

# 2012 Annual Recycling Report



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## Glossary of Terms

BigBelly<sup>®</sup>: a trademarked two-component system made up of a recycling receptacle and a compacting trash receptacle for external use. The solar-powered and software controlled components send a message when a receptacle is reaching capacity, thereby saving money through reduced waste collections.

Construction and Demolition (C & D) Waste: discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project, or from the renovation of a structure.

Envyrozones<sup>®</sup>: commonly used to describe the Hazelton product line of Envyrozone, Inc., which is a trademarked, interior multiple collection receptacle for trash, paper, bottles and cans. There are 56 “Envyrozones” located throughout PHL’s terminals.

Fullness Usage System: a pressure gauge monitoring system that measures the fullness levels of a waste or recycling compactor. The use of this system informs users when compactors are reaching capacity, so that hauls are only scheduled when the unit is full, thereby saving money through fewer container pick ups. This in turn, saves money by reducing hauling expenditures.

Hauling: the transport of waste materials or recyclables in accordance with local environmental guidelines or laws.

Keep America Beautiful: the nation's largest volunteer-based community action and education organization. With a network of more than 1,200 affiliate and participating organizations, Keep America Beautiful (KAB) forms public-private partnerships to advance programs that engage individuals to take greater responsibility for improving their community's environment.

LEED: Leadership in Energy and Environmental Design. A rating system developed by the U.S. Green Buildings Council for the design, construction and operation of high performance green buildings, homes and neighborhoods.

MarketPlace Philadelphia Management: as part of MarketPlace Development, Inc. (a retail development firm that partners with airports and businesses to develop, lease, and manage retail programs), MarketPlace Philadelphia handles the development, management and leasing of all retail, food and beverage concessions throughout the seven domestic and international terminals at PHL.

OCC: an acronym that stands for Old Corrugated Cardboard (OCC). OCC is a paper-based material that is widely used in the manufacture of corrugated boxes and shipping containers.

**Glossary of Terms (continued)**

Recyclables: Existing waste materials and goods that are able to be reprocessed and reused. At PHL these items consist of recyclable plastics (#1-7), glass, aluminum, shredded paper, corrugated cardboard, C & D waste, and scrap metal.

Recycling Diversion Rate: the rate or percentage of waste diverted to be recycled rather than disposed of in a landfill. It is calculated by dividing the total tonnage of recyclable material by the total generated tonnage of regular waste plus the tonnage of the recyclable material.

Regular Waste: waste that is not considered recyclable or special cleanups that are disposed of in a landfill.

SEPTA: Southeastern Pennsylvania Transportation Authority whose rail, bus and trolley lines serve Chester, Delaware, Bucks, Montgomery and Philadelphia counties.

Single Stream Recycling: a system in which all recyclable paper, plastics, metal, and glass are disposed in the same container and commingled instead of remaining separate during the waste collection and hauling process. In single stream, both the collection and processing systems are designed to handle this fully commingled mixture of recyclables, with materials being separated for reuse at a materials recovery facility.

Special Cleanups: waste that is generated through specific projects and often consists of, but is not limited to, tree stumps, concrete cinder blocks, sweeper dirt and other materials not considered regular waste and is disposed of in a landfill.

Transportation Security Administration (TSA): a federal agency established to protect the nation's transportation systems to ensure freedom of movement for people and commerce.

Total Generated Tonnage: the amount of regular waste tonnage plus the amount of recyclables tonnage.

Waste Stream: the aggregate flow of waste material from generation, to handling and transport, to final disposition.

## EXECUTIVE SUMMARY

The City of Philadelphia's Division of Aviation's (DOA) recycling program at Philadelphia International Airport (PHL) has made great progress since its inception in 1999. The year 2012 continued this trend with increased recycling efforts, and a significant increase in diversion rate, largely due to the introduction of construction and demolition (C & D) recycling at PHL.

Highlights of the DOA's 2012 recycling program include:

- Recycling diversion rate of 26.2%; an increase of 4.6% from 2011\*
- Cost savings of approximately \$37,900
- C & D waste recycling implementation
- Placement of PHL/SEPTA rail platform recycling containers
- The installation of Fullness Usage System & hauling upgrades to the DOA's recycling compactors
- Educational awareness for travelers and employees through environmental events including Earth Day and America Recycles Day

This report provides a summary and analysis of 2012 waste and recycling data tracked by the DOA, which includes materials disposed from:

- DOA offices and facility shops,
- C & D waste from demolitions and renovations,
- Envirozone units located in PHL's main terminal complex,
- Recycling containers located on PHL/SEPTA rail platforms,
- Recycling containers at the PHL softball field, Cell Phone Waiting Lot, and Employee Parking Lot.

In addition, the recycling totals from MarketPlace Philadelphia Management and US Airways operations at PHL are also included to provide a more comprehensive assessment of the recycling efforts at PHL. The DOA continues to make progress towards a consolidated, comprehensive, and efficient airport-wide recycling program. In July of 2012, the DOA executed its first MOU agreement with Watts, Inc. This agreement expanded the scope of recycling at the Airport by enabling Watts, Inc. staff to use the DOA's recycling compactors for the disposal of recyclables generated at TSA offices within PHL.

