

**Florida Department of Environmental Protection
FY 2006-07 INNOVATIVE GRANT APPLICATION FORM**

Project Information (on applicant letterhead)

- 1) **Applicant Name:** Hillsborough County
- 2) **Primary contact person:** Bryant Johnson
- 3) **Complete Address:** Solid Waste Management Department
PO Box 1110
Tampa, FL 33601
- 4) **Telephone Number(s) (including SunCom number):**

813-276-2927
- 5) **E-mail address:** johnsonbo@hillsboroughcounty.org
- 6) **Project Title:** Pay-As-You-Throw: Tossing New Light
on an Underutilized Waste Reduction Tool
- 7) **Grant Request Amount:** \$200,000
- 8) **Length of project (months):** 18 months

Authorizing Signature

Title

PROJECT ABSTRACT

(No more than 20 lines. Every word over 20 lines will constitute a one point deduction.)
(do not delete the instructions on this page)

Variable rate, or pay-as-you-throw (PAYT), programs have helped communities decrease waste disposal by an average of 17% by weight,¹ and achieve recycling rates of 50% and higher,² yet amazingly few Florida communities have implemented PAYT programs. In a PAYT program, customers are charged for waste collection and disposal based on how much – or how little – waste they generate. PAYT breaks with the traditional fixed or flat fee for waste collection services by treating trash services like other utilities – customers pay for what they use. If a customer’s action directly affects the cost of their service, they will limit their usage, and take advantage of available waste reduction opportunities including source reduction, reuse, recycling, and composting.

The purpose of this project is to pilot a PAYT program and to evaluate the feasibility of implementing a PAYT program countywide in Hillsborough County, the fourth largest county in Florida. Solid Waste staff has been requested by the Board of County Commissioners to pilot automated collection and other solid waste collection modifications in preparation for renegotiating or procuring future collection services. This project will allow the County to incorporate PAYT into the pilot program. We will pilot various approaches to PAYT, such as combining it with automated collection of recyclables in carts versus maintaining the existing two-bin curbside program. The results of this project will assist Hillsborough County in making an informed decision about which collection program changes will most effectively reduce waste and control costs.

¹ Skumatz, Lisa and Kenneth Green, “Pay-as-you-throw” Waste Management, Reason Public Policy Institute, July 2002.

² Canterbury, Janice and Sue Eisenfeld, “The Rise and...Rise of Pay-As-You-Throw,” *MSW Management*, Volume 15, No. 4: 32-45.

PROJECT DESCRIPTION

(1 page)

Hillsborough County's Board of County Commissioners recently extended its solid waste collection contracts for an additional three years, and directed staff to evaluate various collection program options that might be incorporated into a new contract at the end of the extension period. The Board specifically asked staff to pilot automated collection, which provides an opportune time to explore the feasibility of a PAYT program and other potential collection program changes to increase waste reduction. The ability to piggy-back this grant project onto the automated pilot will significantly increase the effective use of state grant funding.

The environmental and economic benefits of a PAYT program are well-documented and discussed elsewhere in this application. PAYT programs can take on a wide variety of structures, ranging from variable rates for different-sized cans, to purchasing disposal bags, to a tag or sticker program, to a weight-based system, to all types of hybrid systems in between. This project will begin by researching and evaluating these various PAYT program options. We will look at the few programs in Florida, as well as some of the more successful programs in other states. We will pay particular attention to the lessons learned in these other locations and any pitfalls to avoid.

Based on this research, we will develop a pilot program plan that fits the existing infrastructure of Hillsborough County's collection system, evaluates a variety of PAYT program approaches, and best meets the objectives of the County. We will also consider incorporating other collection program changes into the pilot plan for comparison purposes, such as automated collection of recyclables in carts and altering the collection frequency. Because this pilot will also entail automated solid waste collection, we envision including the variable-sized cans as one pilot scenario. We will work closely with our existing franchisees when developing the pilot program plan to ensure that all haulers participating in the pilot are fully aware of the pilot plan and their responsibilities.

We will conduct a benchmark study of the neighborhoods that will participate in the pilot program. This benchmark information will be necessary to evaluate changes in waste disposal, recycling, and collection of vegetative waste resulting from the pilot.

Outreach and education prior to the pilot program will be essential. We will develop and work with our franchisees to deliver information about the pilot program in the participating neighborhoods. This material will contain details about any changes in collection containers or schedules, and information about how residents are to participate.

We anticipate running the pilot for a period of three months. During that time, we will monitor the amount of solid waste, recyclables, and vegetative waste collected in the pilot neighborhoods, as well as recycling participation. We will also conduct a residential survey to evaluate customer response to the various pilot program scenarios. The results of the pilot will be used to develop a new collection contract for future service after the termination of the existing contracts on September 30, 2008.

