) six convenience centers. The City of Oak Ridge and the City of Norris provide door to door collection of glass for their residents. The City of Oak Ridge also provides for the collection of glass at their convenience center. The City of Clinton reported 17 tons of glass collected at their recycling center that has been eliminated due to finances and lack of participation. 50% of that number should be collected at the Blockhouse Valley and Glen Alpine site that is operated by the County.

The region of Anderson County has made great strides in providing new services to its residents in terms of recycling. The past year the region started providing the opportunity to bring your bulbs into the center for disposal. The region started collecting bottles and cans at more governmental offices. The region added paper collection at additional schools. The region of Anderson County needs to be able to expand their recycling at the convenience centers. All of the convenience centers were built with collecting waste as the main reason for their existence. As recycling opportunities came available, there is no space for the County to expand. The convenience centers are small and citizen's main goal is to get in and out as quick as possible. Due to traffic backups that cause a sense of urgency and the fact that containers are not located with convenience as a realization. People are not taking time to recycle items and our simply tossing everything into the class I dumpster. The County did invest in a new convenience center this past year that allows from more recycling. The County needs to continue that investment for future convenience centers. Capital funding in terms of grants would provide the seed money for the county to make those investments in the future. Without the larger convenience centers, there is little else that the County can do in terms of providing more collection of recyclables at the convenience centers.

**Item # 6: 10-Year Regional Disposal Assurance in Union County Region.**

Site Name	Annual Tons Disposed by Anderson County	SNL Permit #	Current Landfill Capacity (daily throughput)	Maximum capacity	Projected Life of Facility
Chestnut Ridge Landfill	70,012	SNL-01-0160	1,500 per day	Depends on compaction rate and Landfill Design and Operations Plan	24 years left

The Chestnut Ridge Landfill is operated as a regional landfill.

Site Name	Annual Tons Disposed by Anderson County	SNL Permit #	Current Landfill Capacity (daily throughput)	Maximum capacity	Projected Life of Facility
Popular View Class III Landfill	4,000	DML-47-0057	73 tons per day	2,555 per day	15 years remaining

**Public and Private Collection Service in the Anderson County Region**

Service Provider	Service Area	Frequency of Service	Estimated average annual tons collected	Type of Service
Anderson County	County Wide	Six Days a Week	37,588	Convenience Centers
Oak Ridge	City Limits	Five Days a Week	7,621	Door to Door Collection & Convenience Center
Clinton	City Limits	Five Days a Week	3,500	Door to Door Collection
Lake City	City Limits	Five Days a Week	412	Door to Door Collection
Norris	City Limits	Five Days a Week	625	Door to Door Collection
Oliver Springs	City Limits	Five Days a Week	455	Door to Door Collection

\*\* Estimated tonnage is based on 1.17 tons per person time's population of entity.

Anderson County has six registered convenience center that are scattered throughout the region. All of the Convenience Centers operate as recycling drop off site. The sites handle metal, newspaper and mixed paper, glass, batteries, plastic and used oil. The operating hours are 7:00 – 6:00; M-Sa. The Oak Ridge Convenience Center operating hours are 7:30 -6:00; M-SA and 1:00 – 5:00 on Sunday.

All commercial and industrial establishments contract out the collection of their waste with private haulers.

**Item # 7: Solid Waste Management Infrastructure**

Anderson County

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$72,195	\$35,000	\$107,195
Transportation/hauling	\$0	\$0	\$0
Collection and Disposal Systems			
Equipment	\$61,984	\$37,000	\$98,984.00
Sites	\$0	\$0	\$0
Convenience Center	\$510,864	\$500,000	\$1,010,864
Transfer Station	\$0	\$0	\$0
Recycling Center	\$7,185	\$0	\$7,185
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$655,437	\$0	\$655,437
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$135,199	\$0	\$135,199
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$1,442,864.00	\$0	\$2,016,864.00
Revenue			
Host agreement fee	\$334,444	\$0	\$334,444
Tipping fees	\$	\$0	\$0
Property taxes	\$921,554	\$0	\$921,554
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$2,802	\$0	\$2,802
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$0	\$0	\$0
Convenience Centers charges	\$49,726	\$0	\$49,726
Transfer Station charges	\$0	\$0	\$0
Sale of Recyclables	\$14,800	\$0	\$14,800
Other sources: (Grants, bonds, interest, sales, etc.)	\$98,098	\$0	\$98,098
Total	\$1,421,424.00		\$1,421,424.00

Salary: Anderson County could utilize another person at the Blockhouse Valley site.

