

Executive Summary

2014 AF&PA Community Survey

American Forest & Paper Association

February 2015



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EXECUTIVE SUMMARY

Since 1994, the American Forest & Paper Association (“AF&PA”) has performed a series of national surveys to measure the extent and track the growth of access by the public to community-level paper and paperboard recycling. In recent iterations, the survey has also addressed the prevalence of single-stream collection in curbside recycling systems.

Consulting firm R. W. Beck has assisted the AF&PA with this survey for the past seventeen years, however the name of the firm has changed. R. W. Beck became SAIC Energy, Environment & Infrastructure, LLC in 2011 and in 2013 underwent a name change to Leidos Engineering, LLC. In 2014, Leidos’ Water and Waste Resources group was acquired by the Louis Berger Group, Inc. (“Louis Berger”). The 2014 AF&PA Community Survey (“2014 Survey”), was conducted by the project team of Louis Berger and Leidos (“Project Team”).

This Executive Summary presents background information on the survey methodology and presents notable findings of the 2014 Survey, and compares those results to data from prior years.

Survey Background

According to the U.S. Census Bureau, there are a total of 3,143 counties in the United States, containing a population of 309.1 million people and 34,738 communities (as of December 31, 2012). To estimate the extent of paper/paperboard recycling in the U.S., this study conducted surveys using the following data gathering strategies:

- **Direct Survey of Large Counties:** Because recycling is generally more prevalent in populous areas, the survey targeted county-level recycling coordinators from about 1,207 of the most populous counties in the nation. The county-level coordinators were asked to provide paper/paperboard recycling information for the 20,646 communities in their counties, representing 90 percent of the U.S. population. Responses to the direct survey were received from recycling coordinators covering 90 percent of the surveyed communities’ population, which provided confirmed survey coverage for 80 percent of the total population of the U.S. The population coverage achieved with these response rates is extremely high and provides high quality community-specific program data. Survey results from the responding communities were used to estimate recycling access for the small percentage of direct survey communities that did not respond.
- **Representative Sample of Small Communities:** Of the remaining 14,092 communities (covering 10 percent of the U.S. population) not targeted by the direct survey, a statistical approach based on a random sample of communities was used to extrapolate nationwide totals for the number of communities with access to paper/paperboard recycling.

This report presents survey results using two different metrics. First, results are reported using the percentage of population with access to paper/paperboard recycling. Population is easily understood and can be readily compared against other studies that are relevant or comparable to this one. Second, results are reported based on the number of communities as defined by the U.S. Census Bureau. For purposes of comparing the 2014 Survey with other survey results, we have provided the percentage of population with recycling access, rather than the absolute number, in order to normalize for the effect of population growth. Although both of these result sets are presented in this report, the results by population are most useful for trend analysis and comparison with other data sources.

Changes from the 2010 Survey

The 2014 Survey followed the same methodology and covered almost all the same counties and communities as the 2010 Survey. (Because of population changes, five counties from the 2010 Survey were dropped and twenty-five new counties were added to reach 90 percent of the U.S. population.)

Two changes were made to how survey categories were defined in the 2014 Survey compared to the 2010 Survey. The first change was to re-name the category “Coated Paperboard” to “Liquid Packaging Cartons.” The second change was to re-name “Uncoated Paperboard” to “Unbleached and Recycled Paperboard.” These changes were made by the AF&PA in an attempt to make the categories more clear to the survey responder. Although the category titles were revised, the links to the data remained the same so the Project Team was still able to compare the results to previous years’ data for those categories.

As in previous years, the survey included a key at the bottom of the pages to describe the material category abbreviations used in the survey (e.g., “OTD = Telephone directories”). The key in the 2014 Survey was more detailed than in 2010 and contained descriptions and examples of the materials included in each category. In addition to the key, the 2014 Survey also contained a separate page with detailed definitions of the twelve separate paper and paperboard categories, as shown in Table ES-1.

