

Via Facsimile

August 25, 1998

Mr. Peter Previte
Recycling Coordinator, Allegheny County
3901 Penn Avenue – Building #5
Clack Health Center
Pittsburgh, Pennsylvania 15224-1347

Subject: **Analysis of County Wide Newspaper Drop-off Collection Program**

Dear Peter:

The purpose of this letter is to provide Allegheny County with the results of R. W. Beck's analysis of a, County-wide newspaper drop-off collection program and in selected areas, multi-material drop-off services. The proposed program would be designed to supplement other municipal recycling collection programs with a drop-off system specifically targeting newspaper and other materials in areas not served by curbside programs. This system would enable residents in communities that do not collect newspaper with an opportunity to divert this material from the waste stream. It would also enable municipal programs that currently collect newspaper with other recyclable materials, to redirect newspaper to the County-wide drop-off collection system and offer more space on collection vehicles for the other items. This could improve the collection efficiencies of curbside collection systems. The following are the factors considered for this analysis:

- The most effective method for the County to set-up a drop-off collection system.
- Type and number of containers required to accommodate the sites selected to serve as drop-off points.
- The costs associated with setting up and operating a drop-off system.

ANALYSIS OF NEWSPAPER DROP-OFF COLLECTION OPTIONS

ROLL-OFF COLLECTION SYSTEM VERSUS HAUL-ALL SYSTEM

There are a number of County wide recycling drop-off programs in Pennsylvania that utilize roll-off containers as receptacles for recyclable materials delivered by County residents. Generally, the containers have tops to prohibit rain from damaging newspaper and making it unacceptable to markets. Containers can have a capacity of 20 to 40 cubic yards. These containers are serviced by a specialized hoist vehicle. Typically, the vehicle delivers an empty container when retrieving a full container from a particular site.

Some programs permanently site a roll-off in a particular location, while other programs site a roll-off at a specific location for a limited amount of time and then rotate the container to another site. In both instances, the truck makes one trip

in to deposit an empty container and one trip in to pull a full container. The area required to off load and load the containers onto the hoist truck must be at a minimum 80 linear feet. This can impose some restrictions on where the containers are placed at drop-off locations. It can also be a factor in selecting drop-off locations.

The costs associated with a roll-off drop-off system include; containers, the hoist vehicle and related operating and maintenance costs, and the vehicle operator. The operating costs are a function of a number of conditions including, distance traveled to service containers, fullness of containers, and the cost associated with tipping materials at an intermediate or end market. Based on data obtained from operating programs in other Pennsylvania Counties, a 30 cubic yard covered containers cost approximately \$4,500 and the fee charged, to service the container averages from \$100 to \$200 per pull depending on the distance factor. A summary of the costs associated with operating a program with twelve drop-off locations, both on a permanent and rotational basis are shown in Table 1.

Table 1
Comparison of Costs of Different Drop-off Systems

<i>Type of Collection</i>	<i>Container Cost</i>	<i>Vehicle Cost</i>	<i>Operating Costs</i>
Haul-All	\$70,000 (\$5,800/cont. installed)	\$115,000	\$66,000
Roll-off System (Permanent)	\$63,000 (\$4,500/container)	\$85,000 (tri-axle roll-off)	62,400
Roll-off System (Rotational)	\$22,500 (\$4,500/container)	\$85,000 (tri-axle roll-off)	38,400

The Haul-All system which consists of self-dumping six cubic yard drop-off bins, specialized collection vehicles, and a transfer system to consolidate loads. A proposal submitted by Haul-All is attached and provides details on the system and its related costs.

Basically however, the system is a series of hydraulically dumping bins located at shopping centers, Malls, and other publicly accessible areas, which are serviced by a specialized collection vehicle that contains a hydraulic wet line used for dumping the containers. The truck can service multiple containers in a single trip. The truck will go to as many containers as possible on a route until it is full. Therefore, the truck will typically return to a tipping point only when completely full. The container can also be serviced regardless of whether it is full or not.

A summary of the costs associated with roll-off and Haul-All drop-off systems are shown in Table 1. The cost analysis is based on a 12 drop-off location system to

simplify the assumptions and economic evaluation. However, the results can be extrapolated to correlate with the 45 drop-off location system being considered by the County.

