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Recycling Technical Assistance Project #418
Forest Hills Borough, Allegheny County, PA

Exploring the Impact of PAYT and Contract Modifications to reduce Residential Collection Costs

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Introduction

The Recycling Technical Assistance Program, is sponsored in partnership by the Pennsylvania Department of Environmental Protection (DEP) through the Solid Waste Association of North America (SWANA), the Pennsylvania State Association of Township Supervisors (PSATS) and the Department of Community and Economic Development (DCED) Governor's Center for Local Government Services. Qualifying municipalities wishing to enhance their recycling, composting and waste reduction programs are provided with professional support to assist them achieve their goals and objectives.

Forest Hills Borough requested technical assistance to determine the feasibility of implementing a Pay-As-You-Throw system, as part of the next residential collection contract, with the purpose of controlling costs and increasing recycling efforts.

As the consultant selected to manage the project, Nestor Resources, Inc. is pleased to submit to the Borough our findings and recommendations. This report includes background data, resources and references, as well as explanations and justifications for the consultant's suggestions.

Background

The Borough of Forest Hills, Pennsylvania is located within 7 miles of Pittsburgh, PA in the eastern suburban area of Allegheny County. It is a very traditional and well kept neighborhood. More than half of the community's 3,050 housing units are occupied by families. With a population of 6,831 people, Forest Hills qualifies as a community mandated to recycle under the provisions of the Municipal Waste Planning Recycling and Waste Reduction Act (Act 101 of July 1988). As such, the Borough enacted a Solid Waste and Recycling Ordinance in 1993, which was amended in 2003. The ordinance requires residents to separate recyclable materials and leaves from municipal waste, with mandatory participation in the municipality's collection program.

The Borough contracts with a private sector service provider for collection of waste and recyclables. Residents have the opportunity to recycle at curbside every other week, as part of the municipal waste collection contract. Materials collected include: glass bottles, steel and aluminum cans, #1 and #2 plastics, and newspapers. The material is collected in a dual stream with newspapers separated from the remaining materials, which are commingled. The contracted hauler reports the composition of the material as follows: 95 tons of glass, 8 tons of aluminum cans, 61 tons of bi-metal cans, 169 tons of newspapers, and 27 tons of plastic containers. Overall, Forest Hills residents recycle an average of 360 tons per year.

Leaves are collected at curbside in the fall by the Borough's public works crew. Using vacuum equipment, crews collect leaves, which are transported to a municipal compost site in Churchill. The collection schedule varies from year to year depending on need. Typically, if a significant amount of leaves begin to fall, collection can begin as soon as late October, and will continue through early December as weather permits. An average of 250 tons of leaves is reportedly collected annually.

Forest Hills recently experienced a 35% rate increase in its residential contract collection contract. The Borough has less than optimal recycling participation. Its combined residential and commercial recycling rate is less than 10%, well short of the state's goal of 35%. The Public Works Department has an excellent system to collect leaves, but it does not meet the Department's broader definition of total leaf waste management. Collectively, these issues prompted the Borough to seek technical assistance to improve the situation.

Project Scope of Work

Task #1: Nestor Resources, Inc reviewed the Borough's current collection contract, annual reports, performance grant applications and ordinances relevant to solid waste management and recycling. In addition, the consultant met with the Borough Manager and a representative from Borough Council in order to establish an awareness of current practices; an understanding of limitations and constraints; and an overall projection of feasible alternative collection methodologies. The consultant independently conducted brief field observations in the Borough.

Task #2: Nestor Resources, Inc. prepared an outline that highlights how the current contract, ordinances and practices impact the collection costs. Additionally, Nestor Resources prepared a table that demonstrates alternative scenarios for a variety of PAYT rate structures.

Task #3: The consultant met with the Borough Manager, representative Council Members and then the Borough Council to discuss the findings regarding the current contract and to present and explain the available PAYT options. The discussion focused on the risks and benefits of each scenario including: performance issues with the contractor; costs to the resident; incentives for recovery; public acceptance and related issues.

Task #4: Nestor Resources, Inc prepared and submitted to the Pennsylvania Department of Environmental Protection (PADEP) for review and comment, a draft project report, which summarizes the consultant's findings and recommendations. Based on the PADEP's input, the consultant revised and finalized the report. Both the Borough and the Department were provided with the report in electronic format. In addition, a hard copy of the document was provided to the Borough.

Summary of Recommendations

The purpose of the project was threefold. The first objective was to determine what factors in the existing contract might contribute to the Borough's increasing collection costs for waste and recyclables. Next was to provide potential options in the upcoming request for bids that would stimulate recycling and control costs, specifically inclusion of a Pay-As-You-Throw (PAYT) component. Lastly, the project was to offer comments regarding whether services specified in the overall curbside collection contract were adequate to comply with the requirements of Act 101.

After review of Forest Hill's current program, Nestor Resources, Inc. provided Borough Council with commentary on areas for improvement, along with feasible solutions. The following list highlights the predominate issues; suggested corrective actions; and enhancements to the program.

- ❑ PAYT is a mechanism that could offer some form of discount to residents. At a minimum it should offer each household the incentive to control the cost of their curbside collection through recycling and waste minimization. Borough Council should consider new bid specifications that are inclusive of a PAYT structure.
- ❑ Some haulers are resistant to a PAYT program because they believe it to be more difficult to implement from an operational perspective. Borough Council should involve potential bidders in discussions to reinforce the Borough's commitment to PAYT; present details of the proposed program structure; and address any reasonable concerns to improve operating efficiencies and customer service.
- ❑ Because of the availability of disposal capacity in Western Pennsylvania, landfill tipping fees are highly competitive. At least 65% of the cost of curbside collection in this region can be attributed to transportation expenses, with disposal the source for only 35%. Borough Council should consider a hybrid PAYT structure that more fairly distributes the cost of collection to all residents but still includes a variable charge based on the amount of waste material placed at the curb.
- ❑ Those PAYT programs that provide alternative outlets to divert materials from disposal to recycling and composting are the most successful; recover greater volumes of recyclables; have minimal incidents of illegal dumping; and are the most widely accepted by participants. Borough Council should consider implementing a PAYT program that increases the types of recyclables accepted; ensures proper management of leaf waste; and includes optional collection costs for bulky waste and white goods.
- ❑ Billing, servicing, and enforcing PAYT contracts, specifically hybrid systems, can be complicated. More effort is also required to develop and implement the educational segment of the program. Borough Council will want to begin planning 6-12 months in advance of the expiration date of its contract.
- ❑ The term of the existing contract has the single most negative influence on the cost of collection. Bidders tend to dismiss the value of option years in bid specifications. Borough Council should consider a straightforward multi year contract in an attempt to decrease its costs.

