



**Analysis of Consolidated Collection Systems for the Chittenden Solid Waste District**  
**Completed by DSM Environmental Services, Inc. with GBB – January 2012**

**SUMMARY OF STUDY & REMAINING ISSUES**

**Background**

Chittenden County is home to an estimated 61,800 households and 6,000 employers. The current refuse and recycling collection system operates as a non-exclusive franchise for both residential and commercial waste. Haulers licensed by the Chittenden Solid Waste District (CSWD) compete for both residential and commercial customers in most municipalities. Fourteen of the 19 private haulers operating in the County provide subscription residential refuse and recycling collection, and six of these also provide regular collection of commercial refuse and recycling. The other five haulers provide only short-term roll-off/container rental for construction and demolition debris, cleanouts, and bulky waste collection.

CSWD contracted DSM Environmental Services, Inc. (DSM) and their sub-contractor, Gershman, Brickner and Bratton, to evaluate the potential economic and environmental impacts associated with the consolidation of municipal solid waste and recycling collection systems in Chittenden County. The main reasons the CSWD Board of Commissioners is interested in investigating consolidated collection are:

- 1) reduce costs to residents and businesses,
- 2) reduce the environmental and infrastructure impacts of truck traffic,
- 3) increase the level of recycling by using organized collection as an effective mechanism to implement District-wide Pay-As-You-Throw (PAYT), and,
- 4) increase diversion by using organized collection as an effective mechanism to add collection of organics.

A Franchise Study Committee, consisting of CSWD Board members, licensed haulers, and CSWD staff, was formed to provide guidance and feedback to DSM for this work. The Committee considered legal issues associated with franchising with the CSWD attorney. The Committee chose contracting as the preferred method to consolidate collection in Vermont under current statute.

Three options for consolidation of collection routes in Chittenden County were agreed to by the Committee and approved by the CSWD Board for analysis. These are:

- Option 1: Contracts for weekly collection of all residential waste and recyclables,
- Option 2: Contracts for weekly collection of all residential and commercial waste and recyclables, and,
- Option 3: Contracts for bi-weekly collection of all residential waste and recyclables (same as Option 1 except for every other week vs. weekly collection).

The report compares the costs, recovery, and impacts of the current collection system against the different options to consolidate routes. It also identifies PAYT options that could work with each system and estimates the impact of implementing PAYT pricing.

## Assumptions

The alternatives analyzed incorporated the following assumptions:

- Only municipal solid waste is examined, exclusive of construction and demolition waste and bulky wastes handled in roll-off containers. Roll-off waste collection is assumed to continue to operate separately from any consolidated collection activity because efficiencies gained by incorporating this activity would be minimal or none.
- CSWD is divided into geographic collection zones or districts large enough to offer economies of scale.
- Following a request for proposals (RFP), CSWD issues contracts with the hauler proposing the best price (also considering qualifications, proposers' acceptance of contract terms, and other relevant criteria) for collection in each area. To ensure some level of competition remains, CSWD would specify in the RFP that it reserves the right to award multiple contracts, with a limit on the percent of households awarded to one hauler. The District might also specify (if legally permissible) that there be a "small hauler set-aside" of a certain percent of households.
- Fifteen percent of households continue to use the drop-off collection system exclusively.
- Collection route sizes (i.e., number of customers served) increase for all collection routes (except for Burlington recycling) because of the increased collection density achieved in each collection zone and the resulting reduced time required to serve each stop.
- Recycling quantities increase in all cases because of the consistency of recycling collection service, the ability to have more uniform education programs with a single hauler in each collection zone, the embedded recycling costs in one fee for refuse collection, and the use of large volume carts on most curbside routes.
- All haulers pay the same trash disposal fee of \$87.00 per ton.
- The tipping fee for processing recyclables is \$0.00 per ton.
- Billing costs are not included because depending on how billing is done and who does it, the cost varies greatly.

## Comparison of Results

Total annual costs for the current collection system are estimated at \$26.5 million. DSM's analysis projects that consolidation of residential routes (Option 1) would reduce total system costs by roughly \$4.4 million or 16% (see summary table 1 below). Consolidation of both residential and commercial collection (Option 2) or moving to bi-weekly residential collection (Option 3) increases total system cost savings to roughly \$5.9 million or 22%.

DSM estimates that on average businesses would see a 20% decrease in their costs, and households, 24%-32% depending on whether weekly or biweekly service is specified. Note that all individual businesses (or households) may not see these savings depending on the current contract they have negotiated with their hauler.

