

SWANA RECYCLING TECHNICAL ASSISTANCE PROGRAM

**ALLEGHENY COUNTY, PENNSYLVANIA
RECYCLING AT COUNTY FACILITIES**

RTA #477

MAY 2010



Submitted by:



"Working to protect the environment since 1939"

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Executive Summary

Allegheny County houses its departments in 45 buildings that it owns and in another 40 buildings in which it leases space ¹. A telephone survey revealed an estimated 52% of these buildings do not currently recycle office paper; 52% do not currently recycle corrugated cardboard; and 58% do not currently recycle commingled containers (glass, metal and plastics). Recycling of office paper, cardboard and aluminum cans are required all of businesses and institutions in Act 101 mandated communities in Pennsylvania. It is estimated that 63% of these 85 County buildings (i.e. 51 buildings) are in some form of non-compliance with Act 101.

Bringing County building operations up to their legal requirements is only the most obvious benefit of a coordinated, system-wide effort to expand recycling in these buildings. PRC estimates that a successful effort would increase (off-site) energy savings and greenhouse gas emissions by roughly 300%, as well as significantly decrease pollution of air, water and land. Increased recycling rates in these buildings would add to the County's overall recycling rates, and thereby increase potential funding opportunities. Finally, bringing County buildings up to legal requirements would set a clear, strong positive example to follow for businesses, institutions and households throughout the County.

One-time capital costs for this systematic expansion are for containers to collect and move recyclables, and for signage. This report reflects estimated capital costs for start-up at approximately \$106, 000 (i.e. at approx. \$1,250 per building). Net cost impacts on annual hauling fees are more difficult to estimate. However, optimal cost impacts are achievable if a) as many buildings as possible are bundled in a single contract for waste and recycling hauling; b) dumpster sizes and pull frequencies are carefully calibrated to building specific generation and composition; and c) a few of the largest generators bale and store cardboard to maximize revenue.

Successful implementation of systematic expansion of recycling in County buildings requires coordinated and phased work in three areas: contracts and leases; containers and operations; and communication (including training and signage). While County-leased buildings present added complexity and tasks, work on these tasks should not be delayed. An implementation plan and time-line is presented in which all necessary tasks are completed, and successful Act 101 compliant recycling programs are operational in all 85 buildings, within a single year.

¹ This is not counting the 70 buildings within County Parks.

1.0 Background

Allegheny County covers slightly more than 730 square miles in Southwestern Pennsylvania. The US census estimates that there were 1,218,494 million people living in 591,884 housing units in the county in 2009. One of the striking features of the County is that it contains 130 semi-autonomous boroughs and municipalities. The County more than doubled its municipal waste recycling rate between 2004 and 2008 (from 11% to 23%). However, it remains below the U.S average recycling rate (30.6%)

According to the Solid Waste Planning, Recycling and Waste Reduction Act of 1988 (ACT 101), any community in Pennsylvania with a population greater than 5,000 and a density greater than 300 per square mile is mandated to recycle and requires counties to develop municipal waste management plans. Of the 130 boroughs and municipalities in Allegheny County, 59 are currently ‘mandated communities’, home to over 88% of the County’s population (as of 2000 census). Under ACT 101, “all commercial, municipal and institutional establishments in these mandated communities are required to recycle:

- *Aluminum*
- *high-grade office paper*
- *corrugated paper*
- in addition to other materials designated by the municipality

<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/FACTS/Act101.htm>

Many mandated communities have written their codes/ordinances requiring that commercial businesses recycle these as well as additional materials. As an example, the City of Pittsburgh Code 619 requires that all commercial establishments, charitable or nonprofit institutions and institutional establishments provide a program for the separation and collection of the three specific recyclable materials required by Act 101, *as well as plastic containers* and leaf or yard waste, where applicable. (See Appendix 1, and http://library4.municode.com/default-test/home.htm?infobase=13525&doc_action=whatsnew).

The County offices that utilize a document destruction service are having that material recycled via the servicing vendor. The City of Pittsburgh, through a partnership agreement, picks up cardboard, office paper, and co-mingled recyclables from a number of County buildings that are located in the downtown area as well as from some County buildings in other areas of the City.

On October 27, 2009, County Executive Dan Onorato signed an Executive Order that includes the goal of implementing a *consistent recycling program throughout County-owned and –leased* buildings (Appendix 2: Section A, subsection 4). We interpret this sub-section as requiring that each County owned and/or leased facility would recycle, at a minimum: office paper, cardboard, bottles and cans, regardless of whether or not the facility is located in a mandated municipality. We refer to this as full, basic (i.e. Act 101) recycling.

1.1 Scope of Work

To help facilitate the establishment of a consistent recycling program throughout County-owned and –leased buildings, the County applied for funding under the SWANA Recycling Technical Assistance Program (RTAP). The application was approved by SWANA and the project was assigned to the Pennsylvania Resources Council. The designated County representatives for this project were Joy Smallwood, County Recycling Officer, and Jeaneen Zappa, County Sustainability Manager. In the Scope of Work, the County representatives stressed five challenges in implementing such a program:

1. the number and variety of buildings and facility contacts
2. the variety of hauling contracts
3. need for collection/storage containers
4. the lack of a centralized employee communication system
5. the importance of containing costs

The end product of this project includes:

- a list of County buildings with existing recycling programs
- a spreadsheet summarizing specs, costs and vendors of appropriate collection/storage equipment

- cost estimates of expanding recycling in County buildings following the Executive Order
- a draft implementation plan and timeline
- a final report summarizing all of the above

The key project milestones included:

- Meeting with designated County representatives to gather background information.
- Compiling/reviewing current records and inventories of County owned and/or operated facilities.
- Compiling list of County buildings with existing recycling programs
- Researching appropriate collection/storage equipment
- Providing cost estimate of collection/storage equipment, hauling and additional housekeeping hours;
- Working with the County representatives to develop a draft implementation plan and timeline
- Completion of final report

2.0 Current Waste and Recycling in County-owned and/or leased Buildings

2.1 Buildings in Active Survey

Table 1 summarizes the sample survey of County-owned and/or leased buildings. From the initial list of 197 buildings, 91 were omitted because they were either Parks facilities or rental homes; and 21 were omitted because they are not in current use. The 85 remaining buildings were utilized as the population for this study. In the rest of this report the term “County buildings” is utilized to refer to these 85 buildings. For nine of these buildings no initial contact information for building managers was available; for twelve others, initial contact solicited no immediate response from building managers. From managers at 64 buildings, some basic information was obtained, a 75% sample. Slightly more than half of the 85 buildings are owned by the County (45 or 52%); the rest are leased by the County (40 or 48%). These differences are of some importance in implementing expanded programs, discussed later in the report.

Table 1: The Sample

Initial List	197	%
Rental Homes	21	11%
Parks Facilities	70	36%
No Longer Current	21	11%
Buildings Remaining	85	43%
Buildings on Final Survey List	85	
Lack Initial Contact Info	9	11%
Unable to get initial response	14	16%
Buildings for which we have some data	64	75%
County-Owned vs. County-Leased		
County-owned buildings in final survey	45	52%
County-leased buildings in final survey	40	48%
County-owned buildings with some data	35	55%
County-leased buildings with some data	29	45%

2.2. Buildings with recycling programs

During phone interviews building managers were asked a list of standard questions including whether they currently recycle office paper; commingled cans, glass and plastic containers; and corrugated cardboard. Answers were obtained from managers in 64 buildings, summarized in Table 2. The commingled category includes Act 101 mandated recyclables (aluminum cans); City Code 619 mandated recyclables (plastic containers); and non-mandated recyclables (glass containers). Office paper may have been under-reported. It is possible that several building managers failed to mention that they used a document destruction service.

Most of these services are diligent recyclers of paper. Appendix 2 is a spreadsheet that summarizes all of the information we obtained from building/facility managers, accountants and other County managers and staff.