\* Additional information relating to PHL's waste and recycling tracking metrics can be found in Chapter II: *Solid Waste Disposal and Recycling* on pages 2-5.

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## **I. Introduction**

### **A. Environmental Stewardship and Recycling**

Philadelphia International Airport's (PHL) Environmental Stewardship Plan encompasses many green initiatives to reduce the Airport's impact on the surrounding environment. Over the years the recycling program has served as a cornerstone in the Division of Aviation's (DOA) efforts to improve the sustainability of its operations at PHL. As one of the three key tenets (reduce, reuse, recycle) of sustainable solid waste resource management, recycling reduces the amount of waste that is landfilled, and provides cost savings for PHL's tenants, and airlines. PHL is committed to continuing to facilitate the expansion of recycling programs throughout the Airport to maximize its recycling diversion rate.

### **B. PHL Waste Streams**

Waste streams at PHL include airside, landside, and terminal waste. Airlines generally contribute the majority of the airside waste stream, while passengers and employees contribute the majority of the landside and terminal waste streams. These waste streams are divided into primary (DOA, airlines and tenants) and secondary waste streams (hazardous and non-hazardous materials). The majority of the waste that is generated at PHL is serviced by the DOA's Custodial unit. The DOA Warehouse manages the receipt and distribution of DOA goods and recycles shredded paper fibers and baled corrugated cardboard in its operations. The DOA's Pavement and Grounds unit actively recycles scrap metal, as well as C & D waste. In the future, the DOA hopes support a comprehensive organics recycling and composting program in coordination with other tenants such as MarketPlace by using available infrastructure and capacity to support this vision.



## II. 2012 Solid Waste and Recycling

### A. DOA 2012 Waste Disposal and Recycling Tonnage

In 2012, DOA recycled over 285 tons of single stream recyclable materials that were deposited via eight compactors, which are strategically located around the Airport for ease of use by custodial staff.

The DOA continued to separate special cleanup waste from the overall DOA waste stream. Special cleanup waste is generated from non-routine waste sources and includes items such as tree stumps, concrete cinder blocks, and miscellaneous debris. Due to the inconsistent nature of this element of the waste stream, special cleanup waste is tracked separately from the regular waste, which allows the DOA to more precisely monitor the overall waste stream and diversion rate. Both regular and special cleanup wastes are transported to a landfill for disposal. In 2012, a total of 184 tons of special cleanup waste was discarded from PHL. This total represents a marked decrease compared to previous years which can be attributed primarily to the advent of a C & D waste recycling program during the summer of 2012.

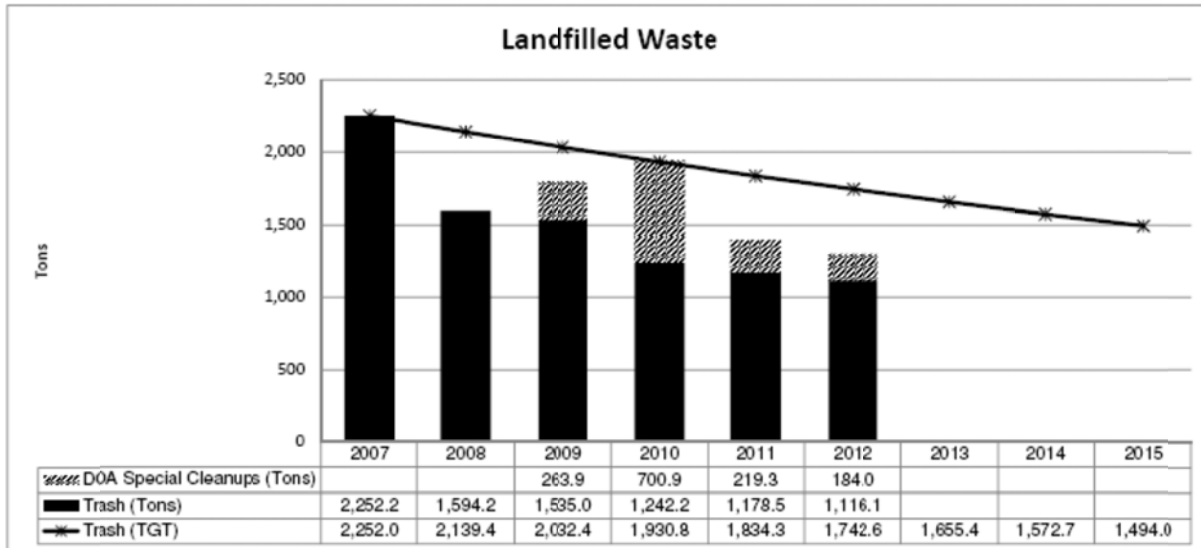
### B. DOA Recycling Diversion Rates

The DOA tracked and recorded waste and recycling tonnage throughout 2012 (see **Figure 1 and 2** on the following page). As mentioned above, solid waste tonnages are separated into three distinct categories: regular waste, special cleanups, and recyclables. Through the continued expansion of its recycling program, the DOA's regular waste declined once again in 2012. Regular waste totaled just over 1,116 tons, a 5.2% decrease compared to 2011. The total amount of special cleanup waste equaled 184 tons; a 16.3% decrease from 2011. In all, the total amount of solid waste hauled in 2012 was reduced by more than 90 tons or 7.0%, which exceeded the DOA's goal of reducing its total amount of solid waste by 5% annually.