Convenience Center: Anderson County is in need to upgrade a couple of centers for future growth. The upgrades will also allow them to increase recycling opportunities.

Equipment: Open containers are always needed to replace the recycling containers that are worn out. It would be nice to replace at least two per year at a cost of about \$1,000 for the small 4 cu.yd containers. The Region also needs to purchase another skid steer loader to help out in the operations of service. The cost of the skid steer will be about \$35,000.

Site:

All other needs are being met at the present time and in the future.

City of Oak Ridge

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$0	\$0	\$0
Transportation/hauling	\$1,659,573	\$0	\$1,659,573
Collection and Disposal Systems			
Equipment	\$0	\$0	\$0
Sites	\$0	\$0	\$0
Convenience Center	\$304,727	\$0	\$304,727
Transfer Station	\$0	\$0	\$0
Recycling Drop Off Center	\$200	\$0	\$200
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$0	\$0	\$0
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$0	\$0	\$0
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$1,964,300	\$0	\$1,964,300
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$0	\$0	\$0
Property taxes	\$1,247,609	\$0	\$1,247,609
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$0	\$0	\$0
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$716,691	\$0	\$716,691
Convenience Centers charges	\$0	\$0	\$0
Transfer Station charges	\$0	\$0	\$0
Sale of Methane Gas	\$0	\$0	\$0
Other sources: (Grants, bonds, interest, sales, etc.)	\$0	\$0	\$0
Total	\$1,964,300	\$0	\$1,964,300

All services are being met at the present time.

City of Clinton

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$0	\$0	\$0
Transportation/hauling	\$246,172	\$0	\$246,172
Collection and Disposal Systems			
Equipment	\$0	\$0	\$0
Sites	\$0	\$0	\$0
Convenience Center	\$0	\$0	\$0
Transfer Station	\$0	\$0	\$0
Recycling Center	\$0	\$0	\$0
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$0	\$0	\$0
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$0	\$0	\$0
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$246,172	\$0	\$246,172
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$0	\$0	\$0
Property taxes	\$246,172	\$0	\$246,172
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$0	\$0	\$)
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$0	\$0	\$0
Convenience Centers charges	\$0	\$0	\$0
Transfer Station charges	\$0	\$0	\$0
Sale of Methane Gas	\$0	\$0	\$0
Other sources: (Grants, bonds, interest, sales, etc.)	\$0	\$0	\$0
Total	\$246,172	\$0	\$246,172

All needs are being met in the present and future.

City of Norris

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$166,500	\$0	\$166,500
Transportation/hauling	\$55,500	\$0	\$55,500
Collection and Disposal Systems			
Equipment	\$0	\$0	\$0
Sites	\$0	\$0	\$0
Convenience Center	\$0	\$0	\$0
Transfer Station	\$0	\$0	\$0
Recycling Center	\$0	\$0	\$0
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$0	\$0	\$0
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$0	\$0	\$0
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$222,000	\$0	\$222,000
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$0	\$0	\$0
Property taxes	\$116,000	\$0	\$116,000
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$0	\$0	\$0
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$106,000	\$0	\$106,000
Convenience Centers charges	\$0	\$0	\$0
Transfer Station charges	\$0	\$0	\$0
Sale of Methane Gas	\$0	\$0	\$0
Other sources: (Grants, bonds, interest, sales, etc.)	\$0	\$0	\$0
Total	\$222,000	\$0	\$222,000

All needs are being met in the present and future.

