Leaf Management Alternatives

TOWN OF TRUMBULL, CT

August 11, 2015
Therese Keegan
Financial/Accounting Controls Analyst

Therese Keegan tkeegan@trumbull-ct.gov
Financial/Accounting Controls Analyst **Fax (203) 452-5083**

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Mrs. Elaine Hammers, Chairperson
Board of Finance
Town of Trumbull
5866 Main Street
Trumbull, CT. 06611

Dear Mrs. Hammers,

I respectfully submit the enclosed report entitled **Leaf Management Alternatives.**

The audit examines the cost reduction opportunity available from potential discontinuance of the current Trumbull Leaf Pick-up Program. The report also provides the Pros and Cons of alternative leaf collection methods and, for benchmarking purposes, it examines the demographics and processes of proximate Connecticut towns.

I would like to thank the Director of Public Works John Marsilio and his staff for their assistance in the completion of this audit, most specifically Lisa Lobuono and Traci Stone.

Respectfully submitted,

Therese Keegan
Financial/Accounting Controls Analyst

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Executive Summary

Performance audits are defined as engagements that provide assurance or conclusions based on evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined practice. A performance audit also provides objective analysis so that management and those charged with governance and oversight can use the information in this report to improve program performance and operations, reduce costs, facilitate decisions by those who are responsible to oversee or initiate corrective action and contribute to public accountability.

In April 2011, a limited scope performance audit was presented to the Town of Trumbull Board of Finance. The Trumbull Leaf Pick-up Program report included total cost of program based on labor hours, a FEMA Schedule of Equipment Rates for cost of equipment usage, and the allocation of overhead and supervisory/ancillary time devoted to the ~5 week annual program. This report differs in that it concentrates on potential savings rather than on total cost. This report provides key demographics of proximate Towns, benchmarks their leaf collection processes, and offers a schedule of alternatives to Trumbull's current leaf vacuuming process.

Scope & Methodology

The Trumbull Public Works Department administers an annual leaf pickup effort. The 2014 leaf pickup was scheduled to occur between 11/3/14 and 12/12/14. The window of opportunity is brief, squeezed in between when the bulk of leaves decide to fall and when the first snowfall will follow. For that reason, timely completion is critical. Much of the cost of the current process is related to overtime required by Town employees. A second significant cost of the program is the 3rd party expense of hauling the collected leaves.

The Leaf Pick-up Program process was reviewed with Public Works personnel and all costs of the program were accumulated and categorized as to whether or not they represented normal operating costs, or whether discontinuance of the current process would create a savings opportunity as compared to alternative methods of leaf collection.

Leaf management alternatives

Before we review savings potential, we need to consider alternatives to the current program, as choice of alternative is a factor in savings potential.

Various sources were reviewed in consideration of alternatives to the vacuuming process. Many towns that transitioned from vacuuming to an alternative method posted their stories to the internet. Neighboring Connecticut towns provided current process information upon request. Leaf collection methods, including pros and cons of each method were compiled into the following table:

Leaf program options:	Pros	Cons
I. Vaccuming	- Vaccuming provides effective results - Physically easiest for residents	- Expensive; labor intensive - Tight window for pick up; unpredictable leaf fall / snowfall - Equipment damage if sand/salt enters vacuums - Only one pick up opportunity - Safety concerns with piles - Potential for blocked storm drains
II. Bagging	- Pick up is easier, faster; less labor / equipment intensive - Completion window is extended; no overtime required - Generally multiple collections provided - More effective utilization of equipment & manpower - No heavy equipment required - Decreases leaching of phosphorus & nitrogen into storm runoff - Reduces street obstructions & storm drain blockage - Roadways cleaner faster; sweeper access - Pickup may be subcontracted	- Implementation "shock" - Potential push back from residents - Bagging increases net waste, even if bags are biodegradable - If decide to subcontract, may find limited vendors - May require additional collection sites to accomodate resident drop offs
III. Dual options - (bagging, vaccuming)	- Reduces implementation "shock" - Easily incentivized financially or via scheduling	- Scheduling confusing if not properly communicated - Most municipalities did not offer vaccuming/bagging choice: > Costly to provide simultaneous services > Prolongs the transition
IV. Dual options - (mulching, bagging)	- Most significant Town cost reduction - Ever increasing initiative support - Educational flyers, training videos, etc. available - Improves soil quality - Reduces need for lawn chemicals - Protects wintering butterflies & insects	- Potential push back from residents - Resident education / awareness required: > Robo calls > Town meetings > Live trainings (mulching) > Mailings > Signage > Assistance by phone, etc.