- ❑ Municipalities in Allegheny County and throughout Pennsylvania are finding ways to reduce costs by leveraging their collective buying power through cooperative purchasing agreements including residential collection contracts. Forest Hills should meet with neighboring municipalities to determine if such a partnership is feasible and mutually beneficial.
- ❑ Clearly defined terms and conditions are crucial in soliciting the best rate for the service required. Borough Council should consider committing to specifications or providing alternatives to renegotiate for changes within the allowances of municipal code.
- ❑ Container service for the Borough's facilities is included in the contract. The cost is passed through in the rate charged to each home. With no line item in the bid to define these costs, there is potential for overcharging. Borough Council should consider more specific requirements and contractor accountability for this condition.
- ❑ Many of the contract specifications inadvertently provide an unfair bid advantage to select contractors. Borough Council should revisit requirements that serve no value added purpose and which may have been suggested by previous operators purely for competitive reasons.
- ❑ New or revised Federal or State laws, ordinances or regulations that place a direct fee or tax per ton on municipal solid waste are typically passed down from the landfill to the transporter, and finally the residents. Borough Council should consider establishing a formula in the contract that describes how these fees will be calculated per housing unit.
- ❑ Speculative bidders project higher fuel costs in multi year contracts when no mechanism is provided for future increases or decreases. Borough Council should include in its next contract a formula that establishes the criteria on which the adjustment will be calculated and the specific fuel index that will be used as a reference.
- ❑ Insurance and bond requirements appear excessive and likely have a negative impact on the contract cost. Borough Council should investigate potential reductions that are sufficient to minimize the Borough's liability.
- ❑ Mandated municipalities must provide leaf waste collection in accordance with the provisions of Act 101. Forest Hills needs to develop a system to handle the full spectrum of leaf waste throughout the year, whether at curbside or as a drop-off. If the Borough does not have the resources or facilities to provide collection and processing, Council should consider incorporating this service into its next bid specifications.

Table 1-PAYT Systems and Rate Structures

PAY-AS-YOU-THROW SYSTEMS AND RATE STRUCTURES	
PROGRAM TYPE	PRICING STRUCTURE
Bag/Tag/Can	Flat rate per unit or item
Weight Based	Flat rate per pound
Variable Volume	Rate varies with size of container
Limited Base Service	Flat rate that covers collection and a set number of bags or containers
Dual-Tiered Hybrid	Flat Rate (typically for collection) with additional flat rate per container or bag/tag.
Multi-Tiered Hybrid	Flat Rate (typically for collection) with additional flat rate per bag/tag as well as rates that vary with container size.
Any of these programs may also include tags with variable rates for bulky items and white goods	

Pay-As-You-Throw Basics

Residents throughout the United States traditionally have paid for waste collection through property taxes or as a fixed fee per household paid to the local municipality or a waste hauler. Each home pays the same regardless of how much - or how little - they throw away and with no consideration or discount for what they recycle. These systems are commonly referred to as “unlimited collection”. On the other hand, businesses pay for waste services based on the size and/or weight of their trash containers, along with the frequency those containers are emptied. For example, mom and pop stores generate much less waste and therefore have smaller containers than big box retail outlets. Consequently, their waste services are less



Unlimited Collection System



Volume Based Collection System

expensive. Traditional restaurants with salad bars and buffets produce a high volume of wet kitchen scraps. Fast food restaurants, where most food is take-out, generate primarily lightweight plastic and paper waste. Therefore traditional restaurants pay more for waste service than do fast food restaurants.

Over the last ten years, a movement has grown whose advocates promote the concept that, similar to other utilities, people should be charged based on the amount of service used. Advocates argue that these systems allow waste generators to understand the true costs of garbage disposal. Commonly identified as Pay- As-You-

Throw (PAYT), and a host of other names: pay by the bag, unit-based, volume-based, variable rate, etc., these terms share one very basic concept: customers that put out more waste for collection pay more than those who put out less. When free or low cost recycling and composting services are included, a Pay- As-You-Throw program becomes ultimately effective. Theoretically, people will recycle more and generate less garbage based on the monetary incentive alone.

Putting the Pay in PAYT

PAYT programs have as many diverse features and rate structures as they do names. It is the flexibility and adaptability to all types of communities and demographics that has gained PAYT increasing popularity. Purists insist that the only true PAYT system is a unit price per bag, while nonconformists favor

hybrids. Finding the right answer is similar to determining whether vanilla or chocolate ice cream tastes best. It is purely a matter of user need and preference.

The most important consideration in establishing a PAYT program is the “appropriateness” of the rate structure in relationship to the local community. Essentially, the number of potential PAYT rate structures a community might consider is limitless. Finding the perfect fit is a determination that must be made by local stakeholders. A rate structure that works in one municipality is not necessarily locally appropriate in another community.

Regardless of preference, sufficient PAYT components are available to customize the right system for Forest Hills Borough. The design of the rate structure will be influenced by how the community prioritizes the answers to a number of questions, which include, but are not limited to the following:

- Can the rate structure cover the total program costs?
- Will the rate structure prevent undesirable disposal practices?
- Do ordinances exist to enforce against undesirable disposal?
- Does the rate structure provide sufficient incentive for recycling?
- Is the variety of recyclables sufficient to offset the rate structure?
- Can the rate structure provide a stable cash flow?
- How will the rate structure impact administrative costs?
- Is the rate structure fair to all segments of the community?
- Will customers find the rate structure convenient?
- Can the contractor easily enforce the rate structure?

The Fairness Factor

For the rate structure to be considered appropriate, it will depend largely on the public’s perception that the PAYT rates are fair. To ensure to the public that fairness was a factor in establishing the rate, Forest Hills Borough Council should be aware of and carefully consider the impact on three groups: senior citizens; low-income households; and large families

Senior Citizens

Senior citizens tend to be low waste generators so consequently they reap the greatest financial benefit from PAYT rates, which are based on the unit, weight or volume of trash. Launching an early education campaign that clearly describes the economic

benefits of PAYT for those producing less waste is a vital step in gaining strong support from senior citizens and their organizations. In Forest Hills, the senior citizen population is over 22%.

Low-Income Households

It is common for officials to be concerned that low-income households will be negatively impacted by PAYT. However, it has been shown in national waste generation and composition studies that the amount of waste a household produces is proportional to its income. In other words, more affluent families buy more new things and thus throw more things away.

Even though the statistics dispel the myth that PAYT will be a burden to low income families, many municipalities still decide to implement safeguard measures. Typically, a community will use economic guidelines for other social assistance programs in providing relief to low-income households. The assistance might come in the form of discounts, vouchers or free service for one or more system components.

Large Families

A PAYT program won't necessarily reduce the amount of potential waste material produced by a household. It does however, offer an incentive to choose an alternative method of handling it than disposal. Large families often object to PAYT programs for fear that the cost will be prohibitive. By offering a comprehensive PAYT program, which includes recycling and yard waste management, a community can ensure that sufficient outlets are available to enable these families to control their waste collection costs.

Table 1 provides a quick snapshot of the basic types of systems and the mechanism by which rates are assessed. The following narrative offers a more detailed look at the variety of choices officials have to consider when implementing PAYT programs.

Unit Pricing Systems

The purest form of a Pay-As-You-Throw System is a unit-based price. The smallest unit offered in each program has an impact on the degree to which residents can be motivated to reduce waste. Other factors such as convenience, cash flow and overall operational issues come into play when selecting a unit-based system. The common types of unit-based systems are described here.

Bags

In this system, residents purchase colored plastic bags imprinted with the name or seal of the municipality, or in some cases the hauler. The price of each bag covers not only the cost of the bag itself but also the cost of waste collection, transportation and disposal. If no other fees are billed to a resident, it should also cover the cost of recycling and yard waste services. Distribution of the bags occurs at municipal offices, from the waste hauler, and/or at local retail outlets. Waste haulers are instructed to pick up only the specially marked trash bags. Bag systems provide the greatest incentive for recycling, composting and waste minimization since the direct relationship between waste and cost is very visible.