City of Lake City

Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$50,226	\$0	\$50,226
Transportation/hauling	\$30,700	\$0	\$30,700
Collection and Disposal Systems			
Equipment	\$0	\$5,000	\$5,000
Sites	\$0	\$0	\$0
Convenience Center	\$0	\$0	\$0
Transfer Station	\$0	\$0	\$0
Recycling Center	\$0	\$0	\$0
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$0	\$0	\$0
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$0	\$0	\$0
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$80,926	\$0	\$85,926
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$0	\$0	\$0
Property taxes	\$10,358	\$0	\$10,358
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$0	\$0	\$)
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$70,568	\$0	\$70,568
Convenience Centers charges	\$0	\$0	\$0
Transfer Station charges	\$0	\$0	\$0
Sale of Methane Gas	\$0	\$0	\$0
Other sources: (Grants, bonds, interest, sales, etc.)	\$0	\$0	\$0
Total	\$80,926	\$0	\$80,926

Equipment: Recycling Bin/Trailer.

Town of Oliver Springs

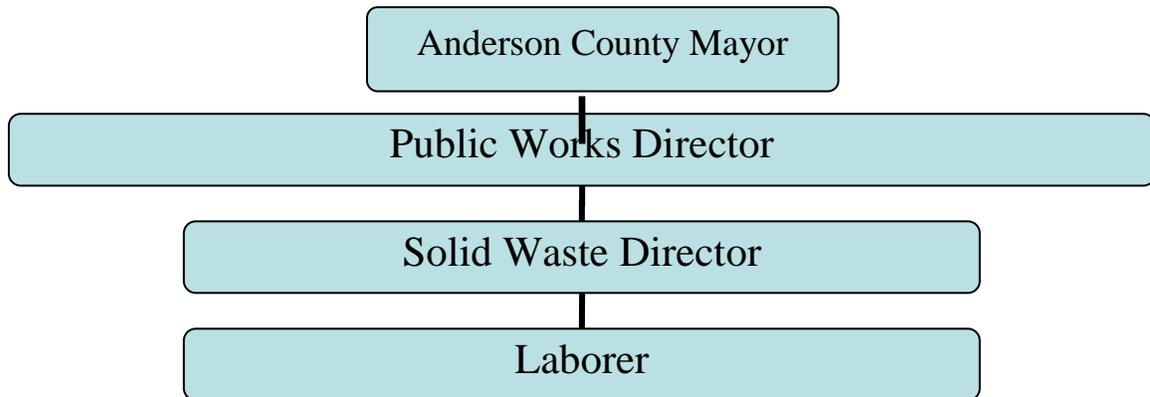
Expenditures			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$0	\$0	\$0
Transportation/hauling	\$130,000	\$0	\$130,000
Collection and Disposal Systems			
Equipment	\$0	\$0	\$0
Sites	\$0	\$0	\$0
Convenience Center	\$0	\$0	\$0
Transfer Station	\$0	\$0	\$0
Recycling Center	\$0	\$5,000	\$5,000
MRF	\$0	\$0	\$0
Landfills	\$0	\$0	\$0
Site	\$0	\$0	\$0
Operation	\$0	\$0	\$0
Closure – See total under post closure	\$0	\$0	\$0
Post Closure Care	\$0	\$0	\$0
Administration (supplies, communication cost, etc.)	\$0	\$0	\$0
Education	\$0	\$0	\$0
Public			
Continuing Education			
Capital Projects	\$0	\$0	\$0
Total	\$130,000	\$0	\$135,000
Revenue			
Host agreement fee	\$0	\$0	\$0
Tipping fees	\$0	\$0	\$0
Property taxes	\$130,000	\$0	\$130,000
Sales tax	\$0	\$0	\$0
Surcharges	\$0	\$0	\$0
Disposal fees	\$0	\$0	\$)
Collection charges			
Industrial or Commercial charges	\$0	\$0	\$0
Residential charges	\$0	\$0	\$0
Convenience Centers charges	\$0	\$0	\$0
Transfer Station charges	\$0	\$0	\$0
Sale of Methane Gas	\$0	\$0	\$0
Other sources: (Grants, bonds, interest, sales, etc.)	\$0	\$0	\$0
Total	\$130,000	\$0	\$130,000

Equipment: Oliver Springs would like to set a recycle bin inside the city at a cost of about \$5,000.

