





# Rutherford County Solid Waste Advisory/ Steering Council


Workshop 1: Regional Partnership and Planning

December 12, 2016  
Murfreesboro City Council Chambers  
6:00 pm – 8:30 pm




## Agenda (estimated minutes)

- Introductions (5 min)
- Committee Organization and Bylaws (15 min)
- Purpose of Project (15 min)
- Comprehensive Planning (20 min)
- Current Status (25 min)
- Break (10 min)




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## Agenda (continued)

- Initial Identification of Future Needs (15 min)
- Technology and Management Options (15 min)
- Public Education and Outreach (10 min)
- Proposed Schedule (5 min)
- Questions, Comments, Answers & Discussion (15 min)




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## Introductions

- Rutherford County
- City of Murfreesboro
- Gershman, Brickner & Bratton, Inc.
- Cooley Public Strategies
- TriAD Environmental Consultants




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# PROPOSED COMMITTEE ORGANIZATION AND BYLAWS



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## Draft Charter



|                                     |               |
|-------------------------------------|---------------|
| Scope and charge of the SWAC        | Membership    |
| Chair, Vice Chair and Subcommittees | Staff Support |
| Meetings                            |               |

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# PURPOSE OF PROJECT

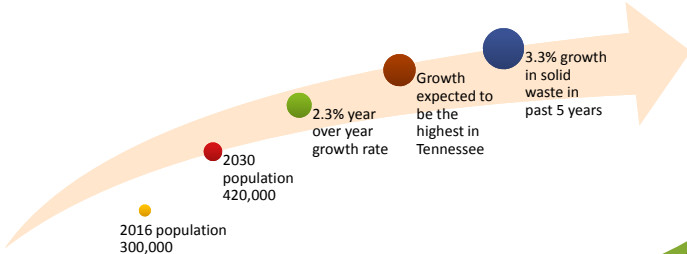
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## Growing Waste Stream

Population growth means waste stream growth

- County and the City need to plan most effective way to manage growing waste stream



2016 population 300,000

2030 population 420,000

2.3% year over year growth rate

Growth expected to be the highest in Tennessee

3.3% growth in solid waste in past 5 years

Source: Projections for the State of Tennessee, 2010-2030; The University of Tennessee Center for Business and Economic Research; June 2009



## Limited Landfill Capacity

Limited Landfill Capacity

- Rutherford County (C&DD) Landfill expected to reach capacity in 4 years
- Middle Point Landfill expected to reach capacity in 8 years

Expiring Host Community Agreement


- The County and City of Murfreesboro each have Host Community Agreements with Jefferson Pike Landfill, Inc. (Republic Services)
- When Middle Point Landfill reaches capacity Host Community Agreements will expire

Middle Point Landfill





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## Host Community Agreements


**Benefits**

- Free disposal for residential waste from County and City of Murfreesboro (38,000 tons/year from County and 42,000 tons/year from City)
- County receives \$1.20/ton of out-of-county waste disposed at the Landfill (~ 650,000 tons/year)
- City receives hauling services for dumpsters at several City properties
- Leachate discharged to City's sewer system 50 percent surcharge over the standard rates

County Disposal Collection



Source: Daily News Journal



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## Host Community Agreements

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**Impacts** County's loss of host fee: \$780,000/year

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County's loss of free disposal: \$2.09 million/year  
(assuming market rate of \$55/ton)

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County Recycling Center  
  
City's loss of free disposal: \$2.31 million/year

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Residential and business waste disposal service fees will increase

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Source: Daily News Journal

  
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# COMPREHENSIVE PLANNING

  
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## Purpose of Comprehensive Planning

Provides blueprint for waste management


Evaluates technology and management options

Defines how system implemented and administered

Considers input from community (residents, businesses, local governments)



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## Example - County of Maui, HI Integrated Solid Waste Management Plan

|   |  |
|---|--|
| Solid Waste Resource Advisory Committee (SWRAC) | Multi-stakeholder group  |
|   | Professional mediators to facilitate discussion and development of consensus |
|   | Generated initial goals and evaluated five (5) scenarios                     |


Site Tours

Recurring Meetings

Consensus Recommendations



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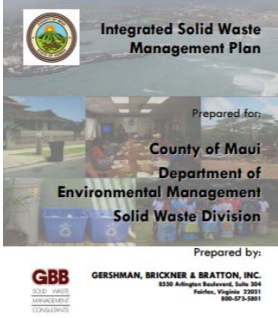
## Example - County of Maui, HI Integrated Solid Waste Management Plan