Almost all of the towns selected for review were using a bagging method of leaf collection, usually in conjunction with a mulching education program. Choice of program was generally financially driven and will vary in cost based upon whether pick up is performed by town employees or by a subcontracted company. The Town of Fairfield subcontracts pickup, including hauling under a 3 year contract for $65,000/year. Last year Trumbull paid $144,000 just for leaf hauling.

The City of Stamford vacuums leaves via a program similar to Town of Trumbull. Cost and potential savings information was not readily available but they acknowledged cost was high. Several years ago Stamford considered transitioning to bagging as a less expensive alternative but did not complete the transition. Stamford offered a bagging/vacuuming option (III above) which was not recommended by other towns that had undergone the transition.

Aside from the potential for cost reduction, town should consider other factors, to include:

1. Resident safety
   Piles of leaves that are not vacuumed timely:
   - Create safety concerns should children play or hide in piles
   - May obstruct roadway and sidewalks
   - May obstruct storm drains
   - Need to be re-raked, especially if snowplowing requirements overlap leaf collection
   - High risk of damage to leaf equipment once snowfall occurs

   Bagging addresses safety concerns as at that point the leaves are contained. This affords increased flexibility in collection timing, reducing or eliminating overtime requirements.

2. Physical ease to residents, especially seniors
   - The job of getting the leaves to the curb is generally more difficult than getting the leaves into a bag. Blowing can still occur, with the final bagging step added.
   - Residents currently unable to move leaves to the curb may already be using services of landscapers, etc. for whom bagging does not create undue difficulty.
   - Scouting or other community service organizations are generally available to assist.

3. Cost to residents
   - Bags are inexpensive but do shift some of the cost of leaf collection to those who utilize the service
   - Bags are reusable if residents drop leaves at leaf collection site; bags may be unnecessary if collection sites accept loose leaves
   - Option exists for Town to subsidize cost of bags, perhaps for year of transition
   - Lower operational costs mitigate potential future tax increases

A summary of neighboring town demographics and processes is provided below:

Town	Process	Performed by:	# of collections	Households 2012	Sq. miles	Miles of roads 2013	Pop. 2012	Pop 65+ 2012	Senior %
Trumbull	Vaccuming	Town employees / temp labor	1 collection	12,140	23	206	36,008	6,673	18.5%
Fairfield	Bagging	Subcontracted & Town employees	1 - 3 varies by region 1 - final for late baggers	20,227	30	263	59,562	8,967	15.1%
Shelton	Bagging	Town employees	2 in fall, 1 in spring Also, drop offs accepted at compost area or transfer station	15,019	31	216	39,641	7,111	17.9%
Monroe	None	NA	Residents can bring to Town landfill free of charge, either loose or in biodegradable bags	6,530	26	140	19,529	2,566	13.1%
Westport	Bagging	Town employees	Multiple pick ups Nov & Dec Extended drop off hours	9,382	20	123	26,516	4,324	16.3%
Stratford	Brown bags or barrels	Town employees	Pick up semi-weekly April - Dec using rear load (compacting) garbage trucks	20,169	18	174	51,440	9,033	17.6%
Stamford	Vaccuming	Town employees / temp labor	1 collection	45,196	38	309	122,878	15,317	12.5%

https://www.cerc.com/TownProfiles
http://www.ct.gov/dot/lib/dot/documents/dpolicy/policymaps/ref/townroadlist.pdf

Financial impact

This section includes the following three financial decision making considerations:

A. Segregation of costs directly related to current process, including "opportunity costs"
B. Potential income from sale of leaf collection equipment
C. Addition of costs associated with an alternative leaf collection method

A. Costs directly associated with current process

Key assumptions:

- For permanent, full-time employees, only overtime and double time are included in the potential cost savings analysis. Regular time would be paid regardless, for work which could be accomplished on other projects at hand; **regular time represents "opportunity cost" of the current leaf collection process**
- Seasonal employee and temporary labor included if dedicated to leaf pickup
- Vehicle parts and repairs were included when specific to leaf program equipment
- Fuel cost during the leaf pickup schedule was compared to fuel cost for a similar period of time prior to the leave pickup schedule; differential was added to analysis
- Hauling expenses were paid to Royal Environmental specifically for leaf transport
- Supplies included were specific to leaf pickup

The results of the analysis are as follows:

	Total cost	Opportunity cost	Process specific costs
Labor:			
- Employee regular time	245,174	245,174	-
- Employee overtime	118,294		118,294
- Seasonal worker	1,558		1,558
- Temporary labor	17,786		17,786
Equipment costs:			
- Parts and labor	25,570		25,570
- Repair regular time	48,926	48,926	
- Repair overtime	15,475		15,475
- Fuel differential	12,863		12,863
3rd party hauling	144,024		144,024
Program supplies	4,706		4,706
	634,376	294,100	340,276

B. Potential income from sale of equipment upon discontinuance of current process

As with the costs categorized above, vehicles and equipment were categorized as to whether they were used for alternative projects and would be retained, or whether they exclusively served the current vacuuming process and could be sold.