**Item # 8: Solid Waste Department Organization and Location**

Anderson County

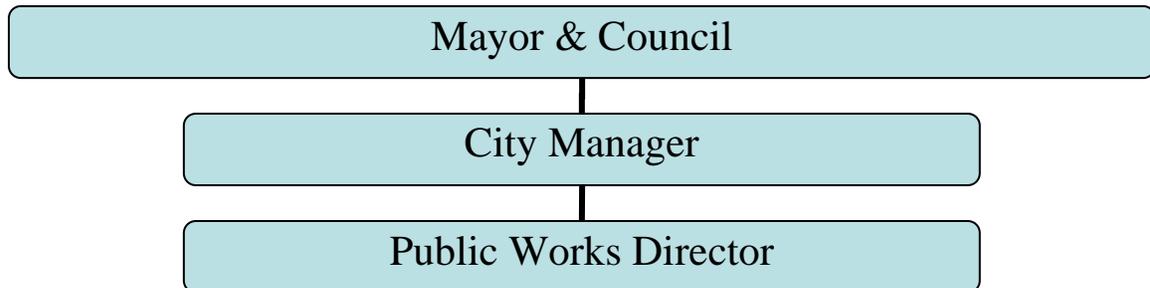
Staffing for Anderson County Solid Waste is 3 workers. The six convenience centers attendants are contracted out with Waste Connection..



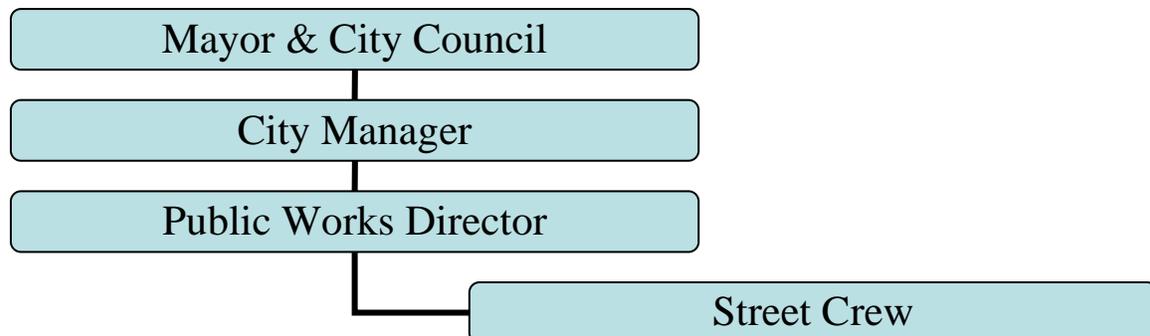
Oak Ridge

All staff for collection of waste is contracted out with Waste Connection.