Review governmental regulations and policies

- Federal
- State of Hawaii
- County of Maui

Review existing infrastructure and programs

- Disposal capacity
- Recycling
- Material collection programs
- Construction and demolition debris
- Organic Waste
- Household Hazardous Waste/Electronics
- Education/Outreach
- Source Reduction/Re-use




**Integrated Solid Waste Management Plan**


Prepared for:  
**County of Maui**  
Department of Environmental Management  
Solid Waste Division

Prepared by:  
**GBB**  
GERSHMAN, BRICKNER & BRATTON, INC.  
2550 Arlington Boulevard, Suite 304  
Falls Church, Virginia 22041  
800-373-5861

February 17, 2009  
Revised and Updated Report




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## TDEC Solid Waste and Materials Management Plan 2015 - 2025


**Nine Objectives Detailed in Plan**

- Update goals and measure progress
- Increase recycling access and participation
- Promote material processing and end use
- Increase organics diversion
- Support technology for waste reduction and recycling
- Expand education and outreach
- Ensure sufficient disposal
- Develop funding sources for sustainable materials management
- Implement strategy




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## TDEC Solid Waste and Materials Management Plan 2015 - 2025


| GOALS   | Current<br>(2012/<br>2013) | 2020  | 2025 | 2035 |
|---|----------------------------|---|------|------|
| Goal 1. Statewide Waste Reduction Goal for Class I (pounds per person per day)      | 5.17                       | 4.0   | 3.5  | 3.25 |
| Goal 2. Statewide Waste Reduction Goal for Class III/IV (pounds per person per day) | N/A                        | Qualitative until TDEC procedures in place to determine current baseline and goal based on baseline |      |      |
| Goal 3. Statewide Recycling Goal  | 33.9%                      | 35%   | 40%  | 45%  |





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# CURRENT STATUS






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## County and Municipal Programs

| Jurisdiction         | 2015<br>Population | Population<br>Growth<br>Since 2010 | Solid Waste Services   |
|----------------------|--------------------|------------------------------------|--|
| Rutherford County    | 298,612            | 13.7%                              | C&D Landfill, recycling centers  |
| City of Murfreesboro | 126,118            | 15.7%                              | Mulch facility, curbside collection of waste and brush, convenience center |
| Town of Smyrna       | 46,607             | 16.8%                              | Curbside brush collection, convenience centers                             |
| City of La Vergne    | 34,794             | 6.8%                               | Curbside brush collection, convenience centers                             |
| City of Eagleville   | 651                | 7.8%                               | None   |


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## Rutherford County

**Recycling Centers**

- 14 for solid waste and recycling
- 1 for recycling only

**Limited Curbside Collection of solid waste and Recycling**

- Private subscription service
- ~ \$17/month solid waste
- ~ \$14/month recycling


**Rutherford County Landfill**

- County owned and operated
- Yard waste, brush, C&D, shredded tires
- 4 years capacity


**Middle Point Landfill**


- Republic Services owned and operated
- Municipal solid waste
- 8 years capacity

