



## Comprehensive Review of Solid Waste Collection and Disposal Options



Town of Chapel Hill  
North Carolina

Council Work Session  
October 29, 2012

# Introduction

- **Project Team**

- Bob Dick, PE – Project Director
- Bob Gardner, PE – Senior Vice President, Solid Waste Division

# Agenda

- **Project Overview and Background**
  - Status update on key recommendations approved at June 26<sup>th</sup> Council meeting
- **Comprehensive Review Findings**
  - Immediate Recommendations
  - Short-term Recommendations
  - Long-term Recommendations

# Background

- SCS Engineers Began Comprehensive Review in March 2012
- Primary Goals of Review
  - examine the town's current solid waste programs
  - identify opportunities to enhance services
  - consider qualitative and quantitative factors in evaluation process
  - identify disposal options due to closure of Orange County Landfill in June 2013
- Preliminary Data Presented to Council on May 16<sup>th</sup>
- Project update and key recommendations presented to Council on June 26<sup>th</sup>

# Key Recommendations

- **Status of Key Recommendations Approved at June 26<sup>th</sup> Council Meeting**
- ✓ Conduct a Site Visit to a Transfer Station
  - City of Asheboro Transfer Station site visit conducted August 19<sup>th</sup>



# Key Recommendations

- **Status of Key Recommendations Approved at June 26<sup>th</sup> Council Meeting**
- ✓ Solicit Proposals for Disposal Cost at Transfer Stations in Durham County
  - City of Durham \$42.50/ton
  - Waste Industries \$41.00/ton, 3-year contract with 2 optional 1-year renewals
- Begin Hauling Town's Waste to Waste Industries Transfer Station
  - Recommend transitioning routes 2-3 months prior to closure of Orange County Landfill on July 1, 2013
- Proceed with Routing and Technology Studying to Maximize Collections Program Efficiencies

# Immediate Recommendations

## (FY 13)

1. Fund current MSW and yard waste collection operations and replace existing single-axle rear-loading compactor trucks remaining in fleet
  - Recommend \$380K Budget Amendment for FY 13
  - Recommend \$341K Budget Increase for FY 14
2. Initiate new interlocal agreement with Orange County for recycling program, identifying metrics of success and governance
3. Continue transport of yard waste and white goods to Orange County
4. Audit special collections (900+ exemptions) to improve management practices

# Immediate Recommendations

## (FY 13)

5. Franchising or outsourcing any aspect of residential or commercial collection program is not recommended.
  - Town provides high-level services.
  - Outsourcing would likely result in diminished levels of services due to the nature of contracted services and lack of control.

# Short-term Recommendations

## (FY 14-18)

1. Commence efforts to site/construct new transfer station to manage municipal solid waste collected by Town
  - Consider regional facility that includes Town of Carrboro
  - Design to consider future co-located facilities (materials recovery facility/compost)
  - Conduct review and evaluation of proposed site in FY13
  - Begin development of permit application documentation and conceptual design efforts in FY14
    - Estimated \$100K budget for initial activities
  - Initiate public outreach efforts in FY14

# Site & Construct Transfer Station



# Transfer Station Recommendation

- Opportunities for Town
  - Maximum flexibility to respond to market changes
  - Maximum flexibility to respond to technological changes
  - Maximizes self-sufficiency
  - Reduces truck traffic
  - Reduces wear and tear on collection vehicles
  - Increases safety
  - Reduces operational fuel consumption and greenhouse gas emissions
  - Creates jobs (construction and operation)

# Short-Term Recommendations

## (FY 14-18)

### 2. Require use of Town-issued carts

- Implementation requires 6 months to a year and public education and notification in FY 14
- Purchase new carts FY 14
- **Municipal Solid Waste:**
  - 1 cart per household at no fee, \$60 per cart for additional carts per year
  - \$225K initial capital cost
- **Yard Waste:**
  - 1 cart per household at no fee, \$60 per cart for additional carts per year
  - \$500K initial capital cost
  - Require residents to schedule and pay for collection of large piles of yard waste and additional carts
    - \$15 per 3 cubic yard pile of yard waste or consider potential full-cost recovery for this service (estimated range of \$75 to \$100)

# Short-Term Recommendations

## (FY 14-18)

2. Require use of Town-issued carts (continued)
  - Anticipated improvement in collections efficiency
    - Approximately 10% (reduced route time) for municipal solid waste
    - 15-20% (reduced route time) for Yard Waste
  - Accomplishes preliminary step for future hybrid Pay-as-You-Throw program and pilot study for automated collections

# Short-term Recommendations

## (FY 14-18)

3. Develop hybrid Pay-as-You-Throw (PAYT) system for excess waste
  - Select Sticker or Cart System
    - Purchase additional 2,100 carts (\$106K), or
    - Use stickers (\$3 per sticker per bag, \$10 per sticker per bulky item or appliance)
  - Hire or assign a PAYT coordinator (\$45K/yr)
    - Implementation requires 12 months and public education and notification
  - Explore options for enhanced billing system