Table ES-1
2014 AF&PA Community Recycling Survey
Categories and Descriptions

Category Titles		Description
Paper	Newspapers	Newspapers and inserts.
	Magazines	Magazines with glossy paper.
	Catalogs	Catalogs with glossy paper and a glued/bound edge.
	Telephone Directories	Telephone Directories
	Office Paper	White or colored printing and writing paper from home, school, or office.
	Mail	All types and sizes of mail and envelopes regardless of fiber type, color, coatings, windows, etc.; can be bleached or unbleached.
	Paper Bags	Any paper bag including grocery, take-out food, single serve and retail bags; unbleached brown bags, bleached bags, or colored bags.
Paperboard	Corrugated Cardboard	Unbleached brown boxes with a wavy inner layer; may have a printed bleached or unbleached top layer.
	Unbleached and Recycled Paperboard	Cereal and other dry food boxes, shoe boxes, laundry detergent and similar product packaging; take-out food containers, clamshell sandwich boxes, bakery and candy boxes; beverage cartons and carriers; can be coated or uncoated.
	Bleached Paperboard	Medical packaging, cosmetics and perfume packaging; white bakery and candy boxes; white take-out food containers; frozen food boxes; can be coated or uncoated.
	Liquid Packaging Cartons	Milk, juice and aseptic cartons.
Misc.	Other Paper and Paperboard	Hard and soft cover books, wrapping paper, other paper or paperboard not included in other categories.

In preparing the survey instrument, the AF&PA and the Project Team placed a high value on being able to compare year-to-year results while also trying to capture changing trends in recycling practice. In this year's survey, the category of "bleached paperboard" was modified to include "frozen food boxes; can be coated or uncoated." Because of this change, there may be irregularities in the survey responses for the "bleached paperboard" category because while some recycling programs may accept medical packaging and cosmetics packaging, they do not accept frozen food boxes which were also listed in that category. Survey responders may have chosen to leave that category blank if they do not accept all of the items listed. Or some survey responders may have chosen to mark the bleached paperboard category if they accept some, but not all, of the items listed.

The responses that were obtained for the bleached paperboard category may not be indicative of all the items that programs actually collect. For example, if a community indicated that they collect liquid packaging cartons and unbleached paperboard, they are most likely able to accept bleached paperboard such as boxes that contained cosmetics. However, if their recycling processor does not allow frozen food boxes, then they may not have checked the bleached paperboard category because it included frozen food boxes even though they do accept liquid packaging cartons and most likely accept bleached paperboard such as boxes that contained cosmetics. Accordingly, the Project Team's judgment is that the access rate stated for bleached paperboard establishes the upper limit for coated bleached paperboard products (like frozen food boxes) and the lower limit for uncoated bleached paperboard products (like cosmetics boxes).