**Middle Point Landfill**




**Rutherford County Recycling Center**





Source: Waste360; Rutherford County Solid Waste

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## City of Murfreesboro

**Curbside collection**

- Solid waste in 96 gallon carts
- Brush
- Residents and small businesses


**Mulch facility**

- Processes yard waste and brush
- Mulch is offered free of charge


**Convenience center**


- Includes recycling

**Murfreesboro Brush Collection**




**Murfreesboro Mulch Facility**





Source: WGNS News Radio September 2015; Murfreesboro Pulse

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## Town of Smyrna

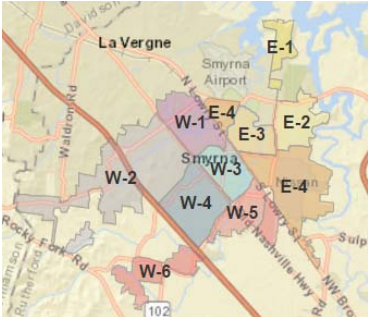
**Brush collection service**

- Streets Department truck
- Kraft bags only
- Taken to mulching site


**Solid Waste and Recycling**

- Private subscription service
- Use of County's recycling centers

**Smyrna Brush Truck Map**




Source: Town of Smyrna



Source: Town of Smyrna

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### City of La Vergne

Directs residents to Rutherford County Recycling Center


Provide brush collection services

Some private subscription service



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### City of Eagleville

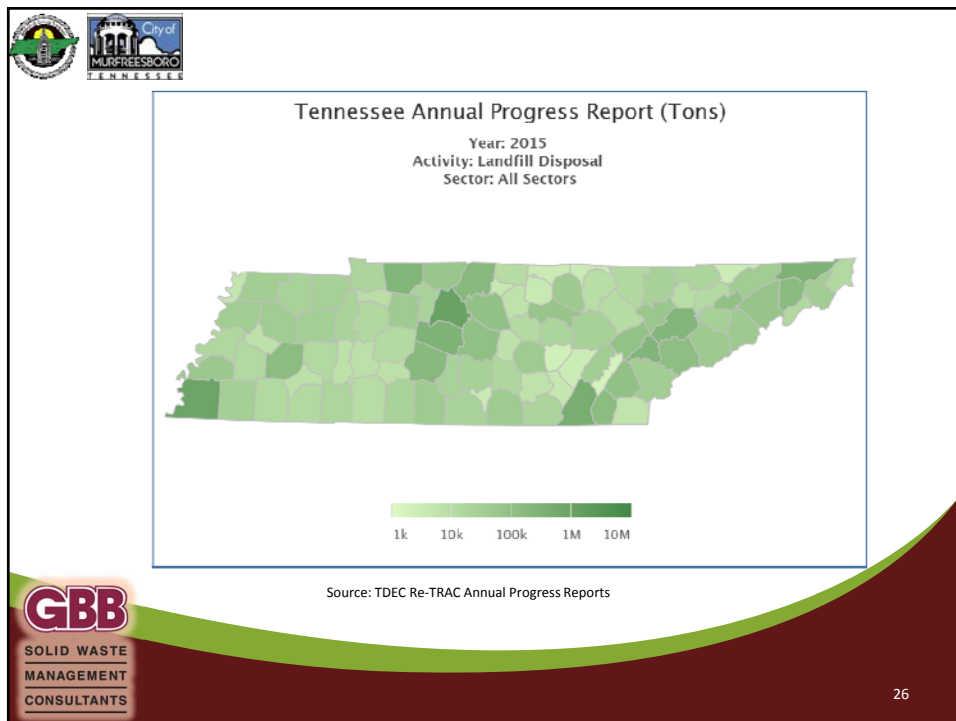
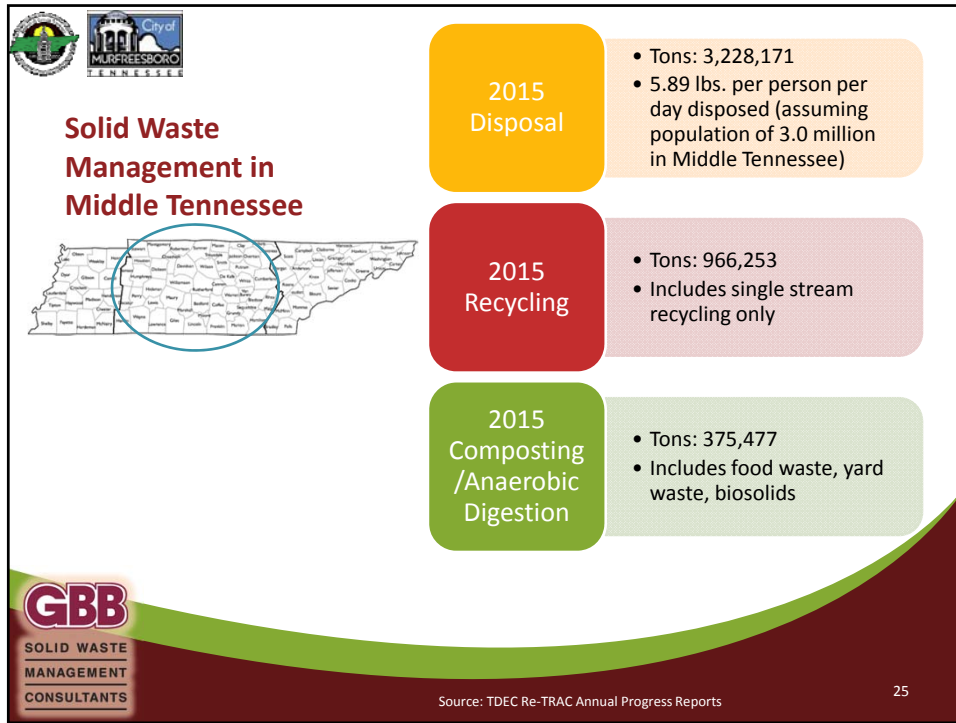
Rutherford County Recycling Center