A PAYT report will be developed that includes the preliminary research on existing PAYT programs and the results of the pilot program in order for other Florida communities to learn from this project and be better informed about PAYT. Additional activities to transfer the results of this project are presented elsewhere in this application.

Criteria 1: TECHNOLOGIES

(1 page)

(do not delete the instructions on this page)

(35 points) 0-15 points for meeting one of the following sub-criteria, up to 10 more points for meeting two, and up to 10 more points for meeting all three. Note: applicant may adjust space used to address each sub-criteria.

Sub-criteria 1 – Not in common use in Florida

From 1916 to 2004, the number of communities utilizing PAYT programs in the U.S. has grown from just one (Richmond, CA) to more than 6,000.³ Some states, including Iowa, Minnesota, Washington, and Wisconsin require PAYT through mandates to ensure that financial incentives for waste reduction are implemented. According to a 1999 study of PAYT programs in the U.S., only six such programs existed in Florida.⁴ However, research regarding these six programs revealed that at least two jurisdictions listed do not have PAYT programs. The largest PAYT program in Florida, the Alachua County/Gainesville program, serves a population of about 170,000 residents. In comparison, a PAYT program in unincorporated Hillsborough County would serve a population of over 700,000 residents, making it by far the largest, most extensive PAYT program in the state. A PAYT program of this magnitude has never been implemented in Florida.

Sub-criteria 2 – Novel application of an existing technology or process

This project provides a unique opportunity to pilot and evaluate PAYT in combination with other collection program changes to determine which combination is most effective at maximizing waste reduction in Hillsborough County. We will consider various approaches to PAYT programs, including variable-sized carts, flat rates with additional fees for extra carts or bags, and weight-based systems, and identify at least two approaches to include in the pilot. We will combine this with other program changes, such as automated collection of recyclables in carts or altering the frequency of collection, to assess the effectiveness of each program combination.

Sub-criteria 3 – Overcoming obstacles to recycling/waste reduction in new or innovative ways

As with many waste reduction programs in Florida, Hillsborough County has reached a plateau – and has actually seen a slight reduction – in curbside recycling. A major obstacle is maintaining public interest and participation in curbside recycling. PAYT has demonstrated effectiveness in overcoming this obstacle by creating a *financial incentive* for residents to *maximize* their participation, not only in recycling, but also in other waste reduction activities such as source reduction and composting. According to research conducted by SERA of over 500 communities across the nation, “the impacts from variable rates were the single most effective change that could be made to a curbside program. Implementing variable rates had a larger impact on recycling than adding additional materials, changing frequency of collection, or other changes and modifications to programs.”⁵

Before decision-makers are willing to make a major collection program change of the magnitude of PAYT, the costs and benefits of such a program must first be demonstrated. This grant project will provide just such an opportunity to Hillsborough County Solid Waste staff. This project will help to overcome diminishing participation by providing an incentive to participate, i.e., lower garbage collection rates. The pilot will also help to overcome local decision-makers’ reluctance to implement new programs by demonstrating the expected results of the change prior to wide-scale implementation.

³ Canterbury and Eisenfeld.

⁴ Mirando, M.L., Unit-Based Pricing in the United States: A Tally of Communities, Duke University, 1999.

⁵ Skumatz and Green.

Criteria 2: TARGETS

(1 page)

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(10 Points) Demonstrate innovative processes to collect and recycle or reduce these targeted materials/sectors: Construction and Demolition Materials, Commercial/Institutional Sectors, Waste Tires. Note: if the proposed project also includes materials/sectors other than those targeted by this criteria, the project will receive less than the maximum 10 points allocated for the criteria.

This project is targeted at reducing the amount of municipal solid waste disposed of by residents in unincorporated Hillsborough County, while at the same time encouraging source reduction and reuse activities, and increasing the amount of recyclables and vegetative waste recovered by residents. Our residential curbside recycling program includes collection of newspaper, cardboard, telephone directories, magazines, mixed paper, PET and HDPE plastic bottles, aluminum and steel cans, and glass containers. Both recyclables and vegetative waste are collected weekly from residential customers.

Criteria 3: BENEFITS

(1 page)

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(35 points) Demonstrate the potential economic, environmental, and cost-effectiveness of the program's approach. Note: applicant may adjust space used to address each sub-criteria.

