

June 13, 2005



Patricia Snyder
Township Secretary
Towamensing Township
120 Stable Road
Lehighton, Pennsylvania 18235

Subject: Analysis of Implementing a Pay-As-You-Throw

Dear Patricia:

This letter is to provide the Towamensing Township with the results of R.W. Beck's evaluation of converting the Township's municipal refuse collection service to a volume-based fee system. The attached pages describe the methods R. W. Beck used to determine the cost of this Township service and offers a program for implementing a Pay-As-You-Throw (PAYT) system for Towamensing Township's residential refuse collection and disposal.

CURRENT SOLID WASTE MANAGEMENT SYSTEM

REFUSE

Under the current refuse and recyclables collection program, Towamensing Township owns and operates a refuse collection system. The Township provides once per week refuse pickup at curbside. Towamensing residential customers are required to contain refuse in standard garbage cans that are water-tight and have a tight-fitting cover, having a capacity of not more than twenty (20) gallons each. Residents are limited to four (4) twenty-gallon containers per weekly collection. If residents set out more than four containers, the Township will impose an additional charge. Towamensing Township bills residential customers \$130 per family, \$80 per senior citizen couple, and \$60 per single senior citizen annually.

The Township currently uses Tamaqua Transfer and Recycling as its primary disposal facility. Tamaqua charges the Township a tipping fee of \$64.00 per ton. These fees are paid directly by the Township to the disposal facility. During 2004, approximately 1,895 tons of Township residential waste was disposed, making the total annual cost to the Township \$121,280.

RECYCLING

Because Towamensing's population is under 5,000 people (population of 3,475), the Township is not required to provide mandatory recycling under Pennsylvania Act 101. However, Towamensing provides for a voluntary residential drop-off site recycling program serviced by the Township. There is one residential recycling drop-off site located at the Township building.

The drop-off center consists of ten foot by ten foot containers made of concrete and wood, used for commingled collection of bi-metal and aluminum cans, PET and HDPE bottles, and clear,

green and amber glass bottles (commingled containers). The Township services the site once or twice per week, utilizing two Township trucks. The Township transports the commingled containers to the Towamensing Township Recycling Facility, where they are manually separated and baled. In 2004, the Township recycled 29.56 tons of recyclables (5.70 tons tin cans, 8.62 tons commingled #1 and #2 plastic, 2.95 tons aluminum cans, 3.97 tons brown glass, 8.32 tons green glass, and 13.22 tons clear glass)

In 2004, the Township generated approximately \$8,000 in revenue from sale of recyclables, and had processing and transportation expenses of about \$1,100, for a net revenue of \$6,900.

In addition, Carbon County provides a drop-off container for corrugated cardboard, newspapers and magazines. The County services the drop-off site three times a week. During 2004, Carbon County reported that 61.25 tons of material was collected at the Towamensing Township drop-off site. Carbon County does not charge the Township for these services, but retains the revenue from the sale of the recyclables.

Between the Township's and County's drop-off programs, a total of 90.9 tons of material waste recycled from Towamensing Township during 2004.

BULKY AND YARD WASTE

Bulky waste¹ is considered a material not subject to normal collection procedures and fee schedule. Bulky waste must be disposed of at the Township Transfer Station, and is accepted from residents by appointment only. A fee is assessed to residents delivering bulky waste to the Transfer Station. The Township does not provide separate yard waste collection service.

ISSUES

The Township currently operates a recycling drop-off and processing center at no charge to the residents above the normal garbage fee. The Township also owns and operated a refuse collection system to provide municipal solid waste services. Although Towamensing Township limits homeowners to four (4) twenty-gallon containers per weekly collection, the Township is interested in reducing the set out limit to two (2) twenty-gallon containers per weekly refuse collection and has requested R. W. Beck to assist with the financial and recycling impact of reduced disposal quantities.

POTENTIAL IMPACTS ON TOWAMENSING TOWNSHIP

By implementing a more restrictive PAYT program, the primary source of savings for the Township would be reduced transfer station fees, as residents have an incentive to provide greater refuse diversion. The Township could also generate revenue from the sale of additional recyclables.

To illustrate, Table 1 shows that approximately 20 percent or 386 tons of the disposed waste stream is currently comprised of materials (paper, plastic, glass and metals) that are collected through the residential recycling drop-off center collection program. If the institution of a more

¹ Bulky waste is any building material, stumps, rocks and items not subject to normal collection procedures and fee schedule. Ordinance 80-2 Section 6, Subsection 3(e).

restrictive PAYT program annually diverts an additional 20 percent or an approximate 77 tons of these materials, the Township's disposal costs could be reduced by \$4,941².