Some private subscription service



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  **Recent Middle Tennessee Activities**


**Metro Nashville Solid Waste Master Plan**

- Metro Nashville and Davidson County Request for Proposals for a Solid Waste Master Plan issued October 2016
- Evaluate existing system and provide options to increase waste reduction and diversion with the ultimate goal of zero waste
- Develop detailed plan on how the Metro region can meet and exceed the requirements of the State of Tennessee 2025 Material Management Plan


**PHG Gasification Facilities**

- Lebanon, TN and Gallatin, TN
- Downdraft gasifiers
- Feedstock: prepared wood chips and sewage sludge
- Capacity: 64 tons per day


**Lebanon, TN PHG Gasification Facility**



Source: PHG


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  **Former MSW WTE in Middle TN**

- Nashville Thermal Transfer Corporation – 1,000 ton per day WTE for district energy; closed 2001
- Gallatin, TN – 200 ton per day WTE for steam to industries; closed for MSW in 2005; then converted to process wood and tires



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## **BREAK (10 MIN)**

Fun Fact: 60% of all solid waste management dollars are spent on collection services



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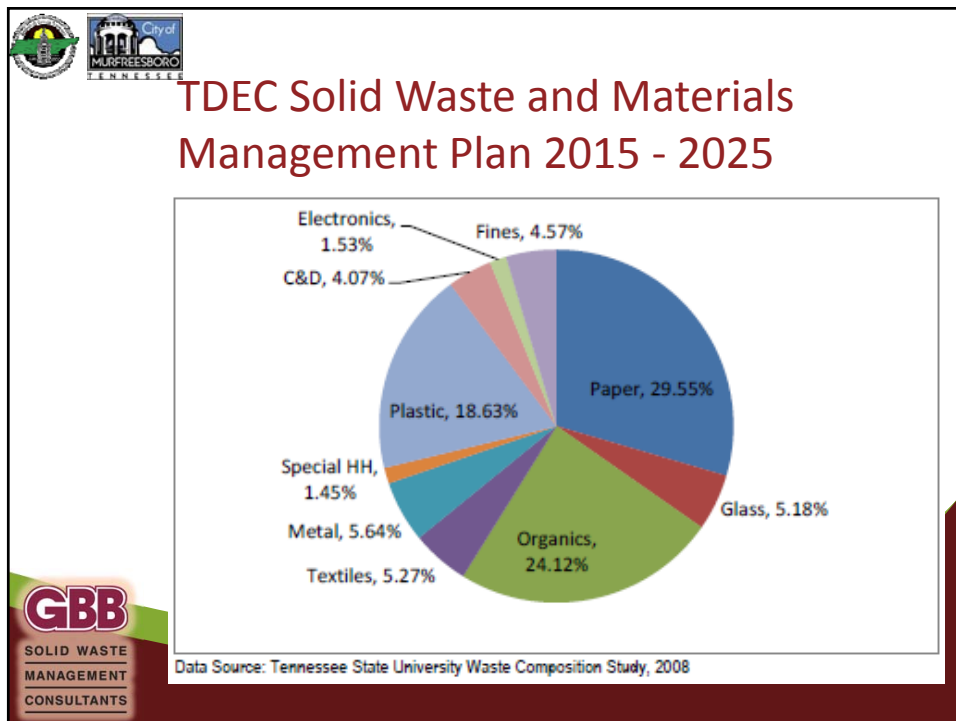
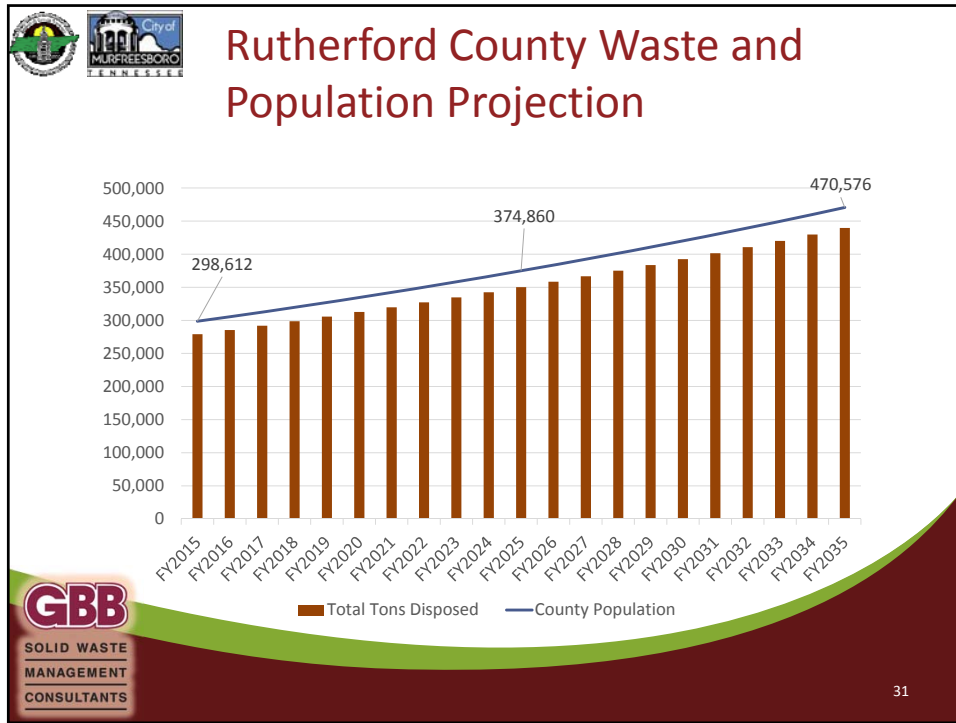