The total amount of recycled waste equaled 397 tons in 2012; a 23% increase compared to the 323 tons that were collected in 2011. As a result, the DOA also achieved its annual goal of increasing recycling totals by at least 50 tons.

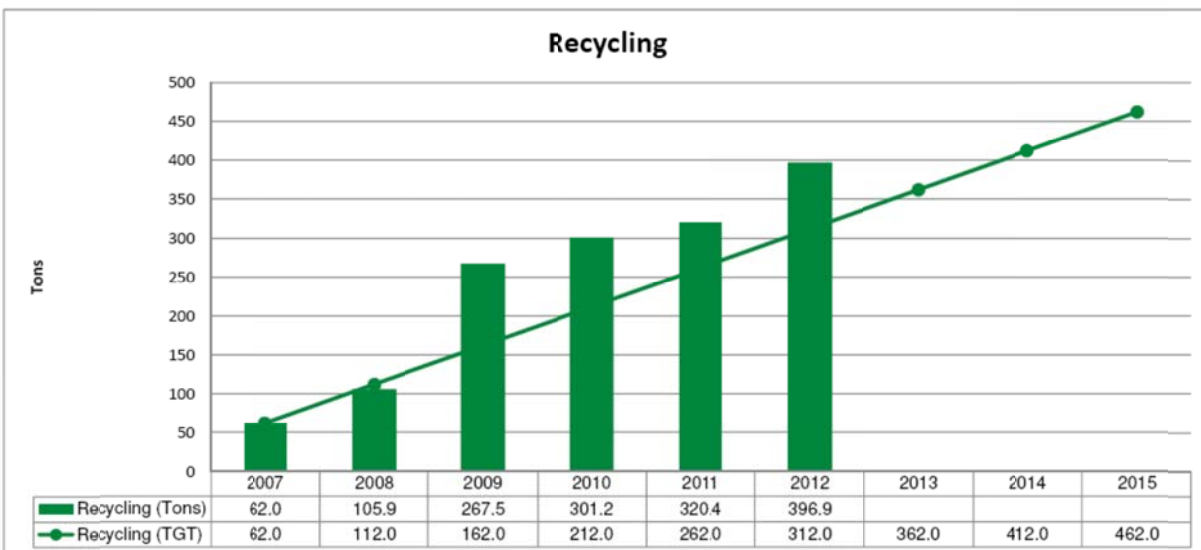
The DOA's annual goals and observed solid waste and recycling totals from 2007-12 are illustrated by **Figure 1: DOA Annual Solid Waste Annual Goals & Totals (2007-2012)** and **Figure 2: DOA Annual Recycling Annual Goals & Totals (2007-2012)** below:

**Figure 1: DOA Solid Waste Annual Goals and Totals (2007-2012)**



Source: DOA

**Figure 2: DOA Recycling Annual Goals and Totals (2007-2012)**



Source: DOA

The 184.0 tons of special cleanups waste in 2012 represents almost a 20% decrease compared to the special cleanup waste that was generated in 2011, and more than a 75% decrease compared to the special cleanups waste that was generated in 2010.

These significant reductions are primarily attributed to the DOA's C & D waste recycling program that was initiated during the summer of 2012.

Recyclable materials collected by the DOA in 2012 included: mixed paper, cardboard, glass, metal, plastics (#1 through #7), shredded office paper, scrap metal, and C & D materials (primarily concrete). The total weight of recycled materials equaled 397 tons in 2012, an increase of 23% compared to 2011. By far the largest component of the 2012 recycling weight total is the 285 tons of single stream recyclables that were collected throughout the year. Other noteworthy components include: C & D waste (93.1 tons), shredded paper (9.6 tons), corrugated cardboard (5.92 tons), and scrap metal (2.56 tons).