In addition to the avoided disposal costs, the Township sold recyclables for an aggregate average of \$271 per ton in 2004. Of the additional 77 tons that would be recovered, approximately 24 tons of material would be recovered through the Township's drop off program. If the Township could sell these materials for an aggregate average of \$271 per ton, approximately \$6,450 in revenue could be generated. However, transporting and processing recyclables costs the Township a net aggregate average of \$37 per ton. When applied to the additional the additional tonnage of 24 tons, transporting and processing these recyclables would annually cost \$888. Thus the gross revenues through avoiding disposal costs and revenue from recyclables would be \$11,391, which would be offset by additional expenditures \$888, for a net financial gain to the Township of \$10,503.

Table 1
Waste Stream Composition

Material	Percent of Waste ¹	Tons Disposed
Newspaper	4.10%	78
Corrugated Cardboard	7.52%	142
Office	4.73%	90
Magazine/ Glossy	2.50%	47
Polycoated/Aseptic Containers	0.50%	9
Mixed Paper	4.40%	83
Non-Recyclable Paper	10.42%	197
All Paper	34.18%	648
#1 PET Bottles	0.83%	16
#2 HDPE Bottles	0.58%	11
#3-#7 Bottles	0.15%	3
Expanded Polystyrene	0.80%	15
Film Plastic	3.99%	76
Other Rigid Plastic	3.50%	66
All Plastics	9.85%	187
Clear Glass	1.61%	31
Green Glass	0.74%	14
Amber Glass	1.16%	22

² Based on a tipping fee of \$64 per ton.

Material	Percent of Waste ¹	Tons Disposed
Non-recyclable Glass	0.63%	12
All Glass	4.14%	78
Steel Cans	0.76%	14
Aluminum Cans	0.58%	11
Other Ferrous	2.85%	54
Other Aluminum	0.41%	8
Other Non-Ferrous	0.53%	10
All Metals	5.13%	97
Yard Waste- Grass	1.23%	23
Yard Waste- Other	5.78%	110
Wood- Unpainted	5.53%	105
Wood- Painted	1.63%	31
Food Waste	10.55%	200
Textiles	3.51%	67
Diapers	2.05%	39
Fines	0.93%	18
Other Organics	1.90%	36
All Organics	33.10%	627
Electronics	2.44%	46
Carpet	1.84%	35
Drywall	0.92%	17
Other C&D	5.72%	108
HHW	0.23%	4
Other Inorganics	2.08%	39
Furniture	0.37%	7
All Inorganics	13.61%	258
All Disposed Waste	100%	1,895

¹ Composition derived from data provided in PA DEP Waste Characterization Study, 2002.

IMPLEMENTING A MORE RESTRICTIVE PAYT PROGRAM

When developing a program that will result in a significant change it is important to have a solid plan of action. Presently, Towamensing Township offers refuse collection service, collecting only garbage (no yard or bulk waste), and a recycling drop-off site to its residential customers. Suggesting a change to this system could be met with strong public opposition -- residents may feel they are getting less service at a greater cost. Therefore, it will be imperative to involve the public in the process that ultimately structures the new system.

PLANNING THE PROGRAM

Solid waste management can be a confusing business; therefore it is important to carefully consider new programs before implementing a change. It is important to involve the public in this process and solicit their input on structuring the program. The change will be implemented much more smoothly if there is public consensus in favor of the change. It is imperative to make sure the public knows what is going on, how the program will work and what the benefits are to them. Use the media wisely in disseminating information to the public as the process is taking form.

The first action should be the formation of a committee to oversee the planning and implementation of a program change. The committee's role would include:

- Setting goals;
- Defining the system;
- Developing a public information strategy; and
- Overseeing implementation.

DETERMINE CURRENT SET OUT RATES

It is important for the Township to determine the average number of containers that single-family households currently set out for garbage collection. Based on data provided by Towamensing, R. W. Beck estimates that the average household set out 55 pounds per week or an estimated two garbage cans per week. This correlates with Titusville, Pennsylvania data which shows that the majority of Titusville, Pennsylvania residents set out an average of two or less containers per week. (Table 2)

Table 2
Number of Cans Set Out Per Week
By Titusville Households

Number of Cans	Percent of Households
0.5	0.48%
1.0	64.20%
1.5	1.5%
2	22.67%
2.5	2.63%
3	2.63%
4	0.48%
5	0.48%

Thus, if the Township wants to implement a PAYT program with minimal public resistance, the base number of cans that can be set out should be two (2). However, if the Township wants to implement a PAYT with a greater impact on waste reduction, then the set out limit should be limited to one (1) can per week.

EDUCATING THE PUBLIC ON THE NEED FOR PAYT

It is essential that the public understand the issues and reasons for considering a modification to the existing solid waste management system. Thus, it is important to convey the following messages:

- Although Towamensing is not mandated by Pennsylvania law to provide curbside recycling, Pennsylvania law enables Towamensing to receive funding based on the performance of the recycling program. Thus, developing a system, such as PAYT, that encourages people to recycle is financially beneficially to Towamensing.
- Residential refuse collection will be equitably priced (i.e., those requiring fewer container set outs will pay less for them, thereby encouraging diversion by recycling.)