# Short-term Recommendations

## (FY 14-18)

4. Transition to automated residential waste collection for select route(s)
  - Conduct pilot study in FY 15
  - Phased-in implementation based on results of pilot study
  - Purchase at least one 28-cy automated vehicle
  - Consider alternative fueled vehicle (\$35K additional cost per truck)
  - \$40K annual lease payment equipment cost
  - \$10K for education and outreach campaign

# Short-term Recommendations

## (FY 14-18)

5. Invest in customer service system
  - Estimated cost for basic system is \$35K per year
  - Implement in FY 14
  
6. Continue collaboration with UNC on joint vegetative waste and organics processing

# Short-term Recommendations

## (FY 14-18)

### 7. Commercial Bulk Waste Container Collections

- Service Delivery Alternatives evaluated:

- a. Status quo
- b. Continue collection to multi-family units with dumpsters, eliminate commercial account collections
  - Estimated net savings is \$22,000 per year
- c. Continue collection to residential properties, eliminate large multi-family collections and commercial account collections
  - Estimated savings is \$50K to \$75K per year
- d. Eliminate all bulk container collection services
  - Estimated net savings is \$473,000 per year

# Short-Term Recommendations

## (FY 14-18)

### 8. Commercial Services

- Continue commercial bulk waste collections
- Annually review and adjust rates as necessary
- Consider commercial collection schedule changes as part of the routing and technology study
- Consider 4:30 am start time
- Enhance operation and management of the Town's two commercial compactors:
  - Change from physical key to digital key to operate compactor
  - Track use with digital key system
    - \$10K Cost

# Short-Term Recommendations

## (FY 14-18)

9. Better define service delivery policy for multi-family properties.
  - Recommended eligibility criteria for residential roll-cart services should include:
    1. All units have frontage on a public street that is constructed to Town standards; and,
    2. All units have driveways or other clearly defined curbside locations where roll-carts can be serviced along the public street from behind the curb without blocking sidewalks for each individual unit.

# Long-Term Recommendations

(5+ years)

1. Pursuit of the following initiatives is not recommended
  - Stand-alone Materials Recovery Facility (MRF)
  - New Landfill
  
2. Pursuit of several initiatives may be considered in the long-term
  - Every other week trash collections
  - Organics Diversion
  - Waste-to-Energy/Waste Conversion

# Long-Term Recommendations

## (5+ years)

- Organics Diversion
  - Significant additional collection costs to implement for small percentage of waste stream.
  - Significant public education and behavioral changes required.
  - Collection system would require modification (potential additional routes, equipment, and personnel).
  - Additional processing costs required.
  - Regional cooperation and participation would improve economies of scale.
  - Continue discussions with UNC Chapel Hill

# Long-Term Recommendations

## (5+ years)

- Waste Conversion/Waste-to-Energy
  - Economies of scale: a Town-only approach for conventional or new technologies is not economically feasible.
  - Most new processing technologies are not proven at the commercial scale for municipal solid waste.
  - Take “wait and see” approach.

# Summary of Recommendations

1. Begin transitioning disposal of waste to Transfer Station in Durham in April 2013 with all waste being hauled to Durham Transfer Station by July 1, 2013.
2. Fund current municipal solid waste and yard waste collection operations and replace single-axle rear-loading compactor trucks with a recommended \$380K Budget Amendment in FY 2012-13.
3. Initiate new interlocal agreement with Orange County for recycling program, identifying metrics of success and governance.
4. Continue transport of yard waste and white goods to Orange County's solid waste management facility.
5. Audit special collections (i.e., exemptions) with a view to changing management practices.

# Summary of Recommendations

6. Commence efforts to site and construct a new transfer station to manage MSW collected by Town. Conduct review and evaluation of proposed site in FY 2012-13 and begin development of permit application documentation and conceptual design efforts in FY 2013-14.
7. Require use of Town-issued carts for trash and yard waste in FY 2013-14.
8. Hire or assign a Pay-as-You-Throw coordinator and develop a hybrid Pay-as-You-Throw system to collect excess waste not in Town-issued collection carts, using stickers (\$3 per sticker per bag, \$10 per sticker per bulky item or appliance).
9. Implement a pilot phase study in FY 2014-15 to begin a partial transition to automated residential waste collection and purchase at least one automated vehicle for pilot in FY 2013-14.

# Summary of Recommendations

10. Invest in customer service system in FY 2013-14 at \$35K per year cost.
11. Continue to collaborate with UNC regarding potential joint vegetative waste and possible organics processing approaches.
12. Continue commercial bulk waste collections.
13. Annually review and adjust commercial services rates as necessary.
14. Consider commercial collection schedule changes as part of the routing and technology study.
15. Consider 4:30 am start time for commercial services.
16. Enhance operation and management of the Town's two commercial compactors by changing to a digital key operating system at a cost of \$10K In FY 2013-14.