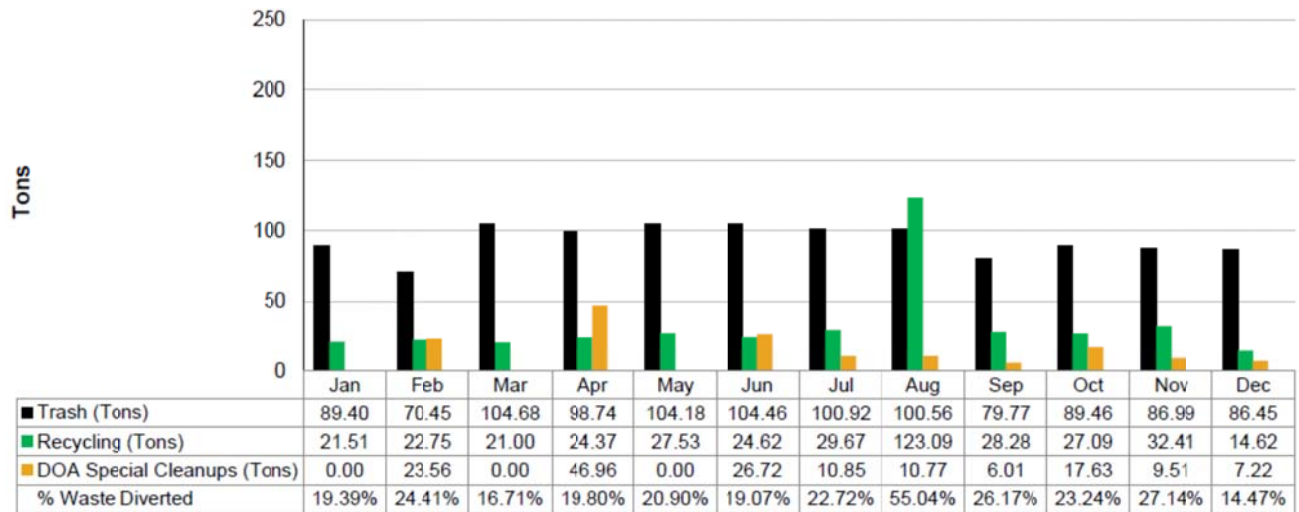
The DOA recycling diversion rate is calculated by dividing the recycling tonnage by the total generated tonnage, excluding special cleanups. In 2012, the annual DOA recycling diversion rate equaled 26.2%. The monthly diversion rates ranged from a low of 14.5% in December to a high of 55.0% in August (see **Figure 3** on page 5). The large degree of variability in monthly diversion rates in 2012 can primarily be attributed to:

- 1) The C & D waste recycling program began in the summer of 2012 and featured the hauling of over 80 tons of C & D materials in August. During this time, the DOA Pavement & Grounds staff cleared an entire concrete stockpile that had accumulated over a substantial period of time. Due to these hauls, the diversion rate for August skyrocketed. While C & D waste recycling will continue to play a vital role in increasing the diversion rate at PHL, the monthly tonnage total from August of 2012 is not expected to be duplicated in the near future.
- 2) The newly installed (November 2012) Fullness Usage System which now results in the recycling compactors only being serviced when they are full. While this methodology will create a more efficient and cost effective method for recycling pickups, it also increases the variability in monthly recycling returns since the compactors are only picked up when they are at or near capacity each month. For example, in December 2012 (the first month that this system was fully implemented) only three of the DOA's eight compactors were hauled. While this system has provided an average of 35% reduction in hauling costs, since five compactors were not hauled, some of the recyclable materials collected in December will inevitably be applied to a later month.

In 2012, the DOA's recycling program provided approximately \$37,900 in cost savings through avoided landfill fees and recycling rebates, which is about \$2,000 less than the savings realized in 2011 (\$40,000). The decrease in overall program savings is attributed to declining market values as the price for recycled materials fell throughout

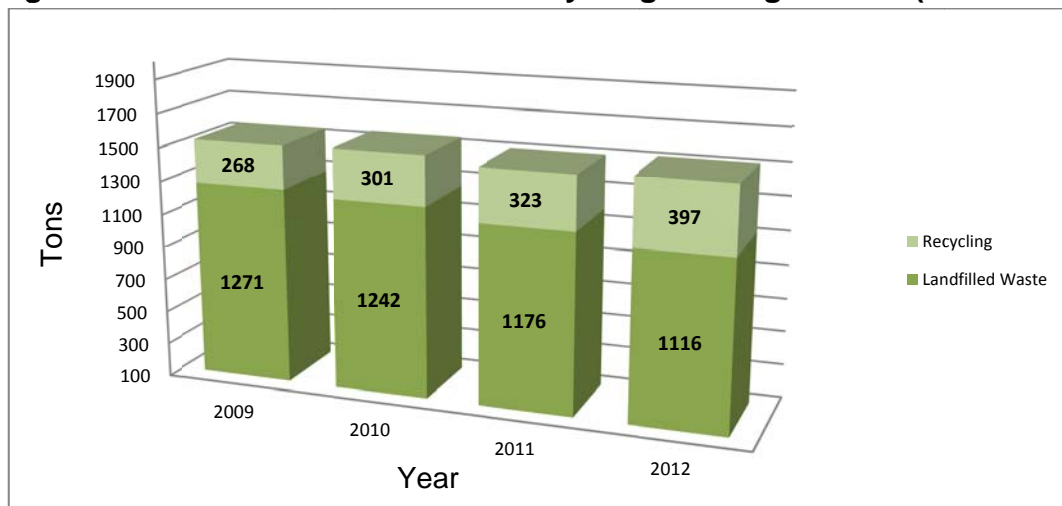
2012. Recyclable materials yielded \$67.35 per ton at the close of 2011 versus only \$22.39 per ton at the close of 2012. This decrease in value however was counter-balanced by the advent of C & D waste recycling. A total of 93.1 tons of concrete was recycled from PHL in 2012 as part of this program, which provided over \$6,200 in cost savings through avoided landfill fees.