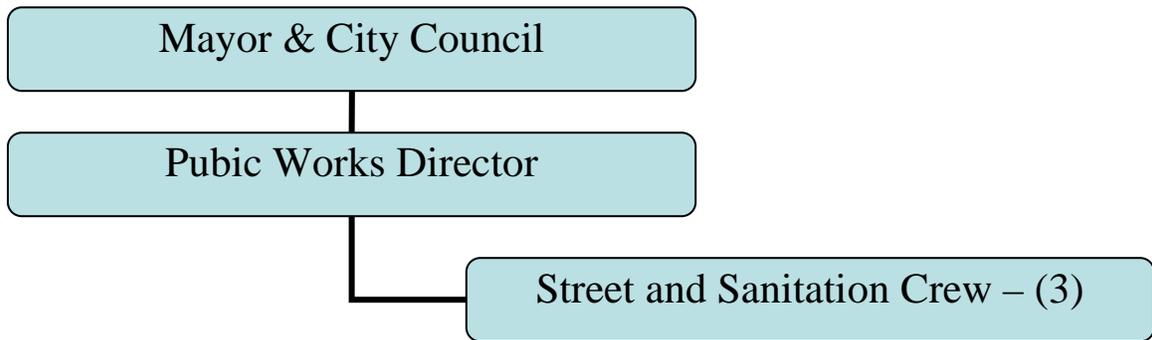
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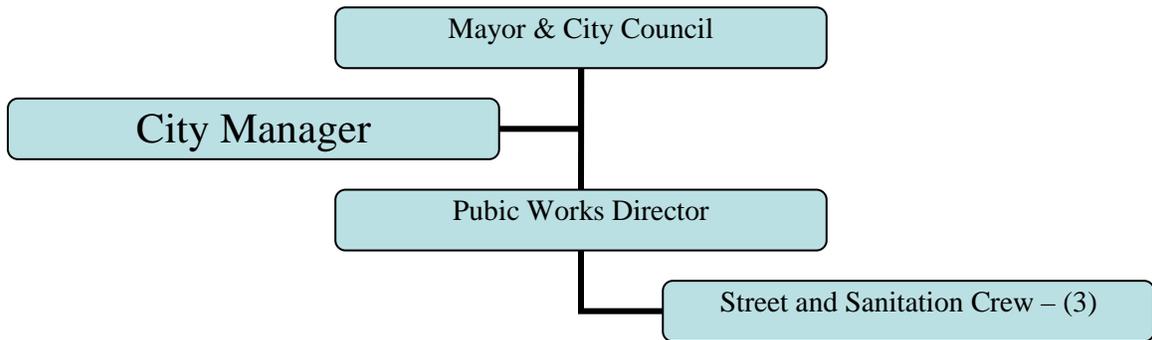
City of Clinton



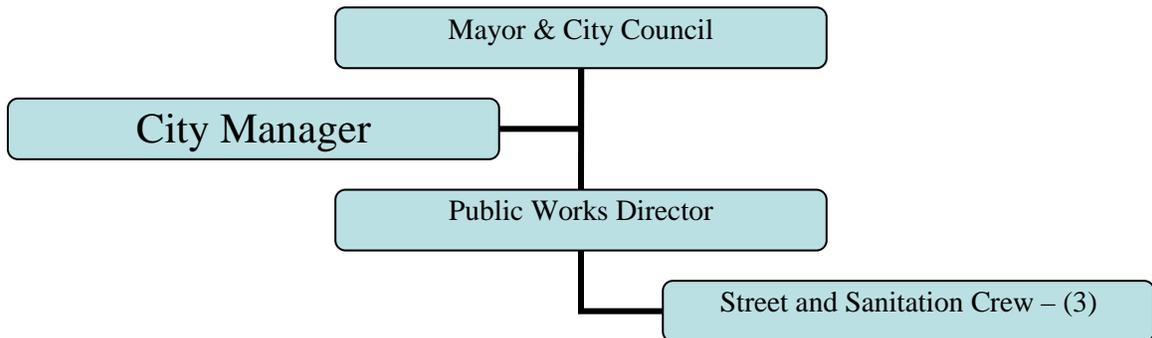
City of Lake City



City of Norris



Town of Oliver Springs



**Item # 9: Future Waste Management Needs**

Anderson County Region

Collection

Equipment	Operational Use	Estimated Cost	Potential Revenue Source	Entity
Recycling Bin	Recycling	\$5,000	Grant	Oliver Springs
Recycling Bin	Recycling	\$5,000	Grant	Lake City
Open Containers	Recycling	\$2,000	Grant	Anderson County
Skid Steer Loader	Recycling	\$35,000	Grant	Anderson County
Personnel	Recycling	\$35,000	County General Fund	Anderson County

Disposal

Site	Operational Use	Estimated Cost	Potential Revenue Source
Convenience Center	Refuse & Recycling	\$250,000 x 2 = \$500,000	Grant and County General Fund

The Region of Anderson has most of its waste management needs met by way of a contract with Waste Connection. Anderson County needs to begin upgrading their convenience centers. The current centers are too small in size and that is causing delays at the centers. In addition to the delays there is no room to set out more recycling containers. The convenience centers due to their current layouts are not very convenient for the residents of Anderson County. At the larger centers there seems to always be lines that require the citizens to wait there turn to dispose of their waste. If you want to recycle items by the time you get ready to dump your refuse, you just dump it all into the refuse container. Blockhouse Valley site has continued to grown as the region is providing more and more opportunities for the citizens of the Anderson County to recycle. Future needs of an extra person and a skid steer loader would allow the region to continue to expand its recycling at the Blockhouse Valley site.