Table 2: Reported Recycling

	Commingled	Paper	Corrugated
Buildings reporting recycling this material	27	31	31
% of sample	42%	48%	48%
Buildings reporting <i>no recycling</i> of this material	37	33	33
%	58%	52%	52%
Est # of the 85 County buildings that do not recycle this	49	44	44

2.2.1. Non-Compliance with State and Municipal Ordinances

The vast majority of Allegheny County facilities exist within ACT 101 mandated communities (81 of 85 buildings on the active list, or 95%). Of the 64 of these facilities from which we gathered some information, 62 are in mandated communities. Of these, 39 (63%) are in non-compliance with Act 101. Extrapolating to the larger population, *it is estimated that 51 County buildings are in non-compliance* (63% of 81). Of the 85 buildings in the active list, 53 are within the City of Pittsburgh (62%). Of the 41 buildings within Pittsburgh for which some basic information was obtained, 20 (49%) are in non-compliance with both Act 101 and City Code 619 cited above. Extrapolating to the larger population, *it is estimated that 26 of the 53 Act 101 non-compliant County buildings are also in non-compliance with City Code 619* (49% of 53). Table 3 summarizes the level of reported recycling compliance for buildings surveyed in mandated communities and within Pittsburgh.

Table 3: Reported Recycling of Mandated Materials

County Buildings within...	Mandated Communities		Pittsburgh	
Number in sample	62		41	
Recycle all 3	23	37%	21	51%
Recycle 2 of 3	4	6%	3	7%
Recycle 1 of 3	12	19%	6	15%
Recycle none of 3	24	39%	11	27%
Recycle Commingled	27	44%	22	54%
Recycle Office Paper	31	50%	28	68%
Recycle Corrugated	31	50%	25	61%

2.3 Estimating Waste Generation, Recyclable Composition and Recycling Rates

In order to provide cost and environmental-benefit estimates for increased recycling in County buildings, PRC attempted to estimate the weights and volumes of their current waste generation and recyclable diversion. This was not an easy task as: individual waste audits at any of the buildings was not part of this project, and per building records of tonnages of recyclables from haulers were not always readily available. According to the most recent waste hauling tonnage figures that could be accessed, the total waste hauled from the 85 County buildings in 2008 was 2,383 tons. We did receive recycling dumpster volume and pull frequency from a sub-sample of building managers. The averages are summarized in Table 4. The estimated pounds per cubic yard was taken from the CA Recycling website conversion table for administrative offices. <http://www.calrecycle.ca.gov/Wastechar/DispRate.htm> In the final row, the waste tonnage is adjusted to fit the hauler tonnage reports (a reduction of 20%), and the estimated recycling tonnage is reduced by this same percentage.

Table 4: Estimating Waste Disposal and Recycling Diversion Rates

	Waste (n: 32)	Recycling (n:16)	Total
Cubic Yards/month	58.4	22.8	81.2
Cubic Yards/year	701	274	974.4
Est. Pounds/Yard	100	100	
Est. Tons/year	35.0	13.7	48.72
Total	2,978	1,163	4,141.2
Adjusted	2,383	930.24	3,313.24

According to this calculation, the average recycling rate in participating buildings is 28%. How does this compare to the recycling rate of a building that recycles all of the following materials: glass, plastic and metal containers; office paper and mixed paper; and corrugated cardboard? According to the CA Recycling site, these materials comprise 44% by weight in administrative offices. However, we saw other uncited office building web references with much higher recyclable compositions (e.g. that paper in offices can be 70%, 80% or higher of total waste tonnage). Taking the more conservative CA figure, this would make annual generation of these recyclables per County building 1,458 tons, i.e. a 57% increase over current average rates among participating buildings.

2.4 Current Hauling Fees for Waste and Recyclables

Table 5 summarizes the information we were able to obtain from building managers, purchasing officers and accountants on waste and recycling hauling.

Table 5: Reported Recycling and Waste Hauling Fees

Recycling Diversion & Hauling Fees			
	Avg	Median	n
Total recycling yards diverted per month	22	15	16
Recycling yards per 1000 sq ft	1.5	0.7	11
Total recycling hauling fees per month	\$218	\$153	13
Hauling fee per cubic yard of recyclables	\$ 16	\$ 7	7
Waste Generation & Hauling Fees			
	Avg	Median	n
Waste cubic yards generated per month	57	39	32
Waste yards generated per 1000 sq ft	4.5	1.6	19
Total waste hauling fees per month	\$666	\$400	35
Hauling fee per cubic yard of waste	\$ 14	\$ 13	23

3.0 Benefits of Increased Recycling in County Buildings

Increased recycling in County buildings entails several benefits, both environmental and social:

- reduced pollution of land, air and water
- conservation of natural resources
- conservation of energy
- reduction in greenhouse gas emissions
- conservation of landfill space
- reduction in solid waste disposal costs
- support of local recycling infrastructure
- add to the County’s overall recycling rates, and thereby increase potential funding for County
- an appropriate, useable model for businesses, institutions and households throughout the County

Table 6 summarizes two important environmental benefits that can be expected from expanding recycling in County buildings: energy savings and reduced greenhouse gas emissions. It was calculated using EPA’s Waste Reduction Model (WARM)

http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html.

Full recycling of Act 101 materials in all 85 County buildings would entail a three-fold increase of these benefits of recycling. In terms of greenhouse gases, this would be the equivalent of removing 5,335 cars from the road each year. In terms of energy, this would be the equivalent of over 1.4 million gallons of gasoline and the annual energy consumption of 1,662 households. Even a modest diversion rate of two-thirds of all Act 101 materials would contribute significantly to energy use and greenhouse gas emission goals of the County Executive Order cited above (i.e. Section B, subsections 1 and 3).

Table 6: Estimated Energy and Greenhouse Gas Savings from Recycling in County Buildings

	Energy Use (million btu)	Greenhouse Gas Emissions (Metric Tons of CO2 equiv)
Current System	(90,982)	(12,395)
Full Recycling of Act 101 Materials	(269,199)	(41,521)
Total Savings	(360,181)	(53,916)
% Increased Savings with Expansion	296%	335%

Unfortunately, WARM does not calculate reductions in other pollutants of air, water and soil. A key benefit of recycling is the avoided pollution of material extraction and processing of virgin materials. The refining and processing of crystalline alumina into *aluminum cans* cause the release of polycyclic aromatic hydrocarbons (PAH’s: suspected carcinogens), and sulfur dioxide (a precursor to acid rain). The processing of crude oil into virgin *plastic* emits heavy metals (which cause damage to kidneys, the nervous system and the cardiovascular system); chlorofluorocarbons (which cause ozone depletion); PAH’s (suspected carcinogens); and volatile organic compounds (VOC’s), sulfur oxides (SOx) and particulates that cause various respiratory ailments.

Enforcement of both Act 101 and city codes regarding institutional and business recycling compliance has been lenient. Significantly increasing recycling programs, rates and reporting have been challenges for the County. The focus on Pittsburgh for World Environment Day; regional and national sustainability initiatives regarding green house gas initiatives and resource conservation (e.g. Green Building certification for operations) seems to be encouraging businesses and institutions to adopt better waste management practices. The County should be a leader in waste reduction and recycling. Initiating a system-wide expansion of recycling in County buildings is a critical step, at once symbolic and substantive.

4.0 Cost Estimates for System-wide Recycling in County-owned and –leased Buildings

We provide cost-estimates for three types of expenses that will be incurred in the expansion as outlined above: recycling containers; recycling hauling services; and additional hours for housekeeping staff.

4.1 Indoor Containers and Toters Appendix 3 gives per unit prices for four types of containers that may be required to separate and transport Act 101 materials from County buildings. Table 7 summarizes cost estimates for the lowest-cost set of these containers.