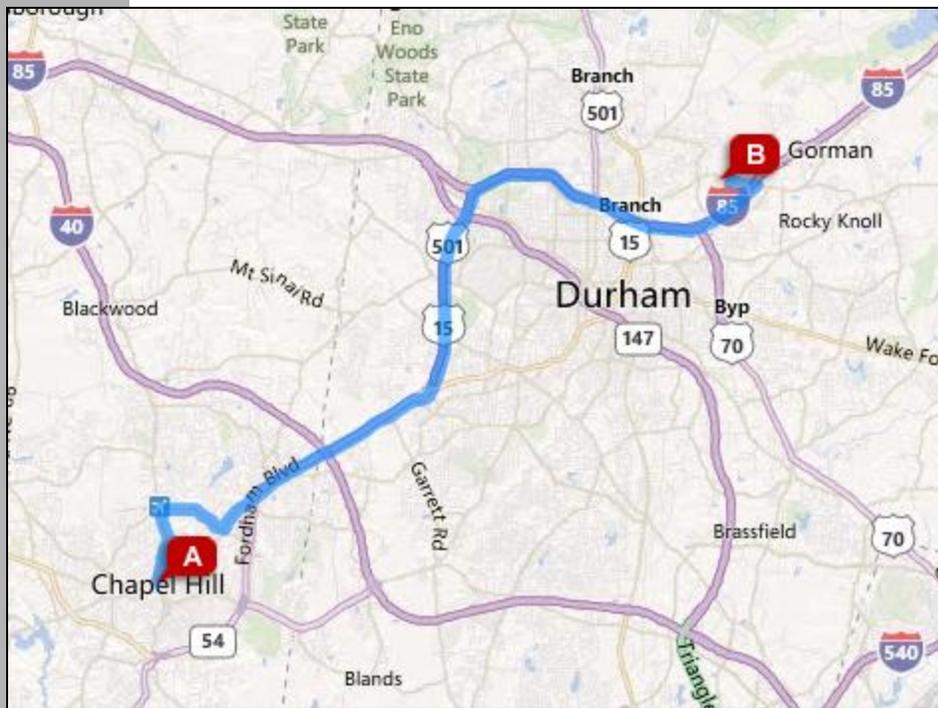
# Summary of Recommendations

17. Recommend eligibility criteria for residential roll-cart services should include:
  1. All units have frontage on a public street that is constructed to Town standards; and,
  2. All units have driveways or other clearly defined curbside locations where roll-carts can be serviced along the public street from behind the curb without blocking sidewalks for each individual unit.

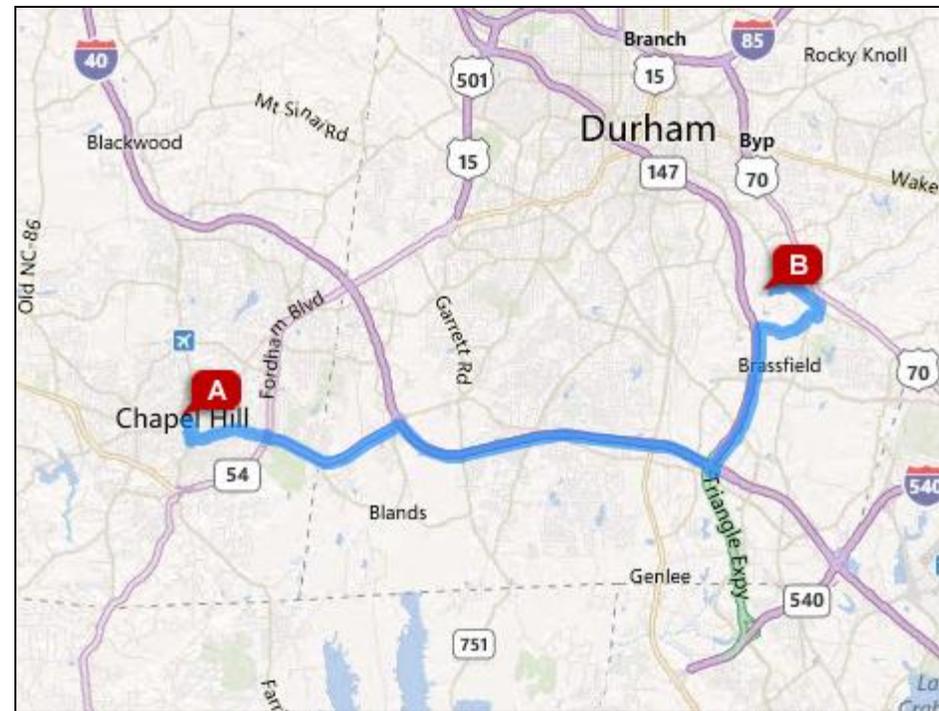
# Summary of Recommendations

18. Pursuit of several initiatives may be considered in the long-term
  - Every other week trash collections
  - Organics Diversion
  - Waste-to-Energy/Waste Conversion
  
19. Pursuit of the following initiatives is not recommended
  - Franchising or outsourcing any aspect of residential or commercial collection program
  - Stand-alone materials recovery facility
  - New Landfill

# TS Routes from Chapel Hill



Route to Durham TS



Route to WI TS