Establishing the price for bags is difficult and risky. This is particularly true in a start-up program. Although the cost of all services can be figured into the estimate, there are no guarantees on the actual number of bags that will be purchased. Because residents can purchase bags in advance, but place as many or as few bags at the curb each week, cash flow fluctuates disproportionately to disposal, recycling and composting costs. As recycling increases and disposal decreases, there is risk of a revenue deficit. Additionally, routing must be based on the maximum volume anticipated. So savings in collection efficiencies may not be realized as readily as those for disposal may be.

Tags/Stickers

For a tag/sticker system, residents purchase specially marked labels or tags and affix them to regular commercial trash bags, or in some instance bulky items and white goods. Waste haulers are instructed to pick up only trash bags or items with the specially marked tags attached. Tags are typically backed with a heavy duty adhesive that holds them firmly around the neck of a bag. Similar to bag programs, the tag price includes the cost of the tag, waste collection, transportation and disposal. Additionally, costs for recycling and yard waste services might also be included.

Distribution of the tags can be more convenient for residents than bags, in some respects, because they can be mailed by the hauler and/or municipality. On the other hand, if they are not also made available at municipal offices, and/or at local retail outlets, complaints may arise from residents that failed to plan ahead for their disposal needs.

Tag systems are equally successful as bags in providing an immediate monetary incentive to recycle. These systems do face the same cash flow and routing issues as those with bags. Sample tags are shown in Appendix C.

Uniform Tagged Containers

Specially marked licenses or tags are sold to residents who affix one to each uniformly sized trash container. Only trash cans with the licenses attached are serviced. Unlike other unit based pricing, these tags may be color-coded indicating that they cover the cost of an extended time period, such as a month, quarter or year. Tags are typically backed with a heavy duty adhesive that hold them firmly to the container. Some communities have residents affix the tag to a curbside mailbox rather than the actual container to prevent conflict in the event of lost or damaged containers. Like other tag prices, waste collection, transportation and disposal, the cost of printing the tag, as well as all recycling and yard waste services costs should be covered.

Distribution of the container tags can be accomplished through a direct billing system and mailed, or residents can purchase them at municipal or retail outlets.

Uniform container systems reduce the incentive to recycle to the smallest billable unit made available. The benefit they provide is a base volume for collection routes and a



long-range indicator of revenue to cover predictable disposal, recycling and composting costs.

Uniform Wheeled Carts

Rather than purchasing specially marked trash bags, residents pay a fixed charge each to “rent” one or more uniformly sized carts provided by the municipality or the hauler. These can be wheeled to the curb and serviced by a type of automated vehicle. Only the provided wheeled carts are serviced. A feature that both municipal officials and homeowners find the most appealing is the aesthetic look of the carts at curbside on collection day.

The all-inclusive price should cover all waste, recycling and yard waste services. Carts are a large capital expenditure that should be figured into the fixed rate. However, the normal useful lifetime of a cart is 10 years. Quality manufactured carts experience longer life spans with less than a 10% replacement occurrence per year. So while the up front



Cart Delivery

cost seems expensive, the long-term investment for carts is less expensive than the ongoing purchase of bags or tags.

Because the carts are too large to fit into most vehicles, distribution to each household must be well coordinated and can be labor intensive for the hauler or public works crews.

Like uniformly sized containers, carts only offer disposal savings up to the cost of one cart. However, due to the

predictability of cash flow and expenditures, and efficiencies that can be realized through automated collection, the overall rate for combined services is often less than in bag/tag systems.

Weight-Based Fees

Weight-based systems are less commonly implemented than other PAYT programs. However, this system offers the most direct monetary incentive. Waste is weighed at the curb and residents are billed for collection and disposal by the pound. This concept is easier for residents to comprehend and perceive as fair, since every pound of waste has a charge, while material that is recycled or composted results in direct savings.

Implementation of weight-based systems tends to be more costly than other forms of PAYT. Special equipment and a more complex computerized billing system are required. Truck mounted scales to record weights and a reader to link the billing identification scanned from bar codes or RFID tags, which are attached to containers, are essential pieces of equipment. Weights are either stored in an onboard computer to be downloaded when the vehicle returns from the route or relayed live via radio waves. A municipality or

hauler may provide uniform containers, if automated vehicles are used for collection. In manual systems, residents may be allowed to use a container of their choice

Unlike the pre-paid bag, can and sticker system, residents are billed in arrears for this service, which may increase a municipality's staffing needs as well as risk of non-payment.

Variable Rate Pricing Systems

A variable rate PAYT system bases its fees first on the capacity or volume of the container used, and then on the number of containers of each size. Although containers may not offer as high a degree of waste reduction incentive as a per bag system, residents often enjoy not having to worry about having special bags or tags on hand.

Variable Tagged Containers

Residents purchase specially marked licenses or tags and affix one to each specific size of trash container. Unlike other unit based pricing, these tags may be color-coded indicating not only a select time period, but also the size of the container. Because manufacturers differ, it is important to define the acceptable range of container dimensions for each category of sticker. Waste haulers are instructed to pick up only trash cans with the tags/licenses attached.

All other aspects of the variable tagged container system are similar to the uniform tagged container system except the resident's ability to control costs by selecting a smaller or larger container based on their personal needs. This flexibility offers residents the opportunity to downsize as recycling increases, thus realizing a tangible outcome for their efforts.

Variable Wheeled Carts

Rather than purchasing specially marked bags, residents pay a monthly charge based on capacity, to "rent" each cart provided by the municipality or the hauler. Carts normally range in incremental sizes from 32 to 64 to 96 gallons. The all-inclusive price should cover all waste, recycling and yard waste services.

Distribution of carts of differing sizes can be complicated and requires a proactive education and promotional plan prior to implementing the program. The diversity in container size is appealing because it provides choice, however it also requires maintaining a larger inventory to satisfy the changing needs of users.

The variable wheeled cart system differs from the uniform wheeled cart system due to the resident's ability to control costs by selecting not only the number, but also the size of carts. Like the variable container system, residents can opt to downsize once their disposal needs decrease due to recycling.



96, 64 and 32 Gallon Carts

Hybrid Systems

The least risk PAYT pricing systems are likely the hybrids. These systems focus on ensuring that all fixed costs in a program have a guaranteed source of revenue. Hybrids are often criticized because there is a limit to how much savings each household can experience, regardless of how much they recycle. Nevertheless, because of the constant cash flow, they often result in the lowest overall net cost for integrated waste management systems.

Limited Base Service

Limited base service is a familiar pricing mechanism for waste management. Because it does control, to some extent, the volume of waste that can be disposed for a set fee, it is a form of PAYT. In this system, residents are assessed a flat fee that covers not only the costs associated with administration and collection, but also a limited volume of containers or bags that can be placed at the curb for disposal. Residents must purchase specially imprinted bags or tags to dispose of additional material.

Dual-Tiered

Probably the most common PAYT hybrid pricing, dual-tiered systems charge multiple fees for solid waste management services. The base fee covers the general administration and operation of the program. This fixed rate fee typically accounts for all of the costs associated with collection, recycling, composting, billing, education and capital recovery. Of course, these vary depending on the types and levels of services offered in any one community. All customers pay the same base fee, which can be assessed through the tax base, water and sewage bills or a separate garbage bill.

The second variable fee is set to cover the costs of disposal and therefore differs from customer to customer based on the waste placed at the curb. The disposal component incorporates one or more of the unit based pricing mechanisms. In some communities, the disposal fee will be a per bag basis. In another community, the disposal fee is established per can and tags are sold for the occasional extra bag. In yet another scenario, the disposal fee is set based on weight.