4.1.1 Containers for Paper We provide two options here. Most convenient to office staff is to place small individual containers beside or under each occupied desk. Most convenient to housekeeping staff is to place one larger container at each office ‘suite’.

4.1.2. Containers for Commingled Collection containers for beverage containers (glass, plastic and aluminum) are best placed in break-rooms and other areas with a snack machine or where staff takes refreshment. As many employees drink beverage at their desks, additional containers may be placed at each office ‘suite’.

4.1.3. Indoor Transport Containers There are several options of wheeled carts to move recyclables from collection containers to dumpsters. Banana boats are the largest and most expensive: recommended only for buildings with very large areas to cover on each floor. Toters (often 96 gallons) and Cube carts (at 140 gallons) are second and third in order of volume and price. The least expensive option, and perhaps the one that best fits current housekeeping work routines, is a retrofitted housekeeping cart. This has several containers for different waste and recycling streams.

4.1.4 Dumpsters for Recyclables All three of the main recycling and waste haulers in the region (Allied, Vogel and Waste Management) provide dumpsters as part of their hauling contracts. However, if the City of Pittsburgh is willing to take on recycling hauling for one or more new County buildings, it is possible that they will require the County to purchase recycling dumpsters for these buildings. Appendix 2 provides pricing for dumpsters. The less frequent the pull, the lower the monthly hauling fees. As none of the targeted materials is putrescent (as long as beverage containers are given a quick rinse), there is no time pressure to haul. We therefore recommend obtaining as large a recyclable dumpster as possible, as long as a) the building can fill it within two weeks; and b) there is adequate space for it.

Table 7: Containers for Recyclable Collection and Movement, Lowest Cost Set

	# units	Price/unit	Gallons	Distributor	Total Cost
Office Suite Paper ¹	690	\$ 14.19	21	Grainger	\$ 9,794
Commingled Break Room ²	555	\$ 48.00	23	Busch Systems	\$ 26,644
Retrofitted Housekeeping Cart ³	255	\$ 225.00	?	?	\$ 57,375
Dumpster, 4 yd ⁴	10	\$ 964.60	808	RBJ Sales	\$ 9,646
Total					\$ 103,459

Notes:

- 1: Assumes one container for every five occupied desks.
- 2: Assumes one container for every 12 employees.
- 3: Assumes 3 carts for each of 85 buildings, on average.
- 4: Assumes that the City of Pittsburgh will only be willing to extend recycling hauling to 10 additional County buildings, and requires purchase of dumpsters for them.

4.2 Signage The County print shop can print and laminate 1000 full color 8.5 x 11 inch signs for \$1,275. At one sign for every 4 to 5 employees, this comes to roughly 1500 signs, or roughly \$2,000.

4.3 Recycling Hauling

Table 8 presents two ways of estimating the net cost impacts of expanded recycling hauling in County buildings. The top half does this without including any estimate for reduced waste hauling. The lower half presents the estimated net cost impact of hauling fees per month for added recycling hauling. It is based on average per building per month diversion figures for seven buildings that report recycling all three Act 101 materials (29.8 cubic yards). We reduced this average by 33% for buildings that recycle two Act 101 materials, and by 67% for buildings that only recycle one Act 101 material. We multiplied these estimated yards divertible per month by the difference between the average hauling fee per yard for waste (\$14.46, n=23) from the average hauling fee per yard of recyclables (\$ 16.09, n=7). This difference (\$1.63) represents the additional per yard fee of diverting waste to recycling.

Table 8: Estimated Net Cost Impact of Expanded Recycling Hauling

A: Based on current per-yard recycling fees

	Est. Additional fee/month/bldg	# estimated County buildings	Est. Addl fee per month
All three Act 101 Materials	\$ 218.00	34	\$ 7,412
Two Act 101 Materials	\$ 146.06	16	\$ 2,337
One Act 101 Materials	\$ 72.59	5	\$ 363
Increased diversion for facilities currently recycling all 3 materials	\$ 72.59	31	\$ 2,250
Monthly Total			\$ 12,362
Annual Total			\$ 148,344

B: Based on per-yard cost differences between waste and recycling hauling

	Yards diverted per building per month	# of Buildings	Yards diverted per month	Addl fee per yard	Addl fee per month
All three Act 101 Materials	29.8	34	1013.2	\$ 1.63	\$ 1,651.52
Two Act 101 Materials	20.0	16	319	\$ 1.63	\$ 520.71
One Act 101 Materials	9.8	5	49	\$ 1.63	\$ 80.15
Increased diversion for facilities currently recycling all 3 materials	9.8	31	304	\$ 1.63	\$ 495.19
Monthly Total					\$ 2,748
Annual Total					\$ 32,976

4.4 Additional hours for housekeeping staff

If recycling containers are appropriate in number, size and placement, and recycling operations are planned with efficiency in mind, there is no reason why moving recyclables from collection containers to dumpsters should require significantly more time or effort for housekeeping or janitorial staff. Specific attention will need to be paid to existing and future contracts and/or agreements to avoid issues related to bargaining unit agreements and/or assignment of additional work and/or duties.

In summary, one-time costs (for containers and signage) should be around \$106,000 for all 85 buildings (roughly \$1,250 per building). The wide variability of hauling contracts adds much greater uncertainty to estimates for ongoing costs. Strategies to minimize total waste and recycling hauling fees are discussed in the implementation section.

5.0 Implementation Plan and Timeline

The following are **the primary goals** of an expanded and consistent recycling program across County-owned and/or leased buildings:

- Separation and collection of the following materials in each of these buildings as part of normal daily operations, and their regular, scheduled hauling to a recycling center:
 - All office paper
 - All aluminum, plastic and glass bottles and containers
 - All corrugated cardboard

- Assuring that the above is conducted in a manner that
 - maximizes waste diversion and total tons of material diverted in these facilities
 - minimizes the net cost impacts for these facilities

The separation, collection and hauling to maximize the total tons of material diverted and minimize net cost impacts of the following materials should be viewed as **secondary goals**, depending on a) the estimated volumes of each material in each facility; and b) the costs and logistics of haulers and processors:

- All mixed paper (newspapers, magazines, etc.)²
- Printer/Toner cartridges
- Florescent bulbs & CFLs
- Computers
- Other e-waste (cell phones, printers, etc.)
- Batteries
- Construction/demolition waste
- Useable office furnishings, equipment, etc.
- Food waste, organics, leaf waste

Implementation of this expanded and consistent program requires work in three areas: contracts; containers & operations; and communication. Following is a brief summary of the importance of each area, as well as the necessary tasks within it. Within each area, PRC was careful to note some *key differences between implementation in County-owned and implementation in County-leased buildings*. In each case, leased buildings require additional time, care and attention. This is likely why the designated County Representatives have suggested a two-stage implementation, beginning with the County-owned buildings. PRC considers this a perfectly acceptable plan to proceed, in terms of the sequence of hard launch (i.e. the first week of source separation, collection and hauling of recyclables). However, we would caution against delaying taking the first steps in County-leased buildings. Following the summary of each implementation area, a month-by-month timeline of tasks in all areas is provided.

5.1 Contracts

This is likely the area of implementation which will most dramatically affect the long-term net cost impact of the program. In County-owned buildings the key contracts are between the County and the haulers of both waste and recyclables. When recycling is introduced or expanded it typically impacts the container size and/or the frequency of service required for waste. Based on these changes the cost of waste disposal should go down if the waste contract is drafted to allow for flexibility in managing the terms of the waste collection services. In County-leased buildings, contracts between building owners and the haulers are key as well, but there is an additional key contract: the lease between the County and building owners. There are three contractual elements that the County should work on to optimize the net cost impacts of recycling expansion: bulking; incorporating market; and building leases.