It is suggested that, in addition to newspaper articles, public meetings be used to disseminate these messages, thereby allowing participants to make recommendations on how to resolve these issues.

EDUCATING THE PUBLIC ON THE PAYT PROGRAM

If Towamensing implements a PAYT program, it is essential that a comprehensive education campaign be developed that includes the following informational materials:

- PAYT brochure;
- Wire-tie warning tags;
- FAQs on Borough website; and
- Recycling “How To” flyers.

In addition, Towamensing may want to establish an environmental task force during the first year whose members:

- Volunteer to answer phones; and,
- When a problem location is identified, knock on the door or phone the residence, talk to the people, explain the program, ask for their cooperation and accommodate with a collection if appropriate.

Additionally, if Towamensing selects a PAYT program that uses bags or cans, residents must be educated on not over-packing them.

DEVELOP A PROACTIVE CAMPAIGN TO PREVENT ILLEGAL DUMPING

In general, illegal dumping should not be a significant problem. In fact, a study of 14 cities³ found 42 percent of communities with PAYT programs reporting no problems, 29 percent reporting minor problems, and another 29 percent reporting notable problems. The analysis of contributing factors found that three of four communities with problems were rural. Not all rural communities in the sample, however, had problems with illegal dumping. Openly illegal dumping may be somewhat notable when there is no base level of curbside refuse or recycling service. These communities report that some residents illegally dump refuse due to economic constraints. However, this is not the system that R. W. Beck is recommending for Towamensing.

Even though illegal dumping should not be a problem, a proactive campaign should be introduced concurrently with the implementation of the PAYT program. This initiative could include:

- “Report illegal dumping” decals such as the one shown in Attachment C;
- “3 Strikes And You’re Out” crew enforcement;
- Shared databases with Housing, Health, Street, Zoning, and Police Departments;
- Shared interdepartmental violation notifications that serve to identify chronic “illegal dumpers”;
- Monday morning “Garbage” conference calls amongst internal staff to discussed challenges that were faced during the previous week and strategies to prevent them for the upcoming week; and
- The ability for Township Staff to issue civil citations.

AMENDING ORDINANCE 80-2

If Towamensing opts to implement a PAYT program, Ordinance 80-2 will need to be amended to limit the amount of refuse that residential units may set out for the base fee, and set-outs that exceed that limit will not be collected without the specified tag or sticker.

EXPAND EXISTING RECYCLING SERVICES

Since residents should be recycling more under a PAYT program, and the Township is presently not considering curbside recycling collection, the Township may recognize a need to:

³ Daniel Blume, *Under What Conditions Should Cities Adopt Volume-based Pricing for Residential Solid Waste Collection?*

- Increase the capacity (number of containers) at the existing recycling drop-off center to accommodate the increase of residential recyclables; or
- Site an additional drop-off center(s) in a conveniently located area(s) of the Township to provide easier access to a center where residents can deliver their recyclables.

If recycling drop-off center expansion is necessary, the Township may offset at least a portion of the expansion costs (containers, etc.) with Act 101 recycling grant funds. Finally, the Township will need to coordinate with Carbon County to possibly service the fiber drop-off more frequently.

Finally, the Township may need to provide an alternative to residents for recycling yard waste due to this material comprising approximately seven percent of the waste stream.

FINDINGS AND RECOMMENDATIONS

- Although a PAYT program will decrease disposal and increase recycling, the Township is rural and may face challenges with open dumping. Also, the Township does not have curbside recycling which is a component of most successful PAYT programs.
- However, implementing a PAYT program could financially benefit the Township by approximately \$10,503 per year.
- If the Township implements a PAYT program, they should also consider expanding its existing recycling drop-off center capacity or siting additional locations or instituting curbside recycling.
- Should the Township choose to do this, citizens and service providers should be incorporated into the planning process because; (1) implementation of PAYT may result in a small increase in solid waste service cost to some residents; and (2) some residents may view PAYT as an attempt to reduce services and increase costs.
- If the Township does not implement a PAYT program, they should identify large solid waste generators and use direct mail to educate them on recycling.

A number of Pennsylvania municipalities have found PAYT to be a useful tool in reducing waste, controlling costs, and boosting recycling rates. PAYT will provide an incentive for Township residents to reduce waste generation. The greatest hurdle, if the Township were ever to decide to implement PAYT, will be avoiding the view that PAYT is an attempt to reduce services and increase costs. It is a decision that will require significant attention to citizen concerns and consideration of citizen input to ensure that it is accepted and embraced by Borough residents.

Sincerely,

Karen M. Luken
Senior Director