**Figure 3: 2012 Monthly DOA Waste, Recycling, and Special Cleanup Totals**



Source: DOA

**Figure 4: PHL Annual Waste and Recycling Tonnage Totals (2009-2012)**



Source: DOA

## C. Tenant Recycling



### MarketPlace Philadelphia Management

Philadelphia Marketplace Food & Shops at PHL (MarketPlace) is made up of over 160 stores and restaurants and is operated by MarketPlace Philadelphia Management (MPM). In 2012, MarketPlace increased its overall diversion rate to 22.4% diversion rate and achieved a total cost savings of almost \$85,000. **Figure 5** below outlines some additional recycling program highlights and compares the recycling totals realized in 2012 to the previous year. MarketPlace's recycling revenue trend mirrored the DOA's in that while the amount of materials that were recycled increased, the overall value of the recycled materials declined due to market forces. In MarketPlace's case, these declines were buoyed by substantial increases in the value of MarketPlace's fryer oil recycling program.

**Figure 5: Philadelphia MarketPlace Food & Shops Recycling and Energy Efficiency Milestones**

<b>Single Stream Recycling</b>	<b>2011</b>	<b>2012</b>
Total tons of disposal:	2,440	2,350
Total tons of recyclables:	667	680
Average tons of disposal per month:	203	196
Average tons of recyclables per month:	56	57
Diversion rate:	21.5%	22.4%
Savings from disposal:	\$39,558	\$42,284
Rebates from recycler: (Market for commodity dropped substantially in 2012)	\$45,341	\$27,005
Total value from single stream recycling:	\$84,899	\$69,289

<b>Fryer Oil Recycling</b>	<b>2011</b>	<b>2012</b>
Total gallons of fryer oil removed:	10,500	11,525
Total gallons of bio-diesel produced:	7,350	8,068
Average gallons of fryer oil removed per month:	875	960
Average gallons of bio-diesel produced per month:	612	672
Savings from disposal:	\$21,150	\$21,150
Rebates from recycler: (Market for commodity increased substantially in 2012)	\$1,920	\$8,829
Total value from fryer oil recycling:	\$23,070	\$29,979

<b>Electronic Waste Recycling</b>	<b>2011</b>	<b>2012</b>
Electronic waste collected and responsibly recycled, pounds (1 <sup>st</sup> year of program in 2011 had pent-up demand)	900	450

<b>Metal Waste Recycling</b>	<b>2011</b>	<b>2012</b>
Metal waste collected and recycled, pounds (estimate)	2,000	4,000

<b>LED Light Bulb Replacements</b>	<b>2011</b>	<b>2012</b>
Total number of LED light bulbs operating in 2012:	399	425
Watts consumed per hour by old light bulb:	20	20
Watts consumed per hour by new light bulb:	5	5
Total electricity savings in 2012	\$8,200	\$8,713

Source: MPM

While there was little change in the number of passengers traveling through PHL from 2011 to 2012, the expansion projects that are set to begin will be even more of a reason for the DOA to partner with MarketPlace to develop innovative recycling strategies at the Airport. In 2013, MarketPlace plans to expand its organics waste program through the purchase of a BiobiN<sup>®</sup> unit to pilot the program.

## US Airways



**U·S AIRWAYS**

According to US Airways, 4,016 tons of waste and a total of 723 tons of recycling were managed in 2012. In addition to single stream recyclables, US Airways also recycled used oil, and universal waste items including fluorescent bulbs and used batteries. Based on this data, its overall recycling rate for 2012 was 15.3%.

**Figure 6: US Airways 2011-2012 Solid Waste and Recycling Totals**

	<b>2011</b>	<b>2012</b>
<b>Solid Waste</b>	4,598 tons	4,016 tons
<b>Recycling</b>	1,048 tons	723 tons

Moving forward, the DOA hopes to work with more airlines and other airport vendors and businesses in tracking waste and recycling tonnage in order to determine the comprehensive recycling rate for the entire airport.