5.1.1. Bulking or Bundling

The first dimension of bulking is simply bidding a single hauling contract to service all of the County-owned buildings together. There are clear economies of scale at work here, and the likelihood of obtaining significantly reduced monthly hauling fees through a contract covering several dozen buildings is a very strong motivation for a system-wide expansion that is implemented within a single year. Bundling contracts is likely to be easier when the buildings' contract cycles are in synch. The first step in this area is to learn

² Each of the three major commercial recyclers in the region (Allied, Vogel and Waste Management) conduct single-stream recycling. In this, office paper can be mixed with any other paper. However, the City of Pittsburgh prefers requires buildings that it services to keep office paper separate from other, mixed paper.

when the contract period ends for each current waste and hauling contracts of all County buildings. This will affect the ease with which all County buildings can launch expanded recycling at the same time. While contract cycles that expire within a few months of each other facilitate synchronized implementation, there should be ways to include all buildings, as long as the start dates of each building's hauling are clearly specified. The more buildings that included in the contract, the lower the monthly fees the County can expect. For that matter, it is worth exploring the inclusion of as many County-leased buildings as possible.

A second dimension of bulking is the on-site compaction and storage of recyclables. At this time, only corrugated has prices high enough to even consider this option, including the purchase and use of a baler. However, this is recommended only for the very largest of generators, and only after a careful review of current and historic prices; cost of baler and its operation; and available storage space.

5.1.2. Incorporating the Commercial Value of Materials

A few building managers have reported that they receive a credit on their monthly hauling bills based on tonnage of corrugated, although the amount has been quite small of late. Markets values for recyclables declined dramatically a couple of years ago; for most materials, these have slowly improved over the past year or so. One option for recycling hauling contracts is to incorporate fluctuation in market prices into monthly payments. This is a bit of a gamble. However, there are ways of incorporating some percent of current market price into contracts. The County should exercise due diligence in examining this option.

5.1.3. Leases

As mentioned above, in the 40 buildings in which the County leases space for its departments, all recycling efforts, including contracts with haulers, depends on the participation of non-County management and staff. One important source of influence that the County can exercise is legal: an estimated 25 of the County-leased buildings *are in non-compliance with Pennsylvania law*. Another source of influence is the County's stake as a leaseholder. The portion of each of these buildings' space that the County leases was not readily available for this report. This affects the economic importance of the County as a tenant. A further source of influence is quite positive. It is likely that the County can help building owners and managers in making the transition to recycling as cost-neutral as possible, perhaps even saving them money: through bulk purchase prices for containers, and through the possible bundling of buildings into larger hauling contracts. While the latter requires some legal niceties, there are precedents for several waste generators joining together for hauling contracts: the COGs.

5.2 Containers and Operations

The nitty-gritty area of implementation, this involves

- the selection of all necessary containers to collect, move and store recyclables;
- their most effective placement within each building;
- the day-to-day operations of source-separating and moving recyclables, the former by all employees and patrons, the latter by janitorial staff; and
- the purchase of containers, their delivery, storage and distribution to all buildings;

The selection of indoor collection and transport containers—their size, style, number and placement—are best made in consultation with, and based on information gathered from, management and staff. Key pieces of information include

- the actual number of occupied desks, and the number of official break-rooms and unofficial break areas in each building (from on-site HR managers?);
- the current daily and weekly work routines of custodial staff (from their managers, whether in building or in a janitorial company).

5.3 Communication

While both of the above areas include communication, it merits some discussion in its own right. Given the administrative complexity and geographical range of County buildings, implementation of the expanded

system will require communication that is accurate, concise, well-timed, coordinated and appropriate (in source, audience, media and content). Messages that come too frequently or that include information that is irrelevant to the recipient should be avoided: these lead to ‘overload’ and are likely to be ignored. For instance, much of the decision-making regarding hauling and leasing contracts; container selection and placement; and operational logistics do not need to be communicated to all employees. On the other hand, communication needs to occur to garner the support of all people involved.

Top down support is essential in the form of an official recycling/waste minimization directive and policy statement distributed to all staff and contractors outlining expectations and guidelines for participation. The first requirement is that all County staff understands that participating in recycling while on the job is quite simply a requirement of the job. For most employees this will simply mean depositing paper, bottles and cans in appropriate containers, whether these are placed directly under their desks, or are placed a few steps away. The highest-level communications should be signed by both the County Executive and the County Manager. Both the initial directive/policy statements and subsequent announcements of implementation phases should be accompanied by a brief enclosing letter or statement signed by managers at each Department (Health, Administrative, etc).

Implementation should be carried out starting from the County Executive through the County Manager’s office and then to individual Department Directors. Once direction has been given to management then a county wide policy should be disseminated to all county employees describing:

- What is going to be happening in terms of waste reduction and recycling.
- Introduce employees to waste reduction.
- Why the county is pursuing these new practices, reinforcing sustainability directives.
- Explain how waste reduction can benefit both the county and the environment.
- Outline the design and implementation stages of the program.

Ask Dept managers to hold a brief meeting on each floor to discuss placement of recycling containers. Have a copy of a detailed floor plan handy. Brainstorm ideas for centrally located paper and commingled containers (e.g. by copy machine or printer; in break room; by vending machines; or other central location).

Training sessions should be brief (20 minutes at most) and clear; conducted with relatively small groups of work-mates (a dozen or so at a time); standing up; and in the place(s) in which daily waste is generated.

Ongoing, daily monitoring of waste generation and recyclable diversion volumes is easy, and is important in measuring progress not just at County levels, but at building and even floor levels.

5.4 Implementation Tasks in Chronological Order

A system-wide expansion of basic recycling can be successfully planned, put in place and launched within a single year. The following are recommended tasks in planning and implementation, organized into twelve month-long sets.

Month 1:

- Assign a Recycling Coordinator (RC) to coordinate the program in all County-owned and leased buildings. Locate two program leads in each facility (one in upper management; one in facilities or custodial management) to lead program implementation, and communicate with RC over a one-year period.
- Obtain time periods and end-dates of current waste and recycling contracts for all County-owned and leased buildings. The end-dates will be used to determine launch date(s). The official, announced launch dates should coincide with the start of new contracts, and these should include as many County buildings as possible.

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- Map all County-owned and leased buildings on GIS, etc, to have available for discussions with City Recycling Coordinator and with prospective commercial haulers.
- County Executive (CE), RC and County Manager (CM) draft Executive Order/policy directive. They each sign this document and distribute it as outlined above.
- RC arranges meetings with owners and managers in all 40 County-*leased* buildings to discuss implementation of new or expanded building-wide recycling
- RC arranges meetings with owners and managers in all 45 County-*owned* buildings to discuss implementation of new or expanded building-wide recycling
- RC conducts waste-sorts at a representative sample of County buildings. Important variations to capture in sample include: square footage; number of employees; type of department or primary use (e.g. pure office; warehouse; health care; jail); owned vs. leased. This will a) allow better estimates of optimal dumpster size and pull frequencies; and serve as a baseline to chart progress.
- In conjunction with waste sorts/ and or meetings with county facility managers, determine number of required containers for collection system

Month 2:

- RC and CM approach City Recycling Supervisor to ask which, if any, County buildings they are able to haul recyclables from. Ask about requirements of office vs. mixed paper, single stream vs. co-mingled, etc.- this may change the number and/ or types of container that those locations employ for collection materials.
- RC and CM decide on hauling bid/contract strategy and contract/lease strategy in leased buildings. Draft hauling contract bid, advertise RFP and circulate to all interested parties.
- RC and CM decide on best location to accept bulk delivery of containers; person responsible for receiving deliveries and keeping inventory; and operations of delivery of containers to and/or pick-up from County buildings.
- RC continues to meet with owners and managers in County-leased buildings. All meetings should be conducted and specific agreements reached by the end of Month 2.
- RC contacts County Purchasing and PA Costars program to confirm price, availability, delivery options, timing of delivery.
- Finalize container placement
- Design signage and supporting educational materials (orientation packages, employee memos, etc.)