Two scenarios offer a system where the containers are permanently placed at the drop-off locations, while the third is based on rotating containers from site-to-site on a scheduled basis. Generally, a higher recycling recovery rate will be experienced at the permanent sites, since it is more convenient and does not require the resident to know when the container is scheduled for availability in their community. So, while the overall costs of the rotational system are less than the permanent, diversion of materials from the waste stream will also be less.

The costs associated with the two permanent systems are not significantly different. In selecting the preferred system, it will be a factor of public convenience and efficiency of servicing the containers.

The Haul-All system requires less space for container placement and therefore offers more flexibility in where the containers can be placed. Ideally, the more visible the containers are, and convenient for the public to access, the better the participation and the lower the amount of contamination. Roll-off containers require a much larger area and a more difficult to place in areas that are highly visible and convenient to access.

The efficiency associated with servicing the containers is also a consideration in determining which system best meets the needs of the County. The Haul-All system allows a collector to map out specific routes and service multiple containers prior to tipping the load. Containers are serviced on a scheduled basis and the collector can still maximize the load by servicing as many containers as necessary to constitute a full load. Where as, with the roll-off system, the containers should be serviced only when full to minimize transporting costs. This requires that the containers be serviced on an on-call basis to ensure the loads are full. Additionally, the collection vehicle is also carrying an empty container out to all drop-off locations and may at times be transporting back containers that are less than full. The Haul-All system offers collection efficiencies that are not available with the roll-off system.

LOCATION OF DROP-OFF COLLECTION SITES

Preliminarily, 45 sites geographically distributed through out the County have been identified and are shown in Exhibit 1. These sites were selected because they will offer recycling collection opportunities to communities that currently do not have organized collection programs, or will compliment existing programs with an alternate for the collection of newspaper.

Specific locations in each of the identified municipalities for placing the drop-off collection containers will be selected based on visibility and accessibility of the containers to the public. Ideally, containers will be placed in areas that are generally frequented by the public for other reasons. These areas could include; parks, recreation areas, shopping centers, grocery stores and municipal office

buildings. The primary factor in securing container drop-off locations will be the willingness of the landowner to cooperate with the County and provide the necessary land area and ongoing supervision of the site.

CONCLUSIONS

The evaluation shows that the most efficient system for servicing County-wide drop-off points is the Haul-All System. While the costs associated with the system are slightly higher for the scenario used to evaluate costs, the actual cost on a, per ton of recovered material basis would show a lower cost for the Haul-All system. The expectation is that more materials will be recovered with the Haul-All system, because containers can be placed in areas that are more visible and accessible to the public. Also, the collection vehicle servicing the drop-off containers will travel full to the selected intermediate processing facility or market with the Haul-All system, more often than the roll-off system. If roll-off containers are serviced on a scheduled basis, then it is possible that they will not always be full when serviced. For the compartmentalized containers, there is an even greater possibility that not all compartments will be full when one has reached its capacity.

Having reviewed the proposal submitted by Haul-All, the general findings is that the proposal is technically sound. Some assumed revenues, specifically, the "Diversion Credits" are shown as credits in the first two years of operation. While the credits will be earned in this period, actual revenues will not be collected for one to two years later. The credit being referenced is the, 904 performance grant money paid out by the Pennsylvania Department of Environmental Protection for each ton of recyclable materials diverted from the waste stream by a particular program. Historically, it takes the State approximately two years to turn around the grant applications and pay the recipients. Otherwise, the cost assumptions appear to be reasonable.

While the initial capital costs associated with the system may be higher than other alternatives, 90 percent of these costs will be reimbursable with State 902 grant money.

RECOMMENDATIONS

Based on our analysis, R. W. Beck recommends the County proceed with developing a County-wide drop-off program using the Haul-All system. The next step in the process would be to develop a 902 grant application for submission to the State. The grant will be to reimburse the County for up to 90 percent of the costs associated with procuring the equipment and implementing the program. The grant should be submitted to the State for consideration when the next grant round is available, projected to be in the Spring of 1999. If the State elects to award a grant to reimburse 90 percent of the capital and project development costs, then the County will be in a position to proceed. Preparing and submitting the grant does not commit the County to anything. Should the County elect not to

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proceed in the future, there is nothing binding to prohibit the County for changing direction.

Please feel free to call me at (717) 730-0404 if you have any questions on the analysis explained in this letter report.

Sincerely,
R. W. BECK, INC.

Richard Schlauder
Director of Environment Services
Pennsylvania Office

cc: Charlotte Frola, SWANA
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