Sub-criteria 1 - Environmental Benefits (15 points)

• **Methodology:** Unlike recycling programs alone, which only encourage recycling, PAYT rewards *all* behaviors – source reduction, reuse, recycling, and composting – that reduce the amount of waste disposed. In fact, a Reason Foundation report found that PAYT programs decreased disposal by an average of 17%, with 8-11% attributed to recycling and yard waste programs and 6% to source reduction efforts.⁶ Documented environmental benefits in communities that have implemented PAYT programs include the following:⁷

- Gainesville, FL, reduced solid waste collection by 18% and increased its recycling rate by 25%.
- In Massachusetts, 110 cities have PAYT programs – more than half have recycling rates of 40% or higher.
- San Jose, CA, increased its recycling rate from 28% to 43% in the first year, to 55% by the fifth year.
- PAYT is the backbone of San Francisco's "Fantastic Three" program, which has resulted in a 25% increase in recycling, 15% increase in composting, and overall waste diversion rate of 67%.⁸

• **Toxicity:** As part of the pilot program, we will educate residents about all waste reduction opportunities and proper management of various types of waste. We will educate residents about proper management of household hazardous wastes and electronics, and the County's existing collection programs for these materials to ensure their proper management. We will also work with the County Cooperative Extension Agency to expand promotion of the backyard composting program in the pilot neighborhoods.

Sub-criteria 2 – Economic Benefits (10 Points)

PAYT provides an equitable system – customers who use more service pay more. It provides a recurring economic signal to modify behavior. It allows small disposers to save money compared to those who use more service and impose more costs on the system. The increased recycling from a PAYT program will result in increased recycling revenue, as well as helping to support the economic foundation of the processing and marketing infrastructure. A further economic advantage in Hillsborough County, which recently determined it necessary to expand its waste-to-energy capacity, is the reduced burden on the County's waste disposal system.

Sub-criteria 3 – Cost Effectiveness (10 Points) Includes, but not limited to cost reduction, payback period, sustainability, and cost-effectiveness.

The cost-effective use of state grant funding will be maximized through this project because we will piggy-back the PAYT pilot onto a planned pilot for automated garbage collection. The County is already committed to this pilot and will be expending significant resources on it. In addition, the County recently extended its collection contracts for three years, during which time Solid Waste staff is to evaluate collection program changes to incorporate into the next collection agreement. Should the PAYT pilot have favorable results, the County would be poised to make PAYT a sustainable part of its countywide collection program.

PAYT programs are often started for their cost savings benefits. They are relatively inexpensive to implement; reduce the amount of waste collected and disposed, thereby reducing management costs; and increase the cost-effectiveness of recycling by increasing the quantity of recyclables collected per route and the revenue generated from recyclables. Provided below are just a few specific examples of PAYT's cost-effectiveness:⁹

- Gainesville, FL, (pop. 95,500) saved \$200,000 in landfill tipping fees in the first year after implementation.
- Worcester, MA (pop. 172,600) decreased its waste management costs by \$1.2 million.
- Between 1997 and 2001, Athens, OH (pop. 25,000), saved about \$500,000 in avoided disposal costs and earned nearly \$1million in recycling revenue.

⁶ Skumatz and Green.

⁷ Canterbury and Eisenfeld.

⁸ Haley, Robert, Recycling Manager for San Francisco, personal communication, October 2005.

⁹ Canterbury and Eisenfeld.

Criteria 4: TRANSFERABILITY

(1 page)

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(10 Points) Demonstrate transferability of technology and processes and specify how the project will promote transferability. Note: applicant may adjust space used to address each sub-criteria.

Sub-criteria 1 – Transferability of technology and processes (5 points)

The results of this project will be transferable to every city and county in Florida. While the pilot program will be specific to Hillsborough County, the research conducted on PAYT will be applicable to virtually any type of collection program. Communities with drop-off recycling, as well as those with open market collection of solid waste, have developed hybrid PAYT programs that “fit” into their specific waste management infrastructure. Through this project, we will document the benefits of a variable rate program in terms of waste reduction, materials recovery, recycling participation, cost-effectiveness, and customer satisfaction.

The added benefit of the program is the potential to evaluate variable rates in combination with other program changes that have the potential to increase recycling, such as automated collection of recyclables. For example, we plan to have one pilot community using the existing recycling bins while another uses larger automated carts. A comparison should reveal whether variable rates in tandem with larger recycling containers provide significantly higher material recovery rates.

Sub-criteria 2 – How project will promote transferability (5 points)

We will prepare a PAYT report that will include research conducted as part of this project and a case study report of the pilot project. The case study will include a comparison of the various collection scenarios piloted and the waste diversion, material recovery rates, participation rates, costs, and customer reactions to each. This report will be made available to all Florida communities through the County’s website. We will publish an article about the pilot program results in a statewide publication and, if possible, a national journal. We will also coordinate with Recycle Florida Today or the Florida Sunshine Chapter of SWANA to conduct a workshop on our pilot program, as well as other PAYT programs in Florida or the country. Solid Waste staff will also be available to discuss the PAYT pilot with other interested Florida jurisdictions.