Month 3:

- RC and Department Directors arrange meetings with custodial managers at all County buildings (owned and leased) to review floor-plans with proposed container locations, and discuss operations of waste and recyclable movement. Modifications of custodial operations are worked out and agreed on.
- RC and CM review hauling bids; begin bid evaluation process.

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- Produce signage and supporting educational materials.

Month 4:

- RC and CM continue to review hauling bids, and finalize evaluations.
- RC and Purchasing places orders for recycling containers, with delivery location(s).
- Design operations manuals (program wide and for each facility).

Month 5:

- RC and CM finish negotiations with haulers. Select best bid(s) for waste and recycling hauling, award contract(s).
- Complete design and production of supporting educational materials.

Month 6:

- CE and CM send announcement of launch date to all employees in County-Owned buildings (ideally less than 1 month and more than 2 weeks away). Include heads-up for upcoming brief training sessions.
- Schedule and conduct floor-by-floor or suite-by-suite brief training sessions for all staff. Bring samples of each indoor container; place these in their locations for training purposes.
- Arrange deliveries and/or pick-ups of all containers to all County-Owned buildings.
- Produce operations manuals (program wide and for each facility).

Month 7:

- Distribute operations manuals to and within each County-Owned facility.
- Distribute supporting employee educational materials to and within each County-Owned building.
- Distribute indoor containers and totes in their designated places and post signage in all designated places in each County-Owned building. This should happen the afternoon or evening before the official launch.
- *Launch of new and/or expanded basic recycling at all 45 County-Owned buildings.*
- Begin monitoring of waste, recycling and hauling payments begins immediately.

Month 8 & 9:

- Monitor collections (volumes, weights, pick-ups) and hauling fees
- Troubleshoot problems (make adjustments as needed)
- Provide program updates/accomplishments to employees

Month 10:

- Distribute operations manuals to and within each County-Leased building.
- Distribute supporting employee educational materials to and within each County-Leased building.

- Distribute indoor containers and totes in their designated places and post signage in all designated places in each County-leased building. This should happen the afternoon or evening before the official launch.
- ***Launch of new and/or expanded basic recycling at all 45 County-Leased buildings.*** If possible, this launch should fall in an earlier month, closer to launch at County-Owned building. If necessary, it can fall in a later month.
- Monitoring of waste, recycling and hauling payments begins immediately.

Months 11 and 12:

- Monitor collections (volumes, weights, pick-ups) and hauling fees.
- Gather feedback from the employee/building occupants
- Troubleshoot problems. Make adjustments as needed.
- Provide program updates/accomplishments to employees.
- Gather program data, prepare program status report.
- Distribute program status report to employees.
- Plan and implement 1st year anniversary promotional event.

6.0 Summary of Key Recommendations

Appoint a coordinator to take the lead on system-wide new and expanded recycling in County-owned and County-leased buildings; identify two leads in each facility.

The County should be prepared to allocate an additional \$150,000 for this program over the first year.

Learn the expiration dates of all current waste and hauling contracts and building leases to determine target launch dates that allow synchronous launch for as many buildings as possible.

Draft Executive Order/Policy Directive, signed by County Executive and County Manager, and distributed to all County Department Directors, managers, employees, contract workers, as well as owners of County-leased buildings.

Meet with owners/managers of County-leased buildings to communicate benefits of synchronous launch, and determine strategies for implementation, focusing on how this will affect leases and both hauling and custodial contracts.

Bundle as many County buildings, both owned and leased, into next waste and recycling hauling bid(s). Negotiate for lowest possible monthly fees. Carefully explore options for sharing flux of recyclable market prices.

Meet with facility and custodial managers at each building to introduce the program, container placement; work out all specific operational questions.

Monitor daily waste disposal and recyclable diversion, by floor, on a simple chart next to dumpsters.

Follow-up with progress reports to all employees once a month or so, comparing recycling rates and waste minimization of floors, buildings, departments and the entire County.

Consider some reward system for groups or buildings that generate the least waste.

6.1 Conclusion

The County Executive Order of October 2009 should be used as a substantive impetus for expanded recycling efforts throughout the County: in households, businesses, institutions and special events.

Clearly, bringing all County-owned and –leased buildings up to minimum legal compliance, i.e. the ongoing, effective recycling of all Act 101 materials as well as plastic and glass beverage containers, is an important early step in making the County’s operations more sustainable. While this step will require a capital expenditure in the first year, at roughly \$106,000, this is relatively modest. The ongoing net cost impacts on monthly hauling may well mean positive savings, depending on how many buildings can be bundled into the contract(s), and how effectively these are bid and negotiated. Effective implementation within a single year is quite feasible. It requires above all close coordination among County managers; clear and effective communication; and careful attention to time-sensitive tasks, as in the chronology summarized above.

APPENDICIES

Appendix 1: Relevant Subsections of Code of the City of Pittsburgh

§ 619.05 SEPARATION OF RECYCLABLE MATERIALS FROM MUNICIPAL WASTE.

(a) Single-Family Dwellings and Small Apartment Buildings. Persons shall separate all recyclable materials from municipal waste generated at single family dwelling and small apartment buildings and shall store the materials until they are collected for recycling in accordance with Waste Regulations issued by the Director of the Department of Environmental Services. The Director shall designate in Waste Regulations the materials generated at single family dwelling and small apartment buildings that shall be recycled. The Director is authorized to amend at his or her discretion the designation in the Waste Regulations of materials to be recycled.

(b) Multi-Family Dwellings. **An owner, landlord or agent of an owner or landlord of a multi-family rental dwelling shall be deemed to have complied with its separation responsibilities if it establishes a collection system for recyclables at each property. The collection system shall include separate suitable receptacles that conform with the Waste Regulations issued by the Director specifically for collecting and storing bags or other receptacles in which tenants have deposited their commingled recyclables, and written instructions to the occupants concerning the use and availability of the collection system. The receptacles shall be clearly marked as designated only for recyclable materials and shall be placed in a location easily accessible to the tenants.** The written instructions shall include educational materials prepared by the Directors of the Department of Environmental Services and/or Public Works, which materials shall be distributed by the owner, landlord or agent to each dwelling unit. Owners, landlords and agents of owners or landlords who provide a collection system under this subsection shall not be liable for noncompliance of occupants of their buildings.

(c) **Commercial, institutional and municipal establishments and community activities. Persons shall separate high grade office paper, corrugated paper, plastic containers and aluminum from municipal waste generated at commercial, institutional and municipal establishments or at community activities and shall store materials until they are collected for recycling.** The Director is authorized to designate by regulation other materials generated at these establishments or at community activities that also shall be separated and stored until collected for recycling.

(d) **An owner, landlord or agent of an owner or landlord of a commercial, institutional or municipal establishment that leases its premises to other such establishments shall be deemed to have complied with its separation responsibilities if it establishes a collection system meeting the requirements of the collection system for multi-family dwellings described in subsection (b) hereof.** (Ord. 45-1991, eff. 12-20-91; Ord. 21-2004, § 29, eff. 12-2-04)

§ 601.14 VIOLATION AND PENALTY.

(a) Any person violating any provision of this Chapter, unless otherwise specified in this section shall be fined a minimum of fifteen dollars (\$15.00) plus court costs for an initial violation and up to five hundred dollars (\$500.00) plus court costs for each additional violation.