## **INITIAL IDENTIFICATION OF FUTURE NEEDS**




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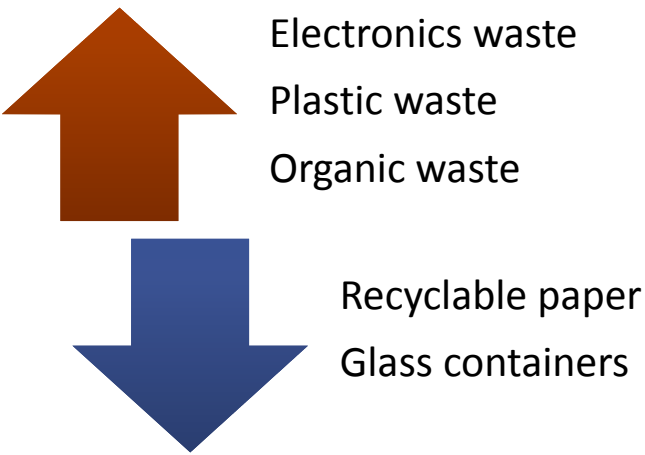
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## Changing Waste Characteristics




Electronics waste  
Plastic waste  
Organic waste

Recyclable paper  
Glass containers



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## Future Services

Services will need to match changing needs


- Expanding curbside collection of waste and recycling
- Generating markets for hard-to-recycle materials
- Increasing source separation efforts
- Integrated data management and reporting

Alternative conversion technologies may be required


- Waste-to-Energy
- Mixed Waste Processing/RDF
- Gasification
- Anaerobic digestion



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# TECHNOLOGY AND MANAGEMENT OPTIONS



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## Waste Management Hierarchy




**Reducing and recovering surplus food**

- Source reduction – Reduce the volume of food waste generated
- Feed hungry people – Donate extra food to food banks, soup kitchens and shelters
- Feed animals – Divert food scraps, waste byproducts to animal feed
- Industrial users – Provide waste used for rendering and fuel conversion, and food scraps for digestion to recover energy
- Composting – Create a nutrient-rich soil amendment
- Landfill/ Incineration – Last resort for disposal