Dual-tiered systems are similar to phone or cable television bills in that the customer is charged a specific amount (fixed base fee) for the privilege of having the service available regardless of use, and long distance calls or pay for view movies (variable costs) are determined based on actual use.

Multi-Tiered

Very similar to Dual-Tiered systems, this form of PAYT hybrid pricing establishes a base fee that covers the costs of administering and operating the waste management services offered by that community, except for the cost of disposal. It also offers a menu of fees that include a simple unit such as a bag/tag along with charges that vary based on the size and number of containers or carts. This program provides the most choices of all of the hybrids and thereby has the greatest ability to motivate residents toward recycling and waste reduction through monetary incentives.

Table 2-Advantages and Disadvantages of PAYT Systems

Systems	Advantages	Disadvantages
Bag or Tag	<p>No billing system required</p> <p>Start-up costs are minimal</p> <p>Residents have direct control over their level of service</p> <p>Education is simple</p> <p>Direct monetary incentive for recycling and waste reduction</p> <p>Faster, more efficient collections than cans</p> <p>Easy to monitor compliance</p>	<p>Assuring sufficient inventory is available in all points of purchase</p> <p>Necessity to preplan bag/tag purchases</p> <p>Imprinted bags can tear</p> <p>Adhesive tags can become detached</p> <p>Cash flow can be unstable and routing is less predictable</p>
Containerized Units	<p>Standardized units are more aesthetically pleasing</p> <p>Reusable and last longer</p> <p>Prohibit destruction by animals more than bags.</p> <p>Compatible with automation for efficiency and cost reduction</p> <p>Convenient for residents-no preplan bag/tag purchases</p> <p>New cans may not be required if residents already own cans of roughly uniform volume</p> <p>Ensures all costs are covered in one monthly bill</p>	<p>Container capacity may deter waste reduction</p> <p>Standardized containers are upfront capital expense</p> <p>More difficult to implement and enforce compliance</p> <p>Collection time greater than with bag systems</p> <p>Difficult to communicate uniform volume restrictions</p> <p>Advanced billing detaches potential incentive from activity</p> <p>Residents are tied to pre-set levels</p>

Systems	Advantages	Disadvantages
<p>Containerized Variable</p>	<p>Standardized units are more aesthetically pleasing</p> <p>Reusable and last longer</p> <p>Prohibit destruction by animals more than bags.</p> <p>Compatible with automation for efficiency and cost reduction</p> <p>Can manipulate variable disposal fees to encourage recycling</p> <p>Ensures all costs are covered in one monthly bill.</p> <p>Provide more choices than uniform containers</p>	<p>Billing is more complicated with variable rates</p> <p>Requires larger inventory of containers</p> <p>Advanced billing detaches potential incentive from disposal activity</p> <p>Residents are tied to pre-set levels</p>
<p>Weight Based</p>	<p>Results are more immediate and precise.</p> <p>Residents do not benefit from over-compacting their waste</p> <p>Residents are not tied to pre-set levels</p>	<p>On-Board equipment is costly</p> <p>On-Board scales are difficult to calibrate and maintain</p> <p>Requires sophisticated billing software</p> <p>Revenue can be unstable</p>

Selecting a PAYT Methodology

The details of any one community's PAYT system is likely different from the next. Decisions are based in part on the type of vehicles that will be used for collection. Often, lack of staff or a sophisticated program for billing will be the determining factor. Finally, the choice might simply come down to public preference and habit.

In making a selection, Forest Hills will want to consider the experience of other municipalities. Table 2 provides an overview of advantages and disadvantages of each method. The table reflects comments expressed by those selecting one system over another.

Addressing Hauler Concerns

Forest Hills Borough uses an outside contractor to provide collection service. Of primary interest to the Borough is controlling costs associated with implementing these services. Misconceptions about PAYT create concern among many waste haulers. Primarily they fear the complexity of the billing system; the difficulty for their crews in enforcing variable rate or volume based systems; and potential loss of revenue. These doubts often translate into rates for PAYT programs, which are unnecessarily quoted higher than for traditional unlimited collection programs. Forest Hills should meet with haulers to address these issues early in the planning stages.



It is crucial for haulers to feel confident that they will be compensated for their efforts in collecting solid waste, recyclables and/or yard waste. If not, the attempt at PAYT may fail before it begins, based solely on prohibitive bid results. Once a municipality understands the root of these fears, each becomes easier to overcome with the hauler.

Cash Flow

In unit pricing systems, haulers are often not responsible for marketing the tags or bags. The hauler's responsibility is only to collect the appropriately marked containers, along with recyclables and/or yard waste. In these systems, the fears are twofold. The first is a trust factor regarding a municipality's ability to accurately account for and pay the hauler based on the number of bags/tags sold in relation to the volume of items actually collected at the curb. Paying the hauler on bags/tags regardless of whether they are used is important. Using serialized tags/bags along with an accounting method that tracks sales by the serial number is crucial. The serial numbers of the items sold should be provided each month to the hauler along with payment. If Borough desires a full unit pricing system, or even one that utilizes tags/bags for excess waste, Council should come to an agreement with haulers on the best method to track sales, which will alleviate fear of non-payment. In some systems, haulers also share responsibility for selling bags/tags.

Secondly, haulers fear the possibility that as recycling increases, the number of units sold may decrease and have a negative impact on revenue sufficient to cover their costs. If

these concerns are high, Borough Council might want to consider a hybrid PAYT program.

Enforcement

In volume based or variable rate systems, haulers have concern with enforcement issues. Hauling crews are typically trained to ensure that streets have been fully serviced before leaving an area. Essentially, in unlimited collection systems that means a crew must remove all material from the streets, regardless of how much. In PAYT systems, with varying rates and volumes allowable, crews must be careful to adhere to the program guidelines and billing rate for each home.

Mistakes can be on two levels. Costly missed pick-ups occur when diligent enforcement crews inaccurately leave behind one or more containers that are legitimately part of a resident's service level. Revenue losses occur when residential offenders of the system get by paying for less service than used, because cautious crews try to avoid missed pick-ups. If these concerns surface, Borough Council will want to get input from haulers on procedures that could alleviate mistakes. Forest Hills will also want to ensure haulers that an aggressive education program will occur to better inform residents on proper service level selection to minimize abuses.

Billing

Billing issues arise more commonly in variable rate and volume based systems. Haulers operating unlimited collection systems, simply have to know accurate house counts to ensure their compensation for services provided. When service levels vary from house to house, particularly if service levels are adjusted periodically, billing accuracy has more margins for error and lost revenue. If the Borough continues to bill residents and pay the contractor directly, it will be necessary to devise a mechanism to account for service level changes throughout the term of the contract. Hauler feedback on the best method to communicate these changes to their staff will ensure better customer service and alleviate fear of non-payment.

Solutions For Bulky Items, White Goods and Debris

Homeowners commonly generate waste materials other than those resulting from day to day food preparation and household maintenance. Appliances and furnishings eventually reach the end of their useful life; carpeting must be replaced; toys break; and a variety of odds and ends accumulate. Proactively planning for the management of these items in a PAYT program can mean the difference between success and unwanted problems.

Bulky items and white goods, along with construction debris, make up a significant portion of material found in illegal dumping areas. Since residents will not suddenly stop discarding old stoves, refrigerators and the like, providing a proper outlet for the material, is a good frontline defense for preventing mismanagement and illegal dumping.