(b) **Any person violating § 601.13 shall be fined up to one thousand dollars (\$1,000.00) plus court costs. Each day the condition continues shall constitute a separate offense.**

Appendix 2: County Executive Order, October 27, 2009

COUNTY OF ALLEGHENY
OFFICE OF THE COUNTY EXECUTIVE
EXECUTIVE ORDER

Subject: SUSTAINABLE POLICIES Number: 2009-1

Date: OCTOBER 27, 2009 By Direction of: DAN ONORATO, COUNTY EXECUTIVE

WHEREAS, Allegheny County is the second most populated county in the Commonwealth of Pennsylvania, and therefore, has significant potential impact on the regional environment and human welfare; and

WHEREAS, many major metropolitan areas, including Chicago, New York, Miami-Dade County, Multnomah County/Portland, King County/Seattle, Cuyahoga County/Cleveland, Montgomery County/Gaithersburg, Md., Fulton County/Atlanta, and many others, have established sustainability goals, offices, and/or declarations; and

WHEREAS, I established the Allegheny Green sustainability initiative in September 2008 to incorporate sustainability measures across County operations; and

WHEREAS, I believe that Allegheny County needs to be a regional leader and set a strong example by reducing environmental footprint.

NOW, THEREFORE, I, Allegheny County Executive Dan Onorato, by virtue of the authority vested in me by the Home Rule Charter of Allegheny County and other applicable laws, do hereby order and direct as follows:

1. Establishment of Sustainability Policy for Allegheny County

A. Allegheny County shall establish sustainability policies as detailed herein:

The County shall establish its existing Green Action Team as a permanent advisory committee to assist the County in developing, recommending and monitoring its sustainability initiatives. The committee shall establish and adhere to documented formal terms of service and operating guidelines, and members shall be appointed by the County Executive.

The County shall continue to support the existing position of sustainability manager.

The County shall define and adopt environmentally preferable purchasing guidelines.

The County shall implement a consistent recycling program within its own facilities and parks, as well as within all space leased by the County.

The County shall establish both a dedicated section of its public website and a portion of its employee intranet to sustainability initiatives.

The County shall appropriately train management and employees to support sustainability policies and initiatives.

The County shall establish a task force to evaluate the necessary actions and any associated costs of

incorporating the principles for "LEED® for Existing Buildings/Operations & Maintenance" in its facilities, and it shall complete the exercise of pursuing certification for at least one targeted facility in 2011.

The County will commit to achieving a minimum of LEED® certification for any future eligible new construction or qualifying major renovation for spaces exceeding 35,000 square feet.

County department directors and managers shall identify and pursue appropriate, nationally recognized certifications to support more sustainable operations, as determined by the County Manager, such as "Sustainable Green Printer" and the Audubon Society's "Cooperative Sanctuary Program for Golf Courses."

The County shall evaluate County-owned structures and facilities for opportunities for green roofs, rain gardens, pervious paving and other storm water management techniques to help to address the regional storm water management challenges.

The County shall collaborate with regional resource providers to develop and/or leverage informational materials and a series of presentations to assist the Councils of Governments and regional municipalities with storm water management issues, including model proposed zoning language and green infrastructure options.

The County shall conduct an annual green jobs forum so long as it shall be deemed a valuable endeavor to the greater community by the County Executive.

B. Allegheny County shall establish a publicly available score card of sustainability metrics and goals, which shall be updated annually, related to the following items:

Decrease County government's overall energy consumption by 20 percent over the next 5 years.

Increase County government's water efficiency by 20 percent over the next 5 years.

Decrease County government's greenhouse gas emissions by 20 percent over the next 5 years

Increase County government's testing and use of advanced energy technologies.

Increase County government's conversion of fleet vehicles and motorized equipment to technologies with higher efficiency and lesser emissions by 5 percent annually over the next 5 years.

Quantify overall environmental performance of measures that extend beyond County operations, e.g. tree canopy, air quality, acres of green space, green storm water infrastructure, etc.

C. The County shall establish and/or modify the necessary internal support systems to readily access and analyze the data needed to support the score card.

D. The County shall electronically publish an annual sustainability report.

Each Department Manager shall provide information in a timely manner to identify and report on relevant activities in their department, and outline target objectives for the following year.

Appendix 3: Raw Data from Survey

1: Building & Contact Info

Code	Department	Building	Address1	Municipality	own or lease	Best Contact	Phone	email
BLRB	Court of Common Pleas	Betty Loydd Rankin	300 Rankin Blvd	Rankin	O	Cheryl Watson	412-271-2477	
BRACHD	Health	Brighton Road - H	1300 Brighton R	Pittsburgh	L	Jennifer Cambell	412-322-7533	jcambell@misticconstruction.com
CACCP	Court of Common Pleas	California Avenue	841 California Av	Pittsburgh	L	Gary bluestone.	321-3795	nalc84@verizon.net
CCB	Public Works	City County Buildin	414 Grant St.	Pittsburgh	O	Jim Clair	(412) 350-3781	james.clair@alleghenycounty.us
CCCCP	Court of Common Pleas	Champion Comm	5231 Penn Ave	Pittsburgh	L	Fred Danovitz	412-889-9308	fdanovitz@aol.com
CCH	Public Works	Courthouse	439 Grant St.	Pittsburgh	O	Jim Clair	(412) 350-3781	james.clair@alleghenycounty.us
CLK1	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK2	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK3	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK4	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK5	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK6	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK7	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
CLK8	Health	Clack Center Bldg	3901 Penn Ave.	Pittsburgh	O	Bobby Gunkle	(412) 401-2912	engron3@comcast.net
COB	Public Works	County Office Build	542 Forbes Aver	Pittsburgh	O	Jim Clair	(412) 350-3781	james.clair@alleghenycounty.us
DMCDA	District Attorney	Dormont Municipa	1444 Hillsdale A	Dormont	L	Carol Winter	412-561-8900	
FAG	Administrative Services	Fourth Ave Garage	548 Fourth Ave	Pittsburgh	O	Bob Gillner	412-350-6969	Bob.Gillner@Alleghenycounty.us
FAMCYF	Human Services	McKeesport CYF	332 Fifth Ave	McKeesport	L	Richard Rhoades	(412) 980-7237	mrfixit711@juno.com
FPCLAW	Law	Fort Pitt Commons	300 Ft Pitt Comn	Pittsburgh	L	Connie	412-350-1177	
FSBCYF	Human Services	Forbes Stevensso	1401 Forbes Ave	Pittsburgh	L	Roberta Klein	431-8200 x205	
FTAFTS	Police/Fire	Fire Training Simu	700 West Ridge	700 West R	O	Wayne Gaffron	724-935-5566	WGaffron@county.allegheny.pa.us
HHACHD	Health	Hosanna House -	807 Wallace Ave	Wilkesburg	L	Janet Norkus	412 578-8005	jnorkus@achd.net
HHACHD	Health	Hill House - Healt	1835 Centre Ave	Pittsburgh	L	Janet Norkus	412 578-8005	jnorkus@achd.net
HPSCCC	Court of Common Pleas	Hill Phoenix Cente	411 Dinwiddie S	Pittsburgh	L	Cindy Wycoveack	412-381-1122	service@agoc.com
IBACHD	Health	Investment Buildin	239 Fourth Ave -	Pittsburgh	L	Janet Norkus	412 578-8005	jnorkus@achd.net
JCRR	Court of Common Pleas	Juvenile Court Re	8383 Frankstown Rd		O	Fred Danovitz	412-889-9308	
JLN	Jail	Jail/New	950 2nd Ave	Pittsburgh	O	Linda Pastor	(412) 350-2052	lpastor@county.allegheny.pa.us
KGH	Kane RHC's	Kane/Glen Hazel		Pittsburgh	O	Vince Klingensmith	412-422-6063	
KMC	Kane RHC's	Kane/McKeesport	100 Ninth Avenue	McKeesport	O	Richard Rhoads	687-6812	ageffert@county.allegheny.pa.us
KRC	Kane RHC's	Kane/Ross Cente	110 McIntyre Roa	Pittsburgh	O	Ed Ondek	412-427-0795	eondek@county.allegheny.pa.us
KSC	Kane RHC's	Kane/Scott Center	300 Kane Blvd.	Pittsburgh	O	Pat Mulligan	412-427-0333	pmulligan@county.allegheny.pa.us
LTPCYF	Human Services	Lexington Tech. P	400 N. Lexington	Pittsburgh	L	Casandra Leffler	412-350-7225	
MBE	Public Works	Maint Bldg Elizabe	260 Lovedale	Elizabeth	O	Tony Mangretta		Anthony.Mangretta@AlleghenyCounty