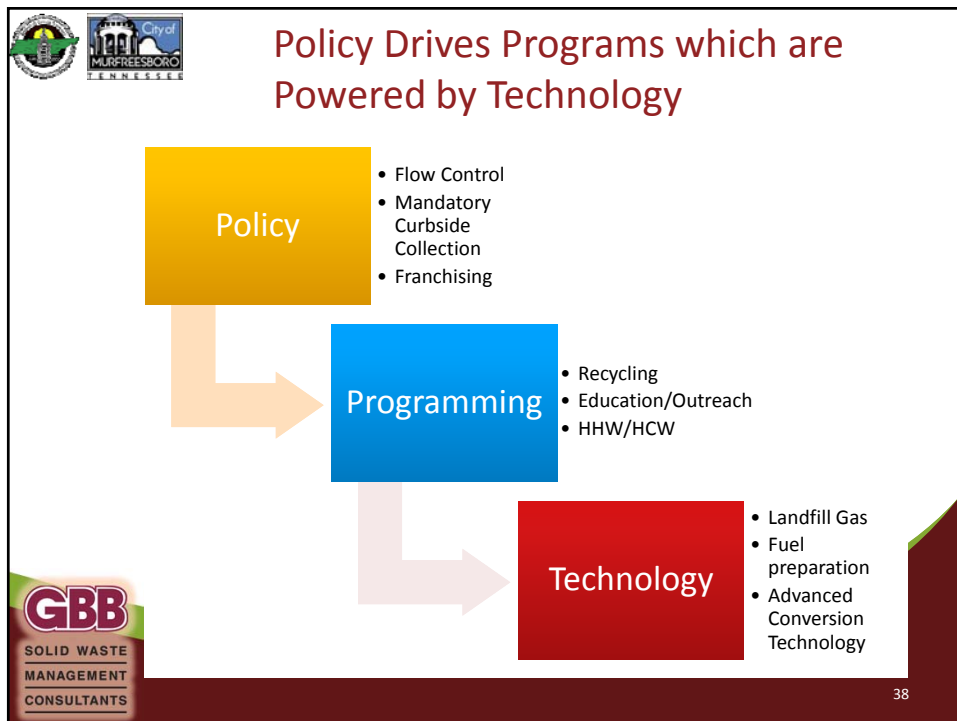
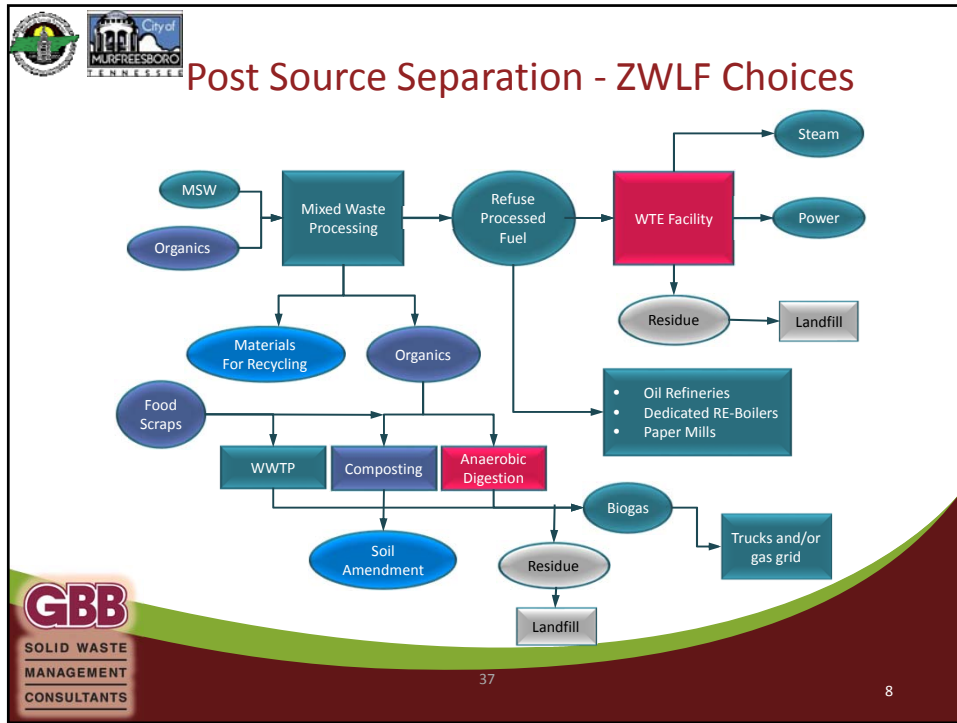
**Waste Management Hierarchy**


- Source Reduction & Reuse
- Recycling / Composting
- Energy Recovery
- Treatment & Disposal



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## Rural System Examples

**Madera County, CA**  
(Population: 154,998)

- Policy: Franchising Unincorporated Collection System, Enterprise Fund
- Program: Residential and Commercial Collection, Residential and Commercial Recycling, Waste Disposal, HHW Handling, Outreach and Education
- Technology: Single Stream MRF, Landfill, Organics Composting




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## Rural System Examples

**Muskegon County, MI**  
(Population: 172,790)

- Policy: Incorporated municipalities contract for collection and townships operate drop-off centers
- Program: County owned and operated landfill, drop-off center recycling
- Technology: Drop-off centers and landfill




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## Rapid Growth System Examples

**Mecklenburg County, NC**  
(Population: 1,034,070)

- Policy: City of Charlotte collection fleet (waste and recycling), municipalities contract for collection, individual service providers
- Program: Residential and Commercial Collection, Residential and Commercial Recycling, Food Waste diversion, HHW Handling, Outreach and Education
- Technology: Single Stream MRF, Private-sector Landfill, Anaerobic Digestion (under construction)