In unlimited collection systems, residents often have the ability to place as many bulk items at the curb as they desire each week. Inclusion of this service in municipal contracts is often perceived as a convenience and entitlement. In reality, it is a costly luxury incorporated into the flat monthly bill, which benefits a few and is subsidized by those who may never have use for it. Unlimited collection is often abused by carpet installers,

landlords, and home remodelers. Such businesses already have the ability and resources to properly dispose of material and do so in neighborhoods where unlimited collection is unavailable. In PAYT systems, these materials can still be handled properly, but in a more equitable fashion that should reduce the overall cost of collection.

A simple way to manage bulky items and white goods, which is directly complimentary and compatible to a PAYT program, is to use a tag system. Using tags for these items continues to reinforce the message that those who throw more away, pay more than those who don't. Tags can be printed for a variety of items and rates.



White Goods

Large appliances, commonly referred to as white goods, might have a tag with a different rate for items with or without Freon removed. Tags for varying sizes of bulky items could be offered. Very large pieces of furniture such as sofas, mattresses, dressers might cost more than a kitchen chair or a vacuum cleaner. Lastly, for attic or garage clean-ups or moving day, tags with rates for volume pick-ups are a desirable solution. (See examples in Appendix C)

There are other methods that do not provide as great an incentive as tags to reduce each item disposed, but still offer enough limits and constraints to motivate residents to find alternative outlets or uses.

The first option is to periodically, quarterly or semi-annually, provide a curbside clean-up day. Many municipalities do this in conjunction with a community-wide yard sale or swap meet. The yard sale is held the day before collection, unsold items can then be left at the curb. Not surprisingly, more items find new homes than are ultimately disposed.

A more frequent option is to offer a week each month in which homeowners may place at the curb for collection one bulk item or white good. These curbside alternatives can be expensive for a municipality, unless the cost is built into the collection fee or the PAYT unit pricing for regular weekly waste.

Another method is to hold periodic drop-off collections where residents can bring items for free. Like curbside collection, the cost can be built into the regular curbside or unit fees. Unfortunately, all of these options still require every resident to pay regardless of usage. With drop-off programs, a more equitable way to handle costs would be for residents to pay a nominal fee per item, or per pick-up truckload of items. The Borough would have to determine to what degree the "free" option is necessary as a deterrent to illegal dumping.

Recycling, The Heart of a PAYT Program

The primary premise of a PAYT program is to motivate residents to divert material from their trash container to their recycling bin. Without adequate outlets for material, PAYT cannot achieve its full potential. Additionally, residents may view the program as punitive rather than promising, if there are few opportunities to reduce the amount of waste they throw away. Therefore, it is important to be aware of the types of materials

that are accepted by recycling facilities in the local market and the methods by which haulers can collect them.

Newspaper, aluminum cans, bi-metal cans, glass and plastic containers are recycled by Forest Hills residents today. New technology and a vital commodities market have expanded the possibilities of material Pennsylvania municipalities collect in their recycling programs. Facilities exist in the Pittsburgh area that will accept magazines, cardboard, junk mail and office paper, as well as a variety of other plastics generated by residents.

Mechanical and optical sorting equipment enable facilities to recover more material at less cost, even if the material is commingled, rather than separated. In single stream recycling systems, all types of paper and plastics can be commingled with bottles, and cans in one container. In a dual stream system, all types of paper are placed in one container and the bottles, cans and plastics are mixed together in another. Automated collection equipment that can service wheeled containers is typically used in these systems. It offers haulers the luxury of collecting larger and heavier containers without injury to workers. It also provides residents with a convenient method to get recyclables to the curb.

Although these programs require a significant capital investment in wheeled containers, the results are dramatic. Carts, particularly for PAYT programs, are eligible for Act 101 902 grant funding. Cranberry Township in Butler County and Pine and Marshall Township in Allegheny County have implemented single stream collection as part of their PAYT programs. Each achieved an average of a 40%

residential recycling rate within months of start-up and has sustained those rates since then. Prior to that recovery hovered near 10% -12%. There are some single stream and dual stream systems that still use classic recycling bins. However, the recovery is less due to the smaller capacity of the bin.

If it proves to be cost prohibitive to add more material to the curbside collection, there are other options. Many municipalities offer drop-off collection sites at their municipal buildings or other facilities for one or more of these materials: cardboard, magazines, junk mail and office paper. The cost of servicing the drop-off containers can still be included in the residential collection contract.

Residents are more approving of a PAYT program when they can readily understand how to reduce their waste. By offering more materials to be recycled and making it convenient, either at curbside or with centrally located sites, transition to PAYT is more successful.



Single Stream Recycling

Paper, cardboard, metal cans, glass bottles & plastics are all collected in the same container.

Yard Waste Management, the Last Essential Component

Yard waste contributes to approximately 24% of the material disposed in landfills. In a PAYT program, residents may experience significantly higher costs for disposal if there are no outlets for yard trimmings. It is important for a municipality entering into a PAYT system to determine how it will handle this material. A combination of a collection system and an education program that encourages other practices is essential.

Collection of yard waste for composting can be included as part of a residential contract; provided by municipal employees; or offered in some part through a drop-off site. Expenses can be covered through user fees in the residential contract, taxes, the sale of composting bags, or direct fees at a drop-off site. In whichever manner fees are assessed, they must be less than the cost of disposal in order for the program to work.



Vacuum Leaf Collection

Backyard composting is another way to reduce the amount of yard waste disposed. The Allegheny County Health Department offers periodic classes in backyard composting to interested residents. Typically, backyard composting bins are distributed at little or no cost to participants.

Some communities include grass clippings in the materials they collect and compost. Act 101 only requires communities to deal with leaves, tree and hedge trimmings and

garden residues, but not grass clippings. Appendix A includes Pennsylvania's Act 101 Leaf Waste Collection Requirements.

It is not uncommon to see upwards of 10 bags of grass clippings per home per week at the curbside in suburban communities. Grasscycling education advises residents to use mulching mowers and leave grass clippings on the lawn. It can alleviate the amount of material bagged and collected. The size of and the degree to which residents manicure their lawns, as well as the availability of facilities to handle the material, will dictate whether a



Grass Clippings Bagged for Collection

community desires to handle the issues of collecting grass clippings. In a community that experiences large volumes of grass clippings at the curb, it could be an issue that makes a difference between public approval and disapproval of a PAYT program.

Forest Hills will need to consider the current practices of its residents, the requirements of Act 101 and capabilities of available facilities in order to provide the best fit for yard waste management in its PAYT program.

Review of the Solid Waste and Recycling Ordinance

Forest Hills Borough enacted a Solid Waste and Recycling Ordinance in 1993, which was amended in 2003. In general, the ordinance and amendments are in keeping with the provisions of Act 101. Only one major revision is recommended to become more compliant with the Act. The combined reported residential and commercial recycling rate is approximately 6%. A minor change might provide more opportunities for recycling and increase participation.

Residential Recycling

Residents are required by the ordinance to separate recyclable material from municipal waste and participate in the Borough's curbside collection program. The number of materials designated for collection exceeds the minimum of three items required in the Act. These include: newspaper, aluminum cans, bi-metal cans, glass, and plastic containers. Approximately 360 tons are recycled by residents each year. A greater variety of materials than those designated by Forest Hills are likely accepted by recycling facilities in the Greater Pittsburgh market. Magazines, cardboard, junk mail and home office paper, as well as a variety of other plastics are recycled by other communities. Council should discuss with local facilities and collection contractors how these materials could be incorporated into the program. This would be an important change if a PAYT program were implemented.