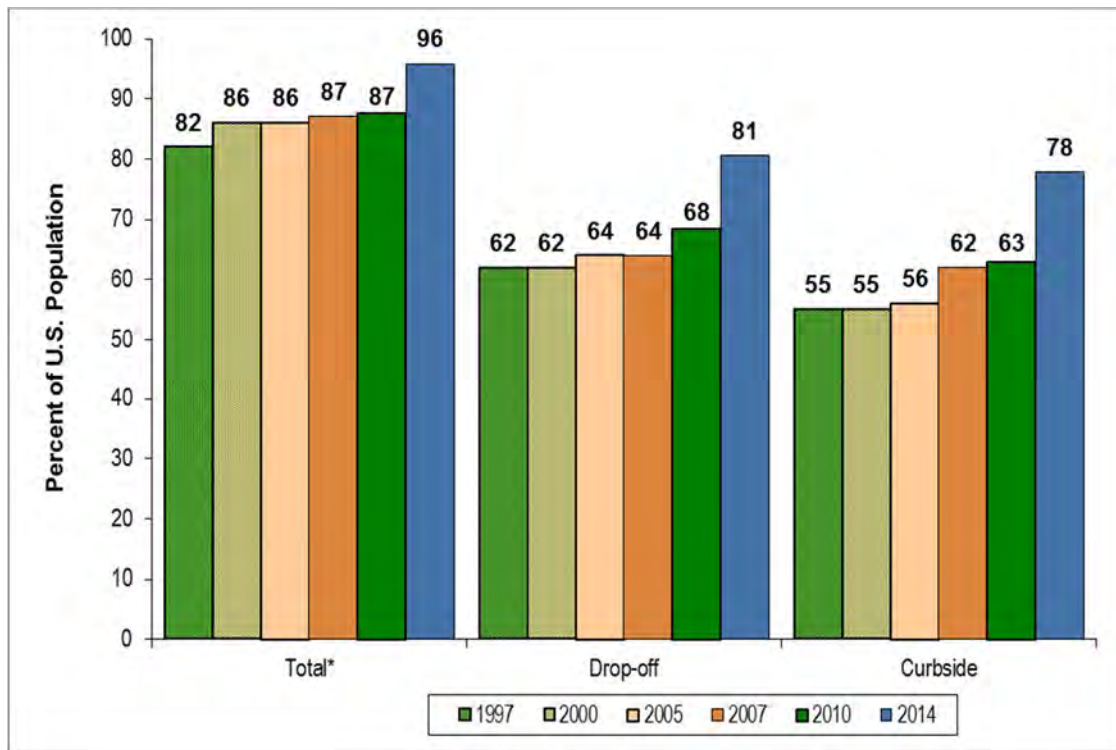
Results Summary

The methodology used for the 2014 Survey is consistent with the methodology used in other survey years, which means that data from successive surveys can be compared in order to identify trends. The only notable changes to the 2014 Survey were revisions to two category titles: "Coated Paperboard" was re-named "Liquid Packaging Cartons" (or "Cartons" when space was limited on the survey), and "Uncoated Paperboard" was re-named "Unbleached and Recycled Paperboard." Although the category titles were revised, the links to the data remained the same so the Project Team was still able to compare the results to previous years' data for those categories.

As in previous years' studies, the Project Team entered the survey data into a specially-designed statistical model which manipulates the data to calculate the mean and 90 percent confidence intervals. The margin of error is the range (plus/minus) that defines the upper and lower bounds of the confidence interval relative to the mean. The study's sample plan is intended to capture as wide a range of respondents as possible, which results in a relatively low margin of error, and consequently a "tight" confidence interval. The margins of error ranged from 0.002 percent to 0.006 percent for the results based on population and 1.9 percent to 2.1 percent for the results based on number of communities.

High Level of Paper/Paperboard Recycling Program Access: Whether measured by the percentage of population or by the number of communities with access, the 2014 Survey suggests that overall access to paper/paperboard collection through community-sponsored curbside and drop-off recycling programs has increased considerably compared to previous survey years. Figure ES-1 shows this trend.

Figure ES-1
1997-2014 Results Percentage of Population
with Access to Paper/Paperboard Collection



* Note that the total population with access is NOT equal to the sum of curbside and drop-off population with access, since many communities provide access through both curbside and drop-off collection.

There were significant increases in the population with access to drop-off recycling programs and curbside collection since the last survey, which translated into an overall increase in the total population with recycling collection access. The Project Team believes that part of this increase in percentage of the population with access to paper recycling may be attributable to more communities completing the survey with positive responses in 2014 than in 2010. There were 2,896 communities that responded affirmatively to having access to paper/paperboard recycling that did not respond in 2010. The population of these communities totaled 29,939,283 resulting in an increased percentage of the population with access to paper/paperboard recycling.

Table ES-2 provides data on the population with access for the 2014 Survey that was depicted in Figure ES-1. It also provides data on the number of communities with access to paper and paperboard recycling in total, in curbside programs, and in drop-off programs.

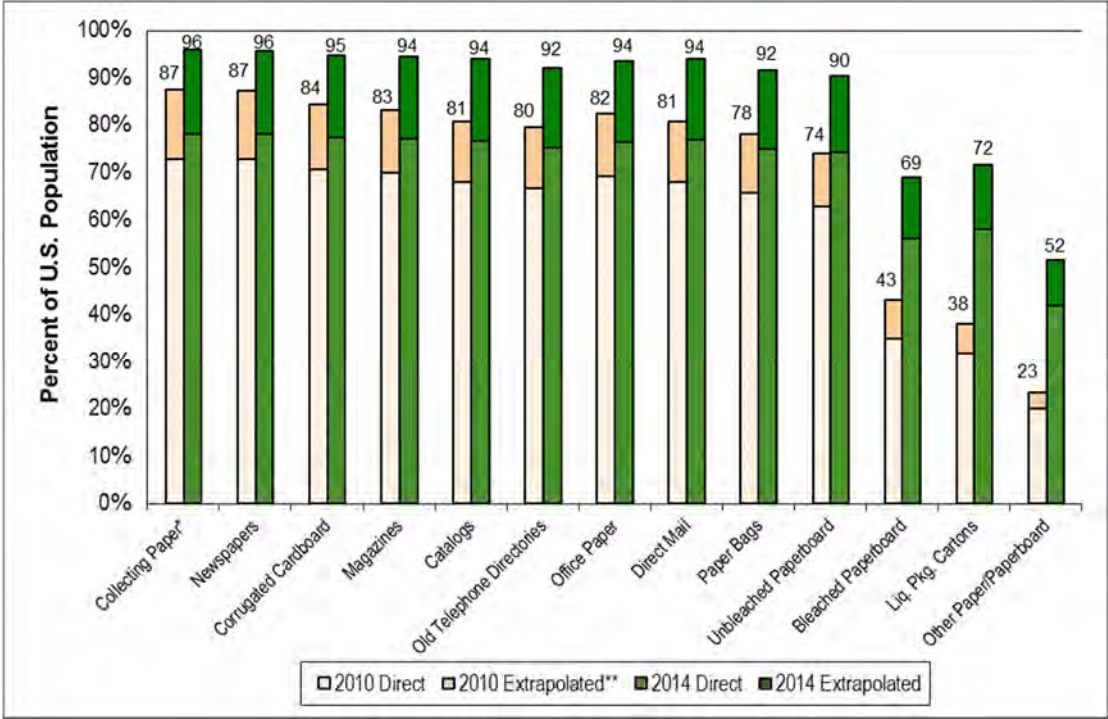
Table ES-2
2014 Paper/Paperboard Recycling Program Summary