### **III. Key Projects and Accomplishments**

The DOA Recycling Program had many accomplishments in 2012 that included the following:

- Recycling diversion rate of 26.2%; an increase of 4.6% from 2011.
- Cost savings of approximately \$37,900
- Execution of first MOU agreement with Watts, Inc.
- C & D Waste Recycling Implementation
- Placement of PHL/SEPTA Rail Platform Recycling Containers
- Recycling Compactors- Fullness Usage System & Hauling Upgrades
- Recycling at PHL Softball Games
- Design of Recycling Messaging on PHL Shuttle Buses
- Hydration Stations Design & Implementation
- 2012 Earth Day Celebration
- 2012 America Recycles Day Celebration

#### **A. Recycling of Construction and Demolition (C & D) Waste**

A coordinated effort between the DOA's Pavement & Grounds and Planning & Environmental Stewardship units resulted in an initiative to begin recycling C & D waste at PHL during the summer of 2012. Starting in August, several hauls of C & D concrete waste were transported to the Winzinger Recycling facility located in the Port Richmond section of Philadelphia. In all, over 93 tons of C & D waste was recycled by the DOA in 2012. As mentioned previously, by diverting these materials from the DOA's waste stream, the recycling of C & D waste served to provide a boost to the DOA's August and 2012 Year-To-Date diversion rate. Due in large part to the recycling of C & D waste, the DOA's diversion rate recorded a new all-time high (55%) in August 2012. The previous record of 27% was set in August of 2011.

#### **B. PHL/SEPTA Commuter Rail Platform Recycling Containers**

Through a partnership between the DOA and SEPTA, nine waste containers have been repurposed on the train platforms to capture recyclables. These containers were installed in early August to provide a convenient means for SEPTA passengers to dispose of their recyclable waste at each of the Airport's four train stops (Terminal A,

Terminal B, Terminal C and D, and Terminal E). These waste containers have been converted/re-purposed and painted green to accommodate recyclable materials.

The table below summarizes a 2-week observation study that was conducted by the DOA during the fall of 2012. The study attempted to quantify the impact of the newly installed units concerning the waste being diverted from landfills as a result of installing these containers. The study analyzed the five locations closest to each terminal's access point. It should be noted that Terminal F shares the terminal E train stop. The results of the survey have been summarized below.

- The overall diversion rate observed on SEPTA platforms was 12.6%
- The diversion rates at each of the platforms had a large degree of variability as illustrated in **Figure 7** below:

**Figure 7: 2012 SEPTA Platform Survey Diversion Rate Results**

Platform	Highest Rate	Lowest Rate	Overall Rate
<b>Terminal A</b>	27% (8/29 PM Survey)	0% (8/23 AM Survey)	<b>15%</b>
<b>Terminal B</b>	17% (8/23 AM Survey)	0% (8/29 PM Survey)	<b>7%</b>
<b>Terminal C</b>	25% (8/23 AM Survey)	0% (8/23 PM Survey)	<b>12%</b>
<b>Terminal D</b>	5% (8/29 AM Survey)	36% (8/29 PM Survey)	<b>13%</b>
<b>Terminal E</b>	12% 8/28 AM Survey)	29% (8/28 PM Survey)	<b>20%</b>

At the current rate, it is estimated that over 1 ton of recyclables will be diverted annually from PHL's waste stream as a result of installing the recycling containers. It is important to note that this study was conducted shortly after the containers were converted to recycling. The diversion rate at these locations is expected to increase in 2013 as repeat travelers modify their disposal habits and utilize the available bins appropriately. The DOA hopes to conduct a follow-up study in 2013 to monitor the diversion rate trends on each platform.

### **C. Recycling Compactors- Fullness Usage System & Hauling Upgrades**

In November 2012, a new DOA Recycling rental and hauling contract with Waste Management, Inc. went into effect. Several upgrades were incorporated into this new contract that make the hauling of recyclables at PHL more efficient and less costly.



First, four new 35 cubic yard compactors were installed. One is located near the Terminal A loading dock (A-LD) which is accessible from Departures Road. The other three are located near gates A-1, E-4 and F-17 to optimize the loading capacity of each unit. In addition, a pressure gauge (or Fullness Usage System), was installed on each compactor to allow for custodial staff to be able to determine the fullness of the recycling compactor and then arrange for pick-up when the gauge is in the red zone (near capacity). This process will eliminate the need to haul less-than-full compactors, which will in-turn, reduce DOA's operational costs. Additionally, the designated OCC compactor has moved location from A-LD to B-C, in order to be more conveniently integrated into the DOA Custodial Unit's collection routine.

#### **D. Recycling at PHL Softball Games**

The DOA's summer softball league games were identified as an opportunity to capture recyclables beyond PHL's main terminal complex area. In 2012, softball participants generated recyclables such as:

- Plastic soda and water bottles
- Other plastic containers #1 - #7
- Food & beverage glass bottles and jars; and
- Cardboard/paperboard from food packaging.

Over the course of the summer, 176.0 pounds of recyclable waste was collected during these games. It is these small initiatives that continue to increase recycling awareness at PHL, raise PHL's diversion rate, and help PHL to become a greener airport.

#### **E. Design of Recycling Messaging on PHL Shuttle Buses**

In 2012, PHL continued its initiative to utilize space on PHL shuttle buses to promote recycling through a series of rotating monthly recycling messages/slogans. These messages will be posted on the First Transit buses that serve the Employee Parking Lot, Economy Parking, and Cargo City shuttle routes and will change with the seasons. The project is expected to be completed by the spring of 2013.