Commercial Recycling

Commercial, municipal and institutional entities are also required to separate recyclable materials from municipal waste. They must either contract for collection or demonstrate, to the Borough, alternative methods of recycling the material. Designated for recycling in commercial establishments are the following materials: high-grade office paper, aluminum, corrugated paper, glass containers, bi-metal containers, ferrous containers, newspaper, and plastic containers. Commercial, municipal and institutional entities must report to the Borough, on an annual basis, the results of their recycling activities. 29 tons of material on average are reported as commercial recycling.

Registered Haulers

Haulers registered to operate in the Borough are obliged to provide recycling services to all of their residential, commercial, municipal and institutional accounts. Each hauler must report annually the tonnage of material collected and recycled from their accounts.

Enforcement

Although there are penalties provided for residents, businesses, institutions and haulers, it is unclear what, if any, enforcement actions are actually taken by the Borough.

Leaf Waste Collection

Leaf waste management is where the ordinance falls short of the mandates of Act 101. Although residents and commercial, municipal and institutional entities must separate leaves, they do not have to separate "leaf waste" as the Act requires. On the other hand,

commercial municipal and institutional establishments must contract for leaf waste collection at least once per month. Leaf waste is defined by the Act, as well as the Borough's ordinance, as leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings. Act 101 requires that it must be collected at the curb once per month in mandated municipalities. Alternatively, curbside collection must occur twice per year, provided that a permanent drop-off location is made available to residents. It should be noted that in the interim between curbside collections, leaf waste must still be separated and may not be collected or disposed as municipal waste.

Forest Hills does collect leaves from residents in the fall, but currently does not provide other collection mechanisms for leaf waste throughout the year. The ability for Borough Council to pass a resolution to collect bagged leaf waste and bundled twigs and brush is included in the ordinance. It is unclear how the material would be processed if such a resolution were passed. Leaves are currently transported to a compost site in Churchill, but that facility does not have the capability of chipping or shredding larger items.

Forest Hills should amend the ordinance to address the leaf waste requirements in conjunction with revisions to its residential collection contract. At that time it should determine if leaf waste can be handled by public works crews or if it should be a component of the solid waste and recycling contract.

Appendix A includes Pennsylvania's Act 101 Leaf Waste Collection Requirements.

Review of the Residential Collection Contract

Of significant concern to Forest Hills Borough is the ability to control the ever increasing costs associated with the collection of waste and recyclables. The Borough has interest in initiating a Pay-as-You-Throw component as part of its next collection contract. That could be a mechanism to decrease the cost of service for low volume generators of waste and/or avid recyclers as compared to those who do not recycle or with larger volumes. However, in order to lower the cost to all residents, attention should be given to items in the general contract that have impact on the overall collection rates.

Because each company has its own unique operating expenses as well as general operating proficiencies, it is impossible for a third party to predict the results of any bid. However, several universal factors do influence how each company uses those costs to calculate the eventual contract rate. These include but are not limited to: time, labor, equipment, capacity, distance, participation, cash flow, administration, disposal and processing, and risk of penalty or non-payment. The extent to which each contract specification contributes to the overall price is proportional to its effect on one or a combination of these factors.

It is tempting to compare the costs of one program to another, whether from state to state, county to county, or town to town. Unfortunately, this can be highly misleading and confusing. There are too many variables and subtleties in most situations for the

comparisons to have any validity. Geography, demographics, disposal fees, contractor costs and proficiency, time constraints, traffic, financial securities, etc. all play a role in figuring the costs.

Understanding one's local market participants and conditions is a better gauge to use when evaluating cost indicators in a contract. It can help identify those issues, which might weigh more heavily than others might in a rate structure.

For instance, the availability of disposal capacity in Western Pennsylvania, Eastern Ohio, and the panhandle of West Virginia creates a market in which landfill tipping fees are highly competitive. At least 65% of the cost of curbside collection in this region can be attributed to transportation expenses, with tipping fees the source for only 35%. Due to industry consolidation, fewer transporters compete for contracts. Those remaining tend to have a more sophisticated understanding of their operating costs. Thus transportation fees more accurately represent true costs. In an area where landfill rates are more costly and numerous small transporters compete, controlling the volume of collected material through a PAYT system, in and of itself, could have a dramatic effect on costs. However, for Forest Hills, while a PAYT system will lower rates to some extent through the avoided cost of disposal, coupling it with conditions that improve collection efficiencies will result in a more significant reduction overall.

Often, municipal collection contracts include requirements that are considered minor but place sufficient constraints on the contractor, resulting in rates that are higher than comparable services in other areas. Many of these requirements find their way into collection specifications over time. Some are borrowed out of context from other municipal contracts. Others are introduced by contractors seeking preferential consideration. In other cases, conditions are added to deal with a temporary issue or situation with disregard to the feasibility of its implementation for the long term.

As managers and elected officials change, it becomes easy to overlook the purpose and necessity of each contract specification. Reluctance to revise what predecessors have created is normal. Over time, the cumulative effect of these items can create a contract that costs more than necessary.

Opportunities for Improvement

Nestor Resources, Inc. reviewed the Borough's current municipal solid waste collection contract to determine what, if any, requirements or conditions have potential to contribute to excess costs or poor service. Provisions of Act 101 that require mandated municipalities to provide services that may or may not be currently included in the contract have also been identified.

Following is an outline of our findings arranged by categories in the bid specifications. It is important to note that the Borough should confer with legal counsel before implementing any of the suggested contractual changes presented in this report.

Definitions

- A variety of definitions of waste, waste materials, recyclables, disposal facilities, and other wise general terms used in the waste industry can be found in the contract. Many of the items referenced are more clearly defined in the Pennsylvania Municipal Solid Waste Regulations. It is often easier for a contractor to understand the terms and/or for a municipality to settle a dispute with the industry when the contract definitions are consistent with the regulations.
- Use of the term "past practice" to describe how a service should be provided is very open-ended and could be confusing to a new contractor.
- Curbside collection is typically distinguished from rear yard or alley service. In order to avoid confusion, many contracts provide clear descriptions of where the "curbside" is located including distance constraints for container placement for collection.

Service Requirements

- Prospective bidders often utilize the ability to incorporate new contracts into their existing network of routes as a means of lowering costs without sacrificing profit. That the Borough establishes the days on which collection can occur on a street-by-street and day-by-day basis has three effects. The first is that it potentially limits the number of bidders because some may not be able to shift their resources to accommodate these specific routing schedules. The second is that the schedule may not be the most efficient way to route a vehicle. Lastly, the routing may have been developed around the needs of the previous contractor, thus providing an unfair advantage.
- The ability of the Borough to request route changes with a 30 day written notice could be of concern to a potential bidder. This would limit their ability to incorporate any of the Borough's service days with another municipality for fear of future disruptions.
- The current contract allows the hauler to charge residents a negotiated fee for special collection services for items such as, dead animals, construction and demolition material, stable manure, etc. When allowed to randomly assign these fees, a contractor can abuse the privilege with excessive rates to uninformed residents. A suggestion is to require bidders to

establish a rate schedule in the bid, even if it is not part of the consideration for Bid Award. This can eliminate any arguments during the term of the contract and provide an equalizer for all residents.