Criteria 5: LOCAL SUPPORT

(1 page)

(do not delete the instructions on this page)

(10 Points) Demonstrate local support for the proposed project in commitment of cash or in-kind matching funds. Please provide the name, address and phone number of ALL contributors.

- **00 points** **0% up to and including 1% of total project cost**
- **01 points** **Greater than 1% up to and including 10% of total project cost**
- **02 points** **Greater than 10% up to and including 20% of total project cost**
- **03 points** **Greater than 20% up to and including 30% of total project cost**
- **04 points** **Greater than 30% up to and including 40% of total project cost**
- **05 points** **Greater than 40% up to and including 50% of total project cost**
- **06 points** **Greater than 50% up to and including 60% of total project cost**
- **07 points** **Greater than 60% up to and including 70% of total project cost**
- **08 points** **Greater than 70% up to and including 80% of total project cost**
- **09 points** **Greater than 80% up to and including 90% of total project cost**
- **10 points** **Greater than 90% up to and including 100% of total project cost**

In-kind contributions to the project include the following:

- County staff time to plan, implement, track, and oversee the pilot PAYT program and the overall grant project.
- Purchase of containers for the pilot program.
- County staff time and supplies to develop, create, and distribute outreach and educational materials to residents participating in the pilot.
- Printing the outreach and educational materials.
- Additional costs of implementing the pilot program.

In-kind contributions will be made by Hillsborough County's Solid Waste Management Department and other departments that may be called upon to assist, such as the Communications Department or Cooperative Extension. It is possible that some of the in-kind contributions listed will be provided by the franchised haulers participating in the pilot program. If that occurs, we would notify DEP of these changes.

Address: PO Box 1110, Tampa, FL 33601

Phone: 813-276-2927

In-kind contributions are estimated at \$320,000, which represents over 61.54% of the total project cost of \$520,000.

BUDGET

(1 page using Budget Table Template)
(do not delete the instructions on this page)

Describe the project's budget allocated by task and budget categories per the Budget Table Template available from DEP's Innovative Grants web site in Microsoft Excel digital format (www.dep.state.fl.us/waste/categories/recycling/pages/InnovativeGrants2006-07.htm).

Applicant: HILLSBOROUGH COUNTY											
Project Title: PAY-AS-YOU-THROW: Tossing New Light on an Underutilized Waste Reduction Tool											
Budget											
(1) Tasks	Categories								Local Match		(12) Total Grant Request
	(2) Personnel	(3) Travel	(4) Equipment	(5) Supplies	(6) Contractual	(7) Construction	(8) Other	(9)* Total Budget	(10) In-Kind Match	(11) Cash Match	
Research and prepare a summary report of existing PAYT programs	\$5,000.00				\$10,000.00			\$15,000.00	\$5,000.00		\$10,000.00
Design the pilot program plan	\$10,000.00				\$10,000.00			\$20,000.00	\$10,000.00		\$10,000.00
Mobilize for the pilot program	\$15,000.00			\$200,000.00	\$10,000.00			\$225,000.00	\$175,000.00		\$50,000.00
Educate participating residents prior to the pilot	\$10,000.00			\$5,000.00	\$12,500.00			\$27,500.00	\$15,000.00		\$12,500.00
Implement the pilot PAYT program	\$15,000.00				\$120,000.00			\$135,000.00	\$80,000.00		\$55,000.00
Track pilot program progress	\$10,000.00				\$17,500.00			\$27,500.00	\$10,000.00		\$17,500.00
Conduct a survey of pilot participants	\$5,000.00				\$10,000.00			\$15,000.00	\$5,000.00		\$10,000.00
Prepare PAYT report	\$5,000.00				\$10,000.00			\$15,000.00	\$5,000.00		\$10,000.00
Prepare reports to DEP	\$5,000.00				\$10,000.00			\$15,000.00	\$5,000.00		\$10,000.00
Oversee and administer the overall project	\$10,000.00				\$15,000.00			\$25,000.00	\$10,000.00		\$15,000.00
TOTALS	\$90,000.00	\$0.00	\$0.00	\$205,000.00	\$225,000.00	\$0.00	\$0.00	\$520,000.00	\$320,000.00	\$0.00	\$200,000.00

* NOTE: Column 9 is the total of columns 2 through 8. It also should equal the total of columns 10 through 12

Percentage Match 61.54%