The Town of Oliver Springs would like to begin offering recycling opportunities to its residents and will need to purchase a recycling container in the future that is large enough to handle a variety of items.

## **Item # 10: Residents Attitude and Participation**

No formalized surveys have been done to measure the public's attitude of Anderson County residents concerning support for environmental programs. The mindset of the people is changing as the population gets older as illustrated by the reduction in the tons per person in the region from 1.21 to 1.17. Although, modest in number the size of the population of Anderson County has made a significant drop in waste being diverted from the landfill. Most residents that were casually asked about recycling agree that is in a good way to help do their part in saving the environment. However, most are not willing to go out of their way to recycle. The word convenience tends to come in mind towards the reaction towards recycling. Most feel it is the government's job to provide recycling opportunities and that it should be left up to that person to choose to do so. Most feel that stringent regulations should not be passed that force residents to recycle. As the school age children become older and they are use to recycling items at school a habit of recycling will dictate the increase in public participation in the future. Recycling rates have increased in the region and the percentage of waste being disposed of in a Class I landfill has decreased versus the amount of waste generated. All of the schools in Anderson County are now participating with paper and cardboard recycling. This participation will play a great role in future increases in recycling and decreases in landfill disposal. The region has just recently begun providing some recycling programs in the school system within the last five years that will help to provide more participation in the future. The Cities of Oak Ridge and Norris lead the way in making recycling convenient for customers by providing door to door collection. Even with this convenience both cities have looked at ways to increase their participation. The City of Oak Ridge has went to a recycling rewards system that gives people coupon savings based on the amount of recyclable items that are collected at their home site. The City of Norris has gone to a single stream collection in order to increase participation that will allow the resident to place all material into one container and not have to separate the items. The City of Clinton illustrates that recycling is nice as long as someone else is doing it. The City of Clinton has recently discontinue their recycling center because the numbers had decreased to the point that its was not monetarily feasible to continue. The region of Anderson County has the resources available to grow with the public in terms of recycling.

## **Item # 11: Regional Solid Waste Plan / Executive Summary**

The Anderson County Region's plan for the next five years is to continue to find ways to expand services within their recycling program. As part of the needs assessment, I will take a look at every area of the solid waste stream to give my thoughts on the needs in those areas.

Class I waste is currently being handled in the region by a network of convenience centers that also operate as recycling drop off sites. The Region contracts out the handling of the waste with Waste Connection. As shown on the attach map the convenience centers have been strategically placed throughout the region. A five mile radius shows that every section of the county can be reached by a convenience center. The region has been very proactive in building convenience centers around growth areas in the past. The region does however need to begin replacing some of the convenience centers to allow for more room to expand recycling opportunities. The lack of any major dumps in the area illustrates that these convenience centers are taking care of the need for Class I disposal. All of the cities provide house to house collection of Class I waste. The City of Lake City is the only city that collects and transports their own Class I waste to the landfill. All of the other cities contract out the handling of handling of Class I waste. The City of Oak Ridge does provide a convenience center for extra collection. Anderson County is a host county for a regional landfill that allows for the County and its cities to have a reduced tipping fee of \$19.50 and the county also gets a rebate on the other outside waste brought into the region. There should be no changes in the way that Class I waste is handled in the future. Lake City just purchased a new refuse truck that would assure that they will continue to handle their own waste at least through the next needs assessment period.