- Service requirements to the facilities owned by municipalities are often included in residential contracts. Typically it is a way to keep the true costs of these services from showing as a line item in the General Fund Budget. It should be noted however, that inclusion of these services does add to the cost per home for residential service. Additionally, because the actual cost is not shown, municipalities often pay a premium for these services. Many municipalities have opted to bid these services separately or at a minimum to have the cost defined as line items in the residential contract.
- The collection frequency and the required cubic yard capacity of each container at many Borough facilities are unspecified. Only the current contractor knows the true service requirements. This can provide an unfair bidding advantage. When service requirements are vague, most bidders will err on the side of caution with a higher cost.
- Two-cubic yard containers require more frequent service than those with a larger capacity. Typically, this increases the cost of collection. Unless such small containers are used for the convenience or safety of Borough employees at specific areas, use of containers with increased capacity is recommended.
- Holiday collection schedules generate more customer service calls than any other common complaint. Rather than allowing the time frame to be so vague, it would be better to define the contractor's obligation. When the normally scheduled pick-up occurs on or after the holiday, many communities collect material one day later.
- The requirement to have an office within a 25 mile radius artificially limits the number of prospective bidders. This condition is typically a carry-over from a hauler-influenced set of specifications. Having a route supervisor within the Borough on collection days and provision of a call center, with a toll-free number, should provide sufficient customer service.

Term

- The single most contributing factor that would escalate costs in the bid specifications is the lack of commitment beyond the first

year of the contract. Although the contract has options, there is no guarantee that a bidder is making an investment in equipment and employees for more than one year. This condition provides an unfair advantage to the current hauler and limits the number of bidders. Since bidders have no certainty beyond year one, depreciation of the cost of any equipment necessary for the contract is typically loaded in the first year of the contract rather than spreading it out over the course of five years. This discourages new bidders from entering into the competition.

Joint Municipal Contract

- Municipalities in Allegheny County and throughout Pennsylvania are finding ways to reduce costs by leveraging their collective buying power through cooperative purchasing agreements and other joint ventures. The success of these efforts is most evident in residential collection contracts. The North Hills Council of Governments, the South Hills Council of Governments, and a variety of smaller partnerships have successfully demonstrated the effectiveness of joint collection contracts in controlling ever-increasing collection costs. Forest Hills should meet with neighboring municipalities to determine if such a partnership is feasible and mutually beneficial.

Rate Adjustments and Regulatory Fees

- New or revised Federal or State laws, ordinances or regulations that place a direct fee or tax per ton on municipal solid waste are typically passed down from the landfill to the transporter. Consequently, contractors need to pass these costs along to the generators of the waste: the residents. To avoid conflicts that can occur in these situations, it is better to proactively establish a formula in the contract that describes how the fee will be calculated per housing unit.
- When contract bid specifications do not provide for actual fuel cost adjustments, speculative bidders will project higher costs in multi year contracts. By providing a fuel cost adjustment formula that includes opportunities for both rate increases and decreases, municipalities avoid being overcharged. The formula should establish the criteria on which the adjustment will be calculated including items such as time frame, route miles, housing units, number of vehicles, and the specific fuel index and averages, such as the OPIS Index for the Pittsburgh market, which will be used as a reference.

- Some communities have attempted to create rate adjustment factors based on specific operational expenses. These are typically referred to as Refuse Rate Indexes. Caution should be taken when considering such a mechanism. Unless the indices used for each area of expense are waste industry specific and for the local region or city, they can artificially inflate/deflate the results of the formula and cause unwarranted rate adjustments. Additionally, it is crucial to ensure that poor productivity or mismanagement is not inadvertently rewarded in systems that base the adjustment in part on operational expense reports.

Insurance

- The requirement for umbrella liability of \$5,000,000 seems excessive and could prevent some haulers from bidding. At a minimum, it adds to the cost of collection. \$3,000,000 is a more common coverage limit. Council should explore reducing this amount and assess its risk management with its solicitor.

Bond

- Collecting on a performance bond is very difficult. Performance bonds only cover the added costs of service in the interim period between breach of contract or contractor default and replacement with a new contractor. Since the Borough actually bills the residents and then pays the hauler for services performed, its risks are less than when the contractor bills residents in advance and controls the revenue before delivering service. Therefore, requiring the bond to cover 100% of the contract is unnecessary and simply adds to the cost of collection. There is a new trend toward flat performance bonds are at least a reduction to 50% of the annual contract cost. Forest Hills should consider a reduction in the bond requirement.

Discounts

- Discounts to special segments of the community are often more politically motivated than economically necessary. Snowbird discounts are offered to those who leave the community temporarily to live in warmer climates. Senior discounts are strictly age based, although many communities utilize economic criteria from federal support programs. These discounts actually increase the rate to other residents since their value is incorporated into the overall cost. It is helpful to demonstrate the number of potential users that fall within these categories, since an uninformed bidder, out of caution, will use a high estimate.

Liquidated Damages

- Because of some of the vague and undefined portions of the specifications, the provision for blanket liquidated damages appears to be hard to enforce. Many contracts identify the most common infractions, which result in poor customer service and complaints. Specific damages for each infraction or cumulative infractions are typically listed. See examples in Appendix B.

Recycling

- Some limitations for acceptable recyclable materials may no longer apply in today's market. The types and preparation of materials is much more flexible than a decade ago. More types of plastics and papers are commonly collected today. Lids and labels can remain on many items. Local recycling facilities can offer guidelines in keeping with their processing capabilities and markets.
- The ability of the Borough to issue a 30-day notice during the contract to add or delete materials defined as recyclables could be of concern to a bidder. The value, marketability or volume of such materials would be an unknown at the time of bidding.
- The current contract provides for bi-weekly collection of recyclables. This is a realistic cost savings mechanism. Every other week collection schedules are typically adequate; however, a PAYT program could place greater demands on such a schedule. Discussions with the current contractor would be an indicator if existing routes can handle increases in volume. If the Borough determines that the current schedule should remain the same, it might want to consider larger recycling bins for residents, who will likely recycle more.

Leaf Waste Management

- Leaf waste is defined in Act 101 and its regulations as “Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.” The Act mandates the Borough to require leaf waste to be separated from municipal waste and to collect it at the curb at least once per month, unless alternative collection methods, approved by the Department, are utilized. It should be noted that leaf waste may not be disposed with municipal waste during non-collection weeks. DEP's official guidance document “Pennsylvania's Act 101 Leaf Waste Collection Requirements” can be found in Appendix A.

- Many communities include contract specifications for collection and composting of source separated leaf waste or yard waste, which includes grass clippings. Since Forest Hills is considering a PAYT rate structure, alternative outlets for leaf or yard waste can become an important component of the program. Evaluating the community's needs and frequency for curbside service will be vital in development of a new contract.

Conclusions

The objective of this report was to determine methods for Forest Hills Borough to control the degree of future cost increases associated with its residential collection contract. Opportunities exist to make productive improvements to the contract, which should achieve this goal. Borough Council should review these potential changes with their solicitor prior to drafting the next contract.

It should be noted that future rate increases may still occur due to unstable fuel prices; industry related worker compensation and health care insurance rates; new vehicle emission control requirements; and a host of other related expenses. However, by addressing the issues in the Borough's bid specifications with direct impact on these operating costs, Forest Hills can, at a minimum, reduce the effect that those factors might otherwise have had, without any contract changes.

Through the involvement of program stakeholders, including local officials, residents and potential service providers, Forest Hills will design a PAYT program that is locally appropriate, fair and feasible to implement.