#### **F. Hydration Stations Design & Implementation**

The DOA is currently assessing the feasibility of installing hydration stations at PHL. The first phase of this initiative consisted of a Waste Sort and Analysis of PHL's Terminal D-E Checkpoint. This waste study determined that the implementation of hydration stations would provide an opportunity to remove an enormous amount of plastic bottles from the waste stream at PHL. For example, if only 20% of passengers

chose to use the liquid disposal sinks & corresponding hydration station, approximately 29,000 plastic bottles would be avoided from the waste stream every year at PHL's Terminal D-E checkpoint alone.

If the hydration stations are implemented, PHL would be at the forefront of applying this green technology and join only a handful of other airports that offer passengers this amenity. A proof of concept design for these units is currently being developed by PHL's design and engineering professionals. This concept will be evaluated by DOA staff during the upcoming year.

## G. 2012 Earth Day Celebration

To celebrate the 42<sup>nd</sup> anniversary of Earth Day, the 2012 PHL Earth Day event was hosted by the DOA in the Terminal B/C food court area. Exhibitors included representatives from: Clean Air Council, Elkay Manufacturing, Inc., Marketplace Philadelphia, RecycleBank Inc., Revolution Recovery, SEPTA, Tech Interaction, Inc., as well as the Philadelphia Streets Department and their mascot "Curby Bucket". In addition, an artwork contribution was made by the Solis Cohen Elementary School.



Exhibitors from the Philadelphia Streets Department at the PHL 2012 Earth Day celebration  
Source: DOA



Group photo of the exhibitors and DOA organizers at the 2012 PHL Earth Day celebration  
Source: DOA

In all, this event hosted over 400 participants and over 800 giveaway items were distributed to participants through PHL's Earth Day 2012. Environmental awareness games included: "Guess Your Best" challenging participants to guess the number of plastic bottles soda/water bottles contained in a 5 ft. tall clear bag based on a given recycling-based clue directly related to the answer, "Spin to Win" environmental trivia wheel, and "Recycling at Home" materials sorting game. The 800+ giveaway prizes that were awarded to participants included reusable PHL tote bags, PHL pens, PHL notepads, refillable water bottles and jar openers made from recycled tires. Additional giveaways were distributed by participating vendors. The earth day celebration also featured an awards ceremony.

Earth Day 2012 Award recipients included:

- **William Gardiner**, MarketPlace Philadelphia Management
- **Theresa Mata**, DOA - Design and Construction Unit
- **Cibo Bistro & Wine Bar Management Team**, Terminal A West

Earth Day 2012 Certificate of Recognition Awards were also presented to:

- **Cheryl Troy**, Parkway Corporation/Public Information
- **Joseph D'Urso**, Philadelphia Parking Authority
- **PHL Police and DOA staff members** who were recognized for their roles in the apprehension of perpetrators in a short-dumping incident on airport premises



Cheryl Troy receives an Earth Day Certificate of Recognition from PHL Deputy Director of Aviation: Planning and Environmental Stewardship, Calvin Davenger

Source: DOA

## H. 2012 America Recycles Day Celebration

On November 15, 2012, the nation celebrated America Recycles Day – the only nationally recognized day dedicated to the promotion of recycling in the United States. To celebrate this event, the DOA Recycling Committee held an America Recycles Day event in the Terminal B/C food court area as part of Keep America Beautiful's national event promoting recycling. Exhibitors at the event included: MarketPlace Philadelphia Management, PECO Energy Company, the Pennsylvania Fish and Boat Commission, the City of Philadelphia Recycling Office, Philadelphia Gas Works (PGW), RecycleBank, and Waste Management, Inc.

Travelers, merchants, and airport employees participated in DOA-sponsored activities including: A “Spin to Win” trivia game; and a “Guess Your Best” game which are similar to the educational games that are offered during PHL’s Earth Day celebration. The event featured over 500 participants and was once again successful in raising awareness of recycling initiatives at PHL and across the region.



DOA staff member Angela Elkins hosting the “Guess Your Best” contest at the 2012 PHL America Recycles Day Celebration

Source: DOA



PHL Recycling Coordinator Terry Johnson (center) with exhibitors from the Philadelphia Streets Department’s Recycling Office and RecycleBank, Inc. during the 2012 PHL America Recycles Day Celebration

Source: DOA

## I. DOA Recycling Committee

The DOA Recycling Committee is comprised of DOA staff members representing each of DOA’s departmental units. It meets quarterly to discuss the progress of the recycling program, identify future initiatives, and coordinate activities such as the annual Earth Day and America Recycles Day events. The Recycling Committee continues to work towards identifying ways to reduce overall waste within the DOA and tenants, while acting as a liaison to bring recycling information and protocol to their respective units.