Fair market values and selling prices are based on estimates received from Highway Fleet Manager:

Description	Acquired	Cost	Accum. Depreciation	Book value	Estimated selling price	Estimated profit / (loss)
Toro leaf vac	8/02	31,200	24,787	6,413	1,000	(5,413)
Toro leaf vac	8/02	7,800	6,197	1,603	1,000	(603)
Tarco leaf vac	8/03	19,500	14,192	5,308	1,000	(4,308)
ODB leaf vac	8/11	17,140	3,333	13,807	8 - 10k	(4,807)
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Leaf composter	1994			- 0 -	Scrap/parts	
		161,340	65,172	96,168		(39,168)

As municipalities move away from vacuuming, bidding on used equipment has become less competitive. Town would almost certainly have to sell at a loss.

Leaf vacs require impeller replacement almost every year at a cost of ~$1,500 each. Loss on sale could be recovered in 2 – 3 years via reduced maintenance expense.

C. Addition of costs associated with an alternative leaf collection method

1. Should a town consider implementing a bag pick up process as an alternative to vacuuming, the following costs would be associated with the program:

   a. If subcontracted:
      - A request for bid should be prepared, with and without cost of final hauling included. An estimate of the amount of leaves to be picked up and the number of collection cycles desired should be included in the bid request.
      - As a benchmark, the Town of Fairfield subcontracts pickup, including hauling, under a 3 year contract for $65,000/year. Number of collections varies from 1 – 3 based on regional requirements.

	Fairfield	Trumbull
Households	20,227	12,140
Miles of roads	263	206

   b. If town employees are to provide pickup:
      - Determine number of collection cycles desired. Some neighboring towns provide one pickup opportunity but open additional collection sites or extend drop off hours. Others provide one or two pickups in the fall and an additional pickup in the spring. Alternatively, Stratford picks up leaves and yard waste semi-weekly from mid-April to mid-December.

- Based on number of collection cycles, cost of equipment will be investigated. **Town currently owns one compacting truck, currently used for bulk waste pickup.** At least one additional truck will be required in case of repair requirements.
- Cost of hauling to final destination should be reviewed
- If performed by town employees, bag pickup is less labor intensive than vacuuming. Routes are covered faster with smaller crews. Additionally, the increased flexibility in collection timing reduces or eliminates overtime requirements.

2. If bagging is decided upon, Town may wish to consider offering residents alternative leaf drop off sites, or extending hours of current facility, which will bear a cost.

   Regardless of which decision is made, there will be a cost of communication to residents. Town should consider adding educational information to the communication related to composting/ mulching, which is the easiest, most cost effective alternative and the most advantageous to the environment.

Summary

In financial terms, the cost of the Town's current vacuuming process is high compared to alternative processes. The exact amount of potential savings will be difficult to compute until either:

- Subcontractor bids are requested and/or
- The cost of an additional compacting truck is investigated

In either case, the growing cost of overtime can be greatly reduced or eliminated.

	Total cost	Opportunity cost	Process specific costs
Labor:			
- Employee regular time	245,174	245,174	-
- Employee overtime	118,294		118,294
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If we compare Trumbull's 2014 program cost of $634,376 to Fairfield's subcontracted cost of $65,000 Trumbull incurred 10 times the expense to accomplish the same goal.

This excess is compounded year after year.

In other than financial terms, many residents may be satisfied with the current process.
The difficulty in changing the present program is due to the impact the change will have on some residents, particularly the elderly population of Trumbull. Discussion is key as the acceptance and support of the public are critically important components of a successful transition.

Recommendations

Recommend the Town of Trumbull consider utilizing a bagged method of leaf collection as an alternative to the current vacuuming process. In order to facilitate the decision making process, recommend the following next steps:

1. Town to consider number of collections desired which can vary by region
2. Investigate cost of at least one additional truck for use/backup purposes
3. Review and bid cost of hauling leaves to final destination
4. Request subcontractor bids for collection process, with and without cost of final hauling included
5. In an effort to gather resident opinion on potential cost savings/process change, Town to take advantage of upcoming voting opportunity by adding a non-binding referendum to the November ballot

Once bid information is collected and voter sentiment is determined, an updated report will be prepared.