Class IV waste is waste that can quickly allow a region to gain tonnage for diversion from a Class I landfill. The region had been blessed with such numbers in the past with over 25,000 tons, but saw a large deduction to 4,000 tons the past year. Since, the region has no control over the landfill that is located outside the region or has the ability to check all waste that is labeled Anderson County waste. The region will constantly be at the mercy of the reporting agency. There is no reason for the Class IV landfill to report accurately where the waste is being generated. I don't see anyway that the region of Anderson will look at constructing a Class IV landfill during the next needs assessment period. The region cannot construct a Class IV landfill and operated the landfill for less then the tipping fee at the Class I landfill. We may want to look at the Class IV operation and see if we can get a better handle on the waste being reported.

Waste Tires are being handled efficiently by the staff of Anderson County and have a central location for the collection and storage of the tires at the Blockhouse Valley site. The region is one of a few regions that allow commercial tires to be taken to the public own site for disposal. That shows a commitment by the region to collect and divert as much waste from a Class I landfill and feasibly possible. The region has a contract with Mac Tires to dispose of the tires when a trailer load is collected. The State probably needs to provide more funding for this program, but other then that there is no reason to change what is being done for the collection of waste tires.

Used oil collection sites have increased in the region over the last three years with two new sites being developed by Anderson County and one new site by the City of Clinton. The region is adequately covered with used oil collection centers by having the collection of used oil at all of their convenience centers. The used oil is being used to heat buildings throughout the region. The Cities of Lake City and Oliver Springs may look at using grant funds to purchase a used oil heater for their maintenance buildings that will allow them to use used oil collected for heat. Both of these Cities need to have used oil collection sites within the city limit boundaries. Other than that the program seems to be working fine and no changes are needed.

E waste is something that the region has added in the past year and seems to be working quite well. E waste is collected at a central location at the Blockhouse Valley site. The region has a contract for the disposal of the waste. The Cities do provide for small pickups of such waste during annual clean-up days. The region would probably benefit in having the largest population density in Oak Ridge having the collection of e-waste at their convenience center.

White Goods and metals are also collected and stored at the Blockhouse Valley site. The region also allows for the collection at all of their convenience centers in small quantities. The City of Oak Ridge provides for collection at their convenience center. All of the cities provide some white good collection during annual clean-up days. The only way that the program could increase recycling numbers and participation is to place large bins at the convenience centers. However, until new larger convenience centers are built that will allow for more room to recycle, the region cannot provide that service. The region has an agreement with Environmental Recycling to dispose of the waste. The amount of white good and metal waste should increase at the Blockhouse Valley site in that one of the pay sites located in Clinton has closed its operation in 2008. The program seems to be operating quite well and cannot suggest any ways to increase numbers in the future.

Brush/Compost is one area that the region can improve on with the help of additional manpower and equipment. The region has room at the Blockhouse Valley site to allow for residents to take their brush and leaves, but currently does not allow this. The region is trying to operate the entire center with two personnel. Tire collection and paint collection tend to take up most of that time. The region would need to have a chipper to chip the brush and a tractor to turn the material. If meeting the 25% waste reduction continues to be a problem in the future. The disposal of brush and leaves could help to meet that goal. All of the cities provide for the collection and disposal of brush and leaves for its citizens. The Town of Oliver Springs had not been reporting their waste diversion to the region and will be counted during the 2009 annual report. It should be noted that such disposal at the blockhouse valley would not be a cure all for waste reduction, since there is a lot of farmland in the rural areas outside of the city limits that dispose of their waste on their own.

The use of sewer sludge should continue to be a viable option for the wastewater plants in the region for the next five years. However, it is more stringent to get the permits for farm application. The City of Oak Ridge is in the process to have the equipment in place to begin land application that will produce about 4,912 tons of waste diversion in the future. The other utilities do provide source reduction by having sludge presses that take out over 75% of the sludge juice that is going into the landfill. These numbers have not been reported in the past and will be accounted for in the 2009 annual solid waste report. The other large producer of sludge, Clinton Utility Board has not seen a need to look at land application due to the reduced tipping fees in Anderson County.