## **IV. 2013 Recycling Program Goals and Objectives**

### **A. Expanding Collection of Organic Waste**

The DOA will continue to support MarketPlace's efforts to implement a comprehensive organic waste recycling program at PHL. Such a program would dramatically reduce overall waste tonnage produced by MarketPlace vendors, reduce landfill costs, and contribute to PHL's overall commitment to environmental stewardship.

### **B. Hydration Station Design and Implementation**

Subsequent to the 2011 study analyzing bottle disposal at the checkpoints, DOA will be evaluating the proof of concept design for disposal and refilling units that are currently being developed by PHL's design and engineering professionals. The DOA has a goal of reducing waste at checkpoints that are disposed of due to security regulations. This concept, as well as the impact of this feature on airport vendors who sell bottled water, will be evaluated by DOA staff during the upcoming year.

### **C. Partnering Opportunities: Expansion of Tenant Recycling via Memorandum of Understanding (MOU) Agreements**

Forging partnerships through the execution of new MOU agreements would serve to increase the efficiency of the recycling processes that take place at PHL. MOU's benefit small-recycling generators at the Airport by providing them with the ability to comply with the City of Philadelphia's commercial recycling regulations at a nominal fee. MOU users will benefit by eliminating the need to procure a recycling hauler for their small quantities of discarded materials. The DOA will benefit by maximizing the capacity of their recycling compactors. In addition, MOU's serve as a step toward a more centralized waste management and recycling program at PHL and also reduce the amount of congestion on the airfield and around the Airport as a whole.

New partnerships would assist the Airport in developing a more centralized structure for managing waste and recycling streams, and would also enable the DOA to track program costs and the amounts of waste and recycling from tenants and airlines.

#### **D. Implementation of Recycling Messaging on PHL Shuttle Buses**

The DOA will continue to support an ongoing initiative to utilize PHL shuttle buses, operated by First Transit, to promote recycling through rotating monthly messages. These posters will provide seasonal messages that will be posted on the First Transit buses that serve the Employee Parking Lot, Economy Parking, and Cargo City shuttle routes. This initiative will help keep recycling at the forefront of PHL's sustainability efforts. DOA anticipates that this project will be completed by the spring of 2013.

#### **E. Updated Envirozone Waste and Recycling Receptacles Messaging**

In 2013, PHL will attempt to raise recycling awareness and compliance through an updated branding and slogan campaign. The new messages will be located on all of the Envirozone recycling receptacles at the Airport. The Public Affairs and Planning Units are working together to develop concepts and explore ideas for this initiative.

#### **F. Expansion of C & D Waste Recycling Program**

In 2012, the recycling of C & D waste served to provide a sizable boost to recycling efforts at PHL. Over the course of 2013, the DOA will continue to refine this program.

## **V. Challenges and Opportunities for 2013 and Beyond**

### **A. Waste and Recycling Tracking**

Relevant waste stream data should continue to be tracked accurately and consistently to assess PHL's efforts in waste reduction and recycling. An increase in information sharing between the DOA and tenants will also be essential to gain buy-in from stakeholders and broaden the recycling program at PHL.

While the operations and solid waste management practices of the DOA, tenants, and airlines are complex, through increased stakeholder partnerships and collaboration, the DOA was able to gain a better understanding of waste hauling practices in 2012. With improved tracking protocols in place, and better coordination between compactors (capacity sensors), departments (Operations and Custodial units), and haulers, the DOA can in turn identify more accurate benchmarks that can be relied upon for establishing future goals. Such accuracy is important in recommending future changes to improve efficiency and sustainable practices.

### **B. Partnership Opportunities**

The DOA will continue to identify new partnering opportunities in an effort to expand the recycling program and broaden support for environmental stewardship efforts at PHL. These partnerships will aid in creating a more comprehensive and efficient management system for managing the waste that is generated through the Airport's operations.

### **C. Improved Collection Efficiencies**

Maximizing efficiency and reducing costs within the recycling program will continue to be priorities for the DOA. As new technologies and markets emerge within the waste management and recycling sector, DOA will continue to utilize these methods for the purpose of maximizing the potential of the recycling program.

## VI. Conclusion

For over a decade, the recycling program at PHL has continued to make significant improvements each year. In 2012, the percent of recyclables collected through public venue and DOA office recycling programs continued to increase, pushing the annual diversion rate over 26% for the first time. Of equal importance is the fact that, as the recycling totals continue to rise, the total amount of waste that is hauled each year continues to decrease.

While much progress has been made in 2012, the DOA will focus on the following objectives in 2013:

- 1) Supporting the development of an airport-wide organics waste recycling program
- 2) Expanding partnering opportunities to identify new stakeholders and partners to continue to broaden recycling efforts at PHL
- 3) Striving towards a more centralized management structure of the waste and recycling streams through various means, including new MOU's with airport tenants
- 4) Evaluating the feasibility of developing several hydration stations within PHL's main terminal complex area, and
- 5) Reducing overall program costs, where possible.

By continuing to reach out to and work with PHL tenants and airlines, the DOA continues to explore recycling initiatives that will help protect the environment and improve waste management efforts.