Code	Department	Building	Address1	Municipality	own or lease	Best Contact	Phone	email
MCRR	Public Works	1040 Campbells Ru	640 Campbells R	Carnegie	O	Dan Casserly	412-276-8744	Daniel.Casserly@AlleghenyCounty.US
MWBH	Public Works	Garage/Buttermilk Hollow #8		West Mifflin	O	William Price	412-466-1263	william.price@AlleghenyCounty.US
MWCR	Public Works	Campbell Run Repa	Campbells Run R	Carnegie	O	Dan Casserly	412-276-8744	Daniel.Casserly@AlleghenyCounty.US
MWFS	Public Works	40th St #7	40th St	Pittsburgh	O	Bill Seibert	412-682-2133	William.Seibert@AlleghenyCounty.US
MWHC	Public Works	Warehouse 5 Hillcr	5091 Library Rd	Bethel Park	O	James Roach	833-5588	James.Roach@AlleghenyCounty.US
MWNO	Public Works	Warehouse 1	Wildwood Rd	Allison Park	O	James Schrott	412-931-2517	James.Schrott@AlleghenyCounty.US
MWNT	Public Works	Warehouse 3	500 Railroad St	Pittsburgh	O	Lou Coyner	412-739-3910	Lou.Coyner@AlleghenyCounty.US
NLPCEXT	Coop. Ext.	Lexington Tech. Pa	400 N. Lexington	Pittsburgh	L	Courtney Brdar	412-244-5300	Lexington Tech. Park - Cooperative Ext.
NLPPA	Administrative Services	Lexington Tech. Pa	400 N. Lexington	Pittsburgh	L	Courtney Brdar	(412) 344-5300	Lexington Tech. Park - Property Assessm
NLPPS	Police	Lexington Tech. Pa	400 N. Lexington	Pittsburgh	L	Courtney Brdar	412-244-5300	cbrdar@bakeryoung.com
NPRR	Police/Fire	N Park Rifle Range	700 West Ridge F	Pittsburgh	O	Training Facility	724-935-5566x230	WGaffron@county.allegheny.pa.us
OHC	Health	STD Clinic	3441 Forbes Ave.	Pittsburgh	O	Donna Shernafky.	412-719-0356	
OJH	Health	Old Juvenile Home	3333 Forbes Ave.	Pittsburgh	O	Donna Shernafky.	412-719-0356	
OPPCYF	Human Services	Perry Place CYF (ir	1972 Perrysville A	Pittsburgh	L	Patrick Boyles	(412) 359-1000 x71	pboyles@triangle-tech.edu
OSMS	Human Services	Human Services (U	One Smithfield St	Pittsburgh	L	Rich Karas	412-350-5065	rkaras@county.allegheny.pa.us
OWBACH	Health	Wander Bldg	339 Fifth Ave	McKeesport	L	Janet Norkus	412 578-8005	jnorkus@achd.net
PAACHD	Health	Penn Ave	519 Penn Ave	Turtle Creek	L	Janet Norkus	412 578-8005	jnorkus@achd.net
PACCP	Court of Common Pleas, J	Penn Ave (519) - Ju	519 Penn Ave	Wilkinsburg	L	john stanton	412-242-9300	stantonelectric@hotmail.com
PSACHD	Health	Springdale	830 Pittsburgh St	Springdale	L	Janet Norkus	412 578-8005	jnorkus@achd.net
PWBACHD	Health	Penn West Bldg.	907 West St	Wilkinsburg	L	Janet Norkus	412 578-8005	jnorkus@achd.net
PWCCP	Court of Common Pleas	Penn West Office B	903 West St	Wilkinsburg	L	George Arendas	412-823-9200	brandyco1@earthlink.net
SCCACHD	Health	Strip Commerce Ce	Building E. 32nd.	Pittsburgh	L	Janet Norkus	412 578-8005	jnorkus@achd.net
SHC	Shuman Center	Shuman Detention	7150 Highland Dr	Pittsburgh	O	Stacy Payne:	412-661-6806;	dmawritz@county.allegheny.pa.us
SHCACHD	Health	School House Com	1100 Washington	Carnegie	L	Janet Norkus	412 578-8005	jnorkus@achd.net
SMS441	Human Services	Aging Office	441 Smithfield St	Pittsburgh	L	len smith	(412) 759-7523	lsmith@oxforddevelopment.com
SSG	Public Works	South Side Garage	South 2nd & McK	Pittsburgh	O	Bob Gillner	412-350-6969	Bob.Gillner@Alleghenycounty.us
SSMH	Pittsburgh	Memorial Hall 501	Fifth Avenue	Pittsburgh	O	Jim Gubash	412.621.4253 ext 2	jgubash@soldiersandsailorshall.org
TAACHD	Health	F.O.R. Sto Rox	710 Thompson Av	McKees Rock	L	Janet Norkus	412 578-8005	jnorkus@achd.net
WPAP	Court of Common Pleas	West Penn Building	901,3,5,7 West S	Pittsburgh	L	George Arendas	412-823-9200	
WSCC	Court of Common Pleas	Wightman School C	5604 Solway St.	Pittsburgh	L	Bob Michel	412-421-1623	
YES	Jail	Yeshiva House	2408 5th Ave	pittsburgh	O	Michelle Morris	(412)535-4333	

Appendix 3: Raw Data from Survey

2: Recycling and Waste Data

Code	Mandated or Not?	Recycling Hauler	Commingled? (glass, metal, plastics)	Paper? (office, mixed)	Cardboard ?	Rec Yds pulled/m	total monthly Recyc fees	fee/Recyc yd pulled	Waste Hauler	Waste yds pulled/m	total monthly Waste fees	fee/Waste yd pulled	Square Feet
BLRB	no	NO	no	no	no				WM	70	\$ 983.67	\$ 14.15	
BRACHD	yes	NONE	no	NO	NO				WM	70	\$ 500.00	\$ 7.19	6,513
CACCP	yes	Allied	yes	yes	yes	8.69	\$ 56.00	\$ 6.44	Allied	9	\$ 168.00	\$ 19.33	2,500
CCB	yes	city	yes	yes	yes				Vogel		\$ 948.00		216,695
CCCCP	yes	NO	no	NO	no				WM		\$ 300.00		9,984
CCH	yes	city	yes	Yes	yes				Vogel		\$ 573.00		223,901
CLK1	yes	city	Yes	Yes	Yes	43.45			Allied	35	\$ 217.20	\$ 6.25	30,400
CLK2	yes	city	Yes	Yes	Yes				Allied				400
CLK3	yes	city	Yes	Yes	Yes				Allied				6,140
CLK4	yes	city	Yes	Yes	Yes				Allied				6,140
CLK5	yes	city	Yes	Yes	Yes				Allied				6,780
CLK6	yes	city	Yes	Yes	Yes				Allied				8,500
CLK7	yes	city	Yes	Yes	Yes				Allied				22,000
CLK8	yes	city	Yes	Yes	Yes				Allied				10,176
COB	yes	city	yes	Yes	yes				Vogel		\$ 1,135.00		235,302
DMCDA	yes	Allied	yes	yes	yes	52.14	\$ 500.00		Allied	52			11,000
FAG	yes	None	no	no	no				Vogel	22			
FAMCYF	yes	??	no	no	yes				Allied	104	\$ 350.00		11,598
FPCLAW	yes	Allied	Yes	Yes	Yes	8.7	\$ 535.00	\$ 61.57	Allied	43	\$ 822.00	\$ 18.92	13,000
FSBCYF	yes	WM	Yes	Yes	yes	43.5	\$ 325.00	\$ 7.48	WM	87	\$ 548.50	\$ 6.31	10,161
FTAFTS	yes		no	no	no				Vogel	8	\$ 125.00	\$ 15.34	
HHACHD	yes	rental	No	No	No				?				
HHACHD	yes	city	Yes	Yes	Yes				?				
HPSCCCF	yes	NONE	no	no	no				WM	139	\$ 1,300.00	\$ 9.35	4,480
IBACHD	yes	rental	No	yes	No				?				
JCRR	yes	NO	no	no	no				WM	9	\$ 180.00		10,083
JLN	yes	NO	no	no	no				WM	261	\$ 3,286	\$ 12.60	990,000
KGH	yes	Allied	no	no	yes				WM	152	\$ 2,346.30	\$ 15.43	242,214
KMC	yes	Allied	No	No	Yes	12	\$ 250.00	\$ 20.83	WM	88	\$ 1,350.00	\$ 15.43	167,224
KRC	yes	Allied	no	no	yes	69.52	\$ 85.00		WM				156,847
KSC	yes	Allied	no	no	yes				WM				161,913
LTPCYF	yes		Yes	Yes	yes								64,759
MBE	yes	NO	no	no	no				Allied	9	\$ 135.00	\$ 15.39	