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## Rapid Growth System Examples

**Lee County, FL**  
(Population: 701,982)

- Policy: Franchise agreements, Commercial and Multi-Family Recycling
- Program: Residential and Commercial Waste Collection, Residential and Commercial Recycling, Waste Disposal, HCW Handling, Enforcement, Outreach and Education
- Technology: Single Stream MRF, Landfill, WTE facility, C&D processing, Composting



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 **Large System Example**

**Palm Beach County, FL**  
(Population: 1,422,789)

- Policy: Exclusive franchise agreements
- Program: MSW Collection, Residential Recycling, Commercial Recycling, Waste Disposal, HHW, education and outreach
- Technology: Waste Pre-processing, RDF combustion, Mass Burn Combustion, Single Stream MRF, HHW


  
  
Recycling Carts/Bins


3,000 TPD Mass Burn WTE  
June 2015




  
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 **PUBLIC EDUCATION AND  
OUTREACH**

  
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## Community Education And Outreach

### Media Outreach

- Print/online outlets
- TV stations
- Radio
- Government and community access TV




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## Community Education And Outreach

### Community Outreach

- Social media (Facebook news and information page, City and County Facebook and Twitter accounts, Listserv groups)
- Neighborhood groups
- Community service organizations (Kiwans, etc.)




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## Community Education And Outreach


### Public Meetings

- Q&A forums via government access TV
- Tele-town hall
- Online live chat
- Mail piece (physical and/or virtual) with key points, distributed to City, County mail and/or email lists
- Grasstops meetings with leadership of MTSU, schools, Hispanic community




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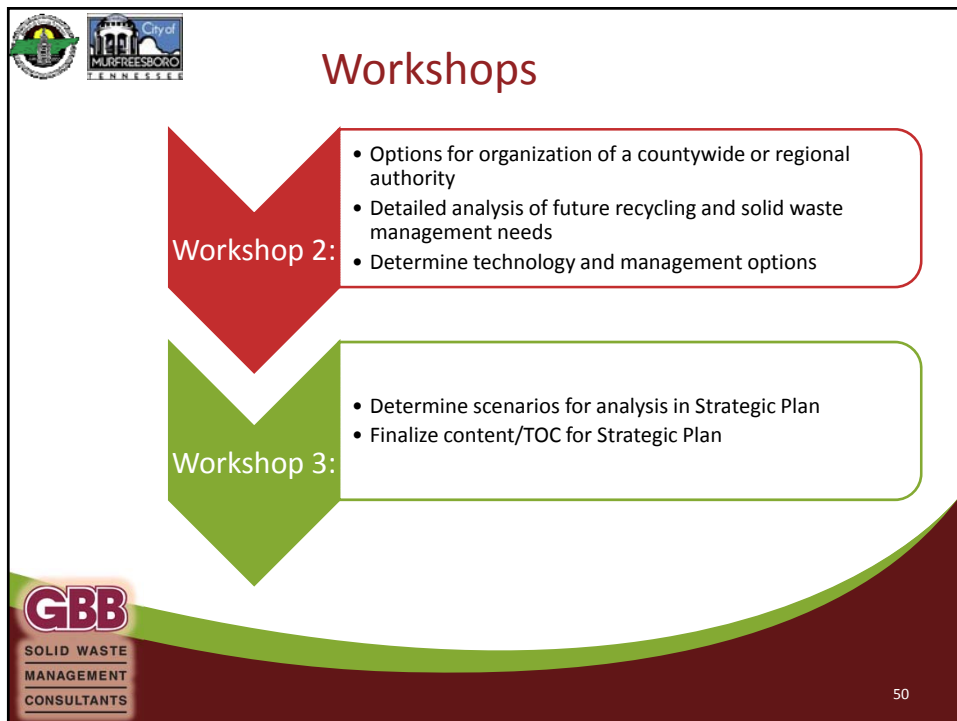
## PROPOSED SCHEDULE