Recycling is expected to increase by 3,400 tons per year or 12% under the consolidated collection Options 1 and 3 (see summary table 2 below). The overall recycling rate [recycling tonnage/(recycling tonnage + disposal tonnage)] would increase 3%. Under Option 2, recycling is estimated to increase 5,700 tons per year or 21%. This would result in an overall recycling rate increase of 5%. If only the residential sector is examined (i.e., commercial collection costs and tonnage are excluded), the annual residential recycling tonnage would increase an estimated 24% and the residential recycling rate, 5%.

<b>1 - Estimated Costs &amp; Savings for Consolidated Collection Options</b>				
	<b>Current</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
<b>RESIDENTIAL</b>				
<b>Annual Costs</b>	<b>\$18,525,000</b>	<b>\$13,918,180</b>	<b>\$13,918,180</b>	<b>\$12,350,080</b>
<b>Savings</b>		<b>\$4,606,820</b>	<b>\$4,606,820</b>	<b>\$6,174,920</b>
<b>Percentage Saved</b>		<b>25%</b>	<b>25%</b>	<b>33%</b>
<b>COMMERCIAL</b>				
<b>Annual Costs</b>	<b>\$7,952,000</b>	<b>\$7,952,000</b>	<b>\$6,325,500</b>	<b>\$7,952,000</b>
<b>Savings</b>		<b>\$0</b>	<b>\$1,626,500</b>	<b>\$0</b>
<b>Percentage Saved</b>		<b>0%</b>	<b>20%</b>	<b>0%</b>
<b>TOTAL</b>				
<b>Annual Costs</b>	<b>\$26,477,000</b>	<b>\$21,870,180</b>	<b>\$20,243,680</b>	<b>\$20,302,080</b>
<b>Savings</b>		<b>\$4,606,820</b>	<b>\$6,233,320</b>	<b>\$6,174,920</b>
<b>Percentage Saved</b>		<b>17%</b>	<b>24%</b>	<b>23%</b>
<b>Total Savings Inc. Admin. Costs</b>		<b>\$4,356,820</b>	<b>\$5,883,320</b>	<b>\$5,924,920</b>
<b>Percentage Saved</b>		<b>16%</b>	<b>22%</b>	<b>22%</b>

<b>2 – Estimated Recycling Impacts for Consolidated Collection Options</b>				
	<b>Current</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
<b>Annual Recycling Tonnage</b>	<b>27,300</b>	<b>+3,400</b>	<b>+5,700</b>	<b>+3,400</b>
<b>Percentage Increased</b>		<b>+12%</b>	<b>+21%</b>	<b>+12%</b>
<b>Residential Only</b>		<b>+24%</b>	<b>NA</b>	<b>+24%</b>
<b>Recycling Rate</b>	<b>23%</b>	<b>+3%</b>	<b>+5%</b>	<b>+3%</b>
<b>Residential Only</b>	<b>22%</b>	<b>+5%</b>	<b>NA</b>	<b>+5%</b>

The calculation of estimated environmental impacts shows that, while route consolidation will result in reduced air emissions and GHG emissions, increasing the quantities of recyclables collected will result in greater environmental benefits.

#### **Issues Requiring Further Study or Deliberation**

Following the analysis by DSM, questions remain to be answered before a decision can be made on whether to move forward with consolidated collection in Chittenden County. These include:

- 1) Can a collection district legally be set aside for small haulers? If not, can collection districts be organized so that small haulers have an opportunity and the capacity to bid?
- 2) Should commercial routes be consolidated or just residential ones?
- 3) Which Pay-As-You-Throw rate system should be used?
- 4) Will the haulers or CSWD manage the billing for customers and at what cost?
- 5) How much notice should be provided to haulers prior to an implementation date?
- 6) What is the cost of providing residential organics collection and can the savings from route consolidation cover it?

- 7) What avenues should be used to engage the governing boards of our member municipalities and the general public in providing input on consolidated collection and residential organics collection systems?
- 8) If some communities aren't supportive of implementing consolidated collection, what does that mean for the rest of the District?

Additional legal research is being conducted on a set-aside for small haulers. A request for proposals will be issued for an analysis of curbside collection of residential organics. Staff will bring recommendations on each of the issues to the Board. If CSWD decides to pursue some form of consolidated collection, CSWD will contract with a firm experienced in routing, collection bidding, and collection contracts to design the system.