Allegheny County – SWANA Recycling Technical Assistance Program 2010

Code	Mandated or Not?	Recycling Hauler	Commingled? (glass, metal, plastics)	Paper? (office, mixed)	Cardboard ?	Rec Yds pulled/m	total monthly Recyc fees	fee/Recyc yd pulled	Waste Hauler	Waste yds pulled/m	total monthly Waste fees	fee/Waste yd pulled	Square Feet
MCRR	yes	NO	no	no	no				WM	9	\$ 120.00	\$ 13.68	
MWBH	yes	no	no	no	no				Allied				
MWCR	yes	NO	no	no	no				WM				
MWFS	yes	no	no	no	no				Allied				
MWHC	yes		YES	NO	NO					2			
MWNO	yes	Green Star	no	NO	no				Vogel	61	\$ 1,125.36	\$ 18.50	
MWNT	yes	g to Boyce F	Yes	Yes	No				Allied Waste	5	\$ 61.83	\$ 12.33	
NLPCEXT	yes	WM	Yes	Yes	yes				WM				6,425
NLPPA	yes	WM	Yes	Yes	yes				WM				12,739
NLPPS	yes	WM	Yes	Yes	yes	34.76	\$ 75.00	\$ 2.16	WM	55	\$ 690.00	\$ 12.60	78,975
NPRR	yes		no	no	no				County	11			
OHC	yes	city	no	yes	no	13.035			Allied	2	\$ 257.00		16,355
OJH	yes	city	yes	yes	no	8.69			WM	9	\$ 366.00	\$ 42.12	31,404
OPPCYF	yes	NO	no	no	no				Allied	52	\$ 291	\$ 5.58	10,242
OSMS	yes	Pitt Rec	no	Yes	no				emailed Qs & LM				34,591
OWBACH	yes	rental	No	No	No				?				
PAACHD	yes	rental	Yes	yes	yes				?				
PACCP	yes	WM for CB	No	NO	YES	8.69	\$ 48.00	\$ 5.52	WM	17	\$ 179.00	\$ 10.30	8,092
PSACHD	no	rental	No	No	No				?				
PWBACH	yes	rental	No	No	No				?				
PWCCP	yes	WM	YES	NO	NO	17.38			WM	52			4,000
SCCACHD	yes	rental	Yes	Yes	yes				?				
SHC	yes	Abitibi	no	yes	no	1.1698077			Allied	274	\$ 698.00	\$ 2.55	112,928
SHCACHD	yes	rental	No	No	No				?				
SMS441	yes	Allied	NO	yes	yes	17.38	\$ 150.00	\$ 8.63	Allied	78	\$ 550.00	\$ 7.03	
SSG	yes	NO	no	no	no				city?				
SSMH	yes	Allied	yes	yes	yes	17.38	\$ 156.00		Allied	52	\$ 400.00		50,400
TAACHD	yes	rental	No	No	No				?				
WPAP	yes	WM	No	Yes	Yes	8.69			WM	9	\$ 366.16	\$ 42.14	31,404
WSCC	yes	NONE	no	no	no								
YES	yes	NONE	no	NO	no				Vogel	26	\$ 263.00	\$ 10.09	16,000

Appendix 4: Specifications of Recommended Recycling Containers

Indoor Deskside Recycling Containers					
Volume Capacity	Manufacture	Description	1-250	1001+	Sources
13 5/8 qt	Busch Systems	<u>14 QUART RECYCLING/WASTE BASKET</u>	\$4.95	\$2.95	Busch Systems
28 1/8 qt	Rubbermaid	<u>Deskside Recycling Container, Medium with Universal Recycle Symbol</u>	\$2.67		Grainger
28 1/8 qt	Tough Guy	<u>Recycling Wastebasket</u>	\$2.13		Grainger
28 1/8 qt	Busch Systems	<u>28 QUART RECYCLING/WASTE BASKET</u>	\$5.95	\$3.65	Busch Systems
41 1/4 qt	Tough Guy	<u>Recycling Wastebasket</u>	\$3.37		Grainger
Indoor Station Containers and Tops					
Volume Capacity	Manufacture	Description	1-250	1001+	Sources
23 gal	Tough Guy	<u>Recycling Wastebasket</u>	\$14.99		Grainger
N/A	Tough Guy	<u>Recycling Top, Paper Slot</u>	\$4.16		Grainger
N/A	Tough Guy	<u>Recycling Top with Holes</u>	\$4.16		Grainger
23 gal	Rubbermaid	<u>Slim Jim® Recycling Container w/ handles and venting channels</u>	\$35.96		Grainger
N/A	Rubbermaid	<u>Slim Jim® Bottles and Cans Lid- Fits 15 or 23 gal</u>	\$18.57		Grainger
N/A	Rubbermaid	<u>Slim Jim® Paper Lid- Fits 15 or 23 gal</u>	\$26.44		Grainger
23 gal	Busch Systems	<u>23 GALLON 'SLIM LINE' CONTAINER (BODY ONLY)</u>	\$59.00	\$43.00	Busch Systems
	Busch Systems	<u>WASTE WATCHER LID</u>	\$20.00	\$14.00	Busch Systems
32 gal	Tough Guy	<u>Recycling Can</u>	\$30.00		Grainger
	Tough Guy	<u>Recycling Can Lid- Bottles & Cans</u>	\$12.00		Grainger
	Tough Guy	<u>Recycling Can Lid- Paper</u>	\$8.87		Grainger
32 gal	Rubbermaid	<u>Rubbermaid 32 Gal. BRUTE Recycling Container without Lid, Blue</u>	\$25.87		Home Depot
	Rubbermaid	<u>Rubbermaid Brute Lid for 32 Gal. Brute Containers</u>	\$8.37		Home Depot
Indoor Transportation Containers & Carts					
Volume Capacity	Manufacture	Description	1-250	1001+	Sources
20 cu ft	Rubbermaid	<u>Truck, Cube, 600 Lb</u>	\$329.66		Grainger
20 cu ft	Tough Guy	<u>Truck, Cube, 600 Lb</u>	\$309.51		Grainger
1/2 yd	Rubbermaid	<u>Tilt Truck</u>	\$329.95		Grainger
1 yd	Rubbermaid	<u>Tilt Truck</u>	\$612.50		Grainger
Dumpsters					
Volume Capacity	Manufacture	Description	1-250	1001+	Sources
4 yd	R.B.J. Sales and Service	Rear Load Slope with out Casters and wheels	\$964.60		R.B.J. Sales and Service
		Rear Load Slope with Casters and wheels	\$1,396.95		