The collection of paint is something that the region has started in the last few years. The collection of paint is a very labor intensive program for the region. It is that reason that the region doesn't advertise the program as much. The region cannot handle much more than what they are getting without additional manpower that is not in the budget for the next few years. Are we generating enough paint to suggest that we are properly having all the paint diverted from the landfill? I think not, but unless we can start collecting paint at the convenience centers then this will not ever be corrected. The region has not had any problems in getting rid of excess paint by having the county use the paint for projects in the area. The region has the room at the Blockhouse Valley site to expand the paint program in the future, but until more manpower can be hired the program will not see a large increase during the next needs assessment period. The region has expanded its program of other special waste with a bulb crushing program that allows residents to bring their bulbs to the Blockhouse Valley site. The region has also started collecting batteries and cans during the litter program pickups, rather than having all of the waste go to the Class I landfill site.

Paper and cardboard have always been collected at the convenience centers in the region. In talking with officials it is their belief that more of these items would be recycled at the convenience centers, if more room was available. The region needs to have room for more bins and room for the residents to pull over to the bins and have time to dump their recycling material. The current convenience centers are not large enough to allow vehicles to pull off the main route and dispose of other materials. You tend to have room to pull up to the Class I containers dump and get out of the way for the other people waiting in line. The region has recognized this problem and has spent monies on upgrading the Glen Alpine site in the past year. The region is in need of seed money from the government to help in upgrading the other sites. Some of the other sites don't have room and would need to be replaced. The City of Oak Ridge and Norris provide the collection of paper and cardboard house to house. The City of Oak Ridge also provide a convenience center for its residents. The other cities rely upon the County to provide drop offs at the convenience centers. The City of Clinton will need to look at providing a paper and cardboard collection for its citizens in the future in order to help the region meet the 25% waste reduction goal. One cannot argue to much with the City of Clinton eliminating their recycling drop off site with two convenience centers in close proximity to the citizens of Clinton. However, the City of Lake City and Oliver Springs are looking at sites that are outside their jurisdictions and farther away. Both of these cities need to look at recycling containers for the collection of paper and cardboard. The Anderson County school system is being provided collection by the County.

The County has increased the program to include two more schools that will provide additional numbers in the 2009 annual report.

The Clinton school system has also followed suite and now have a program in place to pick up paper, cardboard and plastic. The schools have gone from cardboard milk containers to plastic containers. The plastic containers will be recycled by Goodwill Industries. Goodwill Industries has set a 4 cu. yd container at the schools. The Oak Ridge school system needs to look at starting a similar program in the future. The region is capable of taking more plastic at the convenience centers, but without any viable market it makes no sense at the present time.

If the market for glass becomes viable, the collection of glass could be done at the convenience centers and then transported to the Blockhouse Valley site for storage and disposal. The region has the capability, but until the market improves there is no incentive to recycle glass.

In summary, the region has met the 25% waste reduction goal that is mandated by the State. The numbers that have been shown from the industries in the report suggest that the region will have no problem meeting that goal in the 2009 annual solid waste report. The region of Anderson has never relied upon the industrial and commercial side to meet the waste reduction goal in the past and that has left us short on the 2008 report. The region as illustrated has made steps to improve the collection of recyclables, i.e. handling of paint, bulbs, and batteries. The region as illustrated is making steps in the future to continue meeting the waste reduction goals, i.e. expand the recycling efforts at the schools, improve the Glen Alpine Convenience Center to promote more recycling, new equipment to allow for land application of sludge in Oak Ridge. As is the case in all regions there are still things that can be done to further enhance the diversion of waste from a Class I landfill. The economy has slowed down those changes and will place more of a cost benefit analysis on future programs during the next needs assessment period. The region has come along way since the last needs assessment and will continue to reach their goal of having one of the most comprehensive recycling programs in the East Tennessee Region.

Sources:

**Anderson County Solid Waste Department**

**Anderson Home Page**

**U.S. Census Bureau**

**City of Clinton**

**City of Lake City**

**City of Norris**

**City of Oak Ridge**

**Town of Oliver Springs**

**Tennessee Division of Solid Waste Management**