By incorporating enhanced recycling and leaf waste management components into the PAYT program, Forest Hills will ensure proper waste reduction outlets for all materials. Additionally, the Borough will be in compliance with all of the provisions of Act 101. From these efforts, Forest Hills can expect an increase in its recycling participation and recovery rate. Small quantity generators of waste and aggressive recyclers will have the ability to reduce the cost of collection services, compared to those residents, who dispose of greater volumes. This will be a great benefit to senior citizens that comprise nearly 25% of the Borough's population.

It takes time to design a good collection contract, particularly when a new PAYT program will be introduced. Gathering public input, alleviating hauler fears, building support from all stakeholders and launching an aggressive education campaign requires great effort. To ensure the program will succeed, Borough Council should begin planning from 6 months to a year in advance of its next contract expiration.

Nestor Resources, Inc is confident that the ideas and recommendations in this report will serve as a design framework during the program planning process.

Appendices



Nestor Resources, Inc.

Appendix A

Pennsylvania's Act 101 Leaf Waste Collection Requirements

Act 101, Section 1501(c)(1)(ii) and (iii), requires persons in mandated municipalities to separate leaf waste from other municipal waste generated at residential, commercial, municipal and institutional establishments. "Leaf waste" is defined in the Act and its regulations as "Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings." Source separated leaf waste, as with other recyclable material, is to be collected at least once per month as set forth in Act 101 Section 1501(c)(2) and (3) and processed at Pa. DEP-approved composting facilities.

Act 101 mandated municipalities with programs that collect leaves only in the fall are not in compliance with the Act. Mandated municipalities desiring to establish leaf waste collection programs in compliance with Act 101 must, as a minimum:

1. Require by ordinance that leaf waste consisting of leaves, garden residues, shrubbery and tree trimmings, and other similar material are targeted for collection from residences and commercial, municipal and institutional establishments; and
2. Establish a scheduled day, at least once per month, when leaf waste is collected from residences; or
3. Establish a scheduled day, not less than twice per year and preferably in the spring and fall, when leaf waste is collected from residences, and facilitate a drop-off location or other collection alternative approved by Pa. DEP that allows persons in the municipality to deposit leaf waste for the purposes of composting or mulching at least once per month. The leaf waste drop-off location may be located in a neighboring municipality or at a private sector establishment provided that an agreement is in place to utilize that location and the municipality keeps residents and commercial, municipal and institutional establishments informed of the option at least once every six months.
4. Ensure that commercial, institutional and municipal establishments generating leaf waste have collection service.
5. Municipalities are encouraged to manage source separated Christmas trees as leaf waste for processing at Pa. DEP-approved composting facilities.

Appendix B

Sample Liquidated Damages

OMISSION	LIQUIDATED DAMAGES
Commencement of collection prior to 7:00 a.m. except as expressly permitted herein	\$100 per incident (each truck on each route is a separate incident)
Failure to collect spillage	\$10 per incident
Unsanitary condition of vehicle exterior or interior cab	\$100 per incident
Failure to have route book/sheet current to route day	\$100 per incident
Failure to collect missed Garbage, Yard Waste or Recyclables, within one business day (including Saturday) after a makeup request is given to the Contractor.	\$25 each incident to a maximum of \$250 per truck per day
Collection from Structures on other than the day specified per Section 123, including early collection due to a holiday.	\$20 per Structure, to a maximum of \$500 per truck per day
Missed collection of whole block. (This excludes collections prevented by weather and holiday rescheduling.) A whole block miss is defined as missing 3 or more houses on the same side of the street	\$150 per whole block
In addition to progressive discipline in Section 210, unsatisfactory performance of collector after two (2) notices to Contractor to correct specific incidences involving the same address or collector in any six (6) month period, e.g. leaving gates or doors open, crossing planted areas, abusive language to customers, failure to return Containers to their original location after collection, failure to perform collections, replacement of containers, or similar violations	\$200 each incident
Failure to make collection on the next weekday when snow or ice prevents collection on the scheduled day. If such conditions continue for an entire week or more, on the first day that regular service to a customer resumes, failure to collect all the materials that were amassed for collection during the interval when collections were missed.	\$250 per day In addition to the above damages, the Contractor shall not be paid for work not performed.

Appendix C

Sample PAYT Tags

REFRIGERATOR and MAJOR APPLIANCE TAG

collection connection **\$10 Expires 10/31/2009**
Non-refundable

CALL 24-HOURS AHEAD FOR APPLIANCE PICKUP

Use this tag for refrigerators, freezers, washers, dryers, air conditioners, stoves, water heaters, trash compactors and other items of similar weight and construction. Attach tag to appliance where it can easily be seen by the driver.

DOOR SAFETY: State law requires that prior to disposal, refrigerators and freezers have their doors removed or rendered incapable of closing in order to avoid entrapping children.

FREON RECYCLING: Before disposing of refrigerators, freezers, air conditioners or dehumidifiers, you are required to have a certified technician remove the Freon or other refrigerant for recycling. These compounds are believed to have a detrimental effect on the Earth's ozone layer. For an extra fee, Vogel can provide that service. Or contact your own heating/air conditioning repair service.

Call 724-COLLECT (724-265-5328) at least one full business day ahead of your collection day for large item, appliance and volume pickups, as well as service requests. Call or go to our Web site, www.cranberrytownship.org for information about buying additional tags.

07554

BULKY FURNITURE/ LARGE ITEM TAG

collection connection **\$4 Expires 10/31/2009. Non-refundable**
CALL AHEAD FOR PICKUP

Use this tag for pickup of upholstered furniture, TV sets larger than 19-inches, mattresses and other large items outside your cart. Tag each item separately.

Call 724-COLLECT (724-265-5328) at least one full business day ahead of your collection day for bulky furniture/large item, appliance and volume pickups, as well as for service requests. Call or go to www.cranberrytownship.org for information about buying additional tags.

07811

GARBAGE/TRASH BAG & SMALL ITEM TAG

collection connection **65¢ Expires 10/31/2009. Non-refundable**
Use this tag for pickup of extra 32-gallon trash bags or for other items up to 25 lbs. outside your cart. Not for use with trash containers. Not for recyclables or yard waste. Call 724-COLLECT for special pickups and tag purchases. One tag per item.

Bend tag at arrows → ← then peel off backing.

500830

VOLUME PICKUP COLLECTION TAG

collection connection **\$15 Expires 10/31/2009**
Non-refundable

CALL AHEAD FOR PICKUP

Use this tag for collection of multiple items outside of carts. Post tag where it can easily be seen by the collectors.

NOT FOR USE WITH MAJOR APPLIANCES, CONSTRUCTION MATERIALS, BULKY FURNITURE OR OTHER LARGE ITEMS, EACH OF WHICH MUST BE TAGGED INDIVIDUALLY.

Volume pickup service is available only by request. Pickups must be scheduled at least one full business day before your collection day by calling 724-COLLECT.

Typical volume pickup situations:

- MOVE IN/MOVE OUT
- ATTIC/BARAGE/ESTATE CLEAN-OUT
- CARPET REPLACEMENT DISCARDS

Total size of all items together should not exceed 2 cubic yards - approximately the capacity of sixteen 32-gallon trash bags.

Call 724-COLLECT (724-265-5328) to request service. Call or go to our Web site, www.cranberrytownship.org for information about buying additional tags.

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Nestor Resources, Inc.