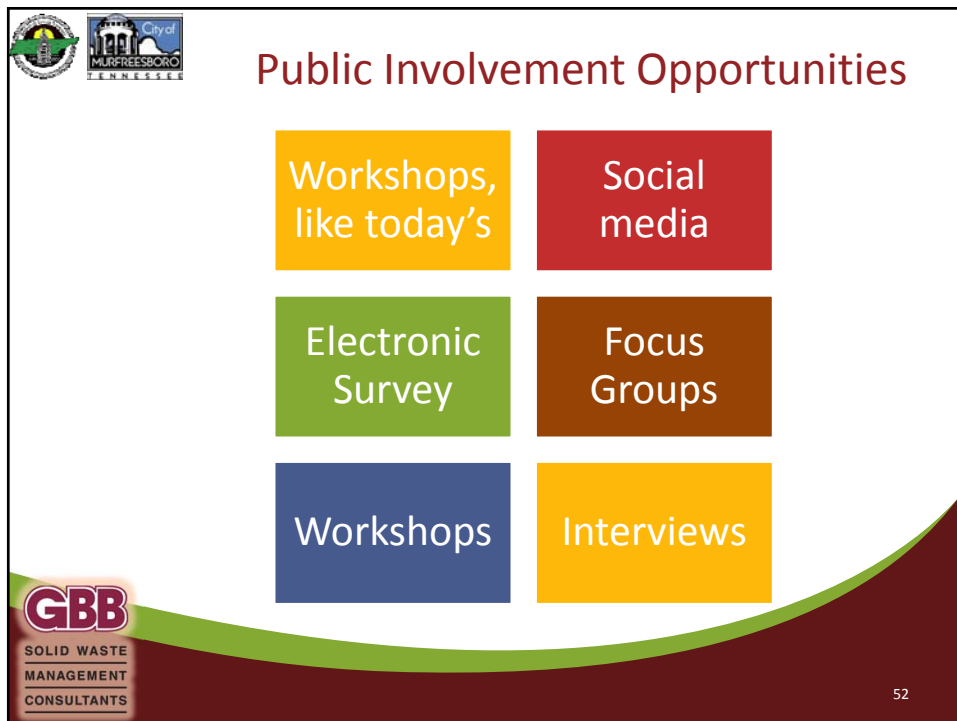
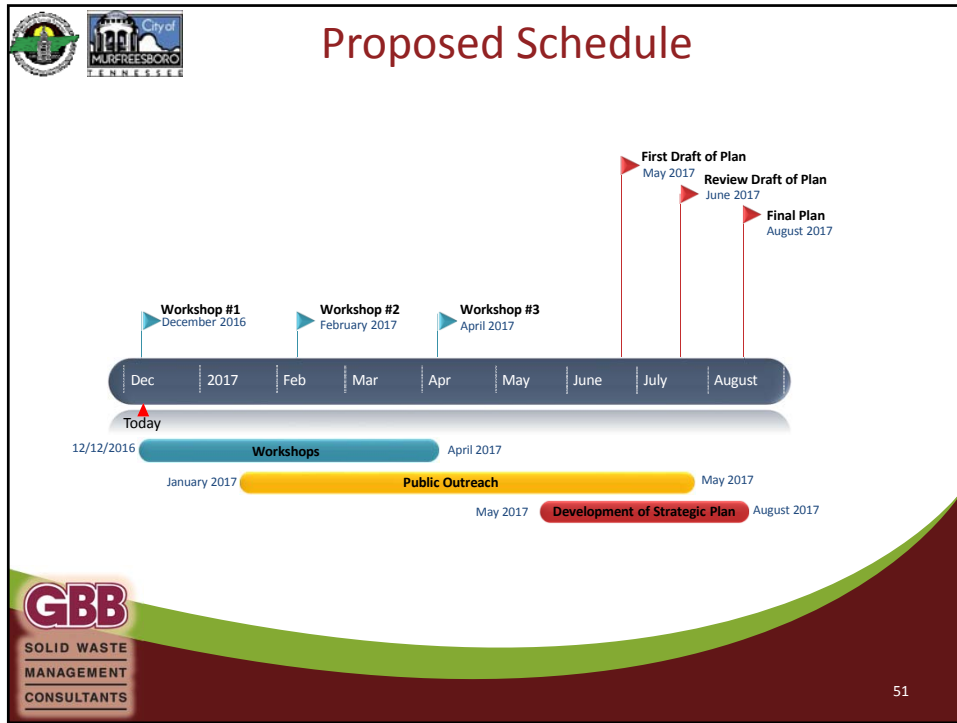


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The slide features a white background with a decorative border of green and maroon curved lines. In the top left corner, there are two logos: the Rutherford County logo and the City of Murfreesboro logo. The main title is centered in a bold, maroon font. In the bottom left corner, there is a logo for GBB Solid Waste Management Consultants. The page number '53' is located in the bottom right corner.

**QUESTIONS, COMMENTS,  
ANSWERS & DISCUSSION**

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