	Population with Access		Communities with Access	
	Population (Millions)	Percent of U.S. Total	Number of Communities	Percent of U.S. Total
Curbside Recycling Programs	241	78%	15,939	46%
Drop-off Recycling Programs	249	81%	26,933	78%
Total Recycling Programs	296	96%	29,201	84%

* Note that the total population with access is NOT equal to the sum of curbside and drop-off population with access, since many communities provide access through both curbside and drop-off collection.

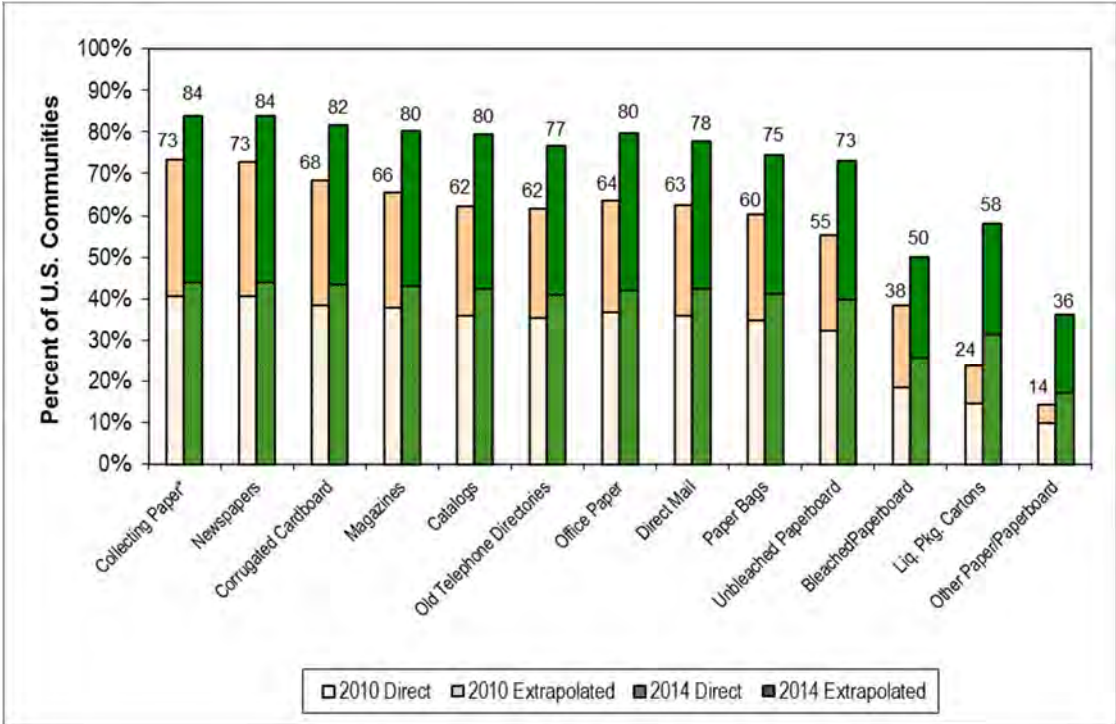
Considerable Expansion of Paper/Paperboard Types Accepted in Existing Programs: The survey asked respondents to report which types of paper and paperboard products were accepted in recycling collection programs. Access to all types of paper and paperboard collection increased – specifically recycling collection access for bleached paperboard, liquid packaging cartons, and other paper/paperboard. This means that communities with existing curbside and drop-off programs added additional types of paper and paperboard to their programs. Figures ES-2 and ES-3, which compare the percentage of population and percentage of communities with access to paper/paperboard recycling, respectively, show this. In the figures, “direct” results represent actual county-level responses and the “extrapolated” results represent the calculated estimate for the remaining portion of population/communities as described above.

Figure ES-2
 2010 vs. 2014: Percentage of Population with Access to Paper/Paperboard Collection



*"Collecting Paper" refers to the total population with access to at least one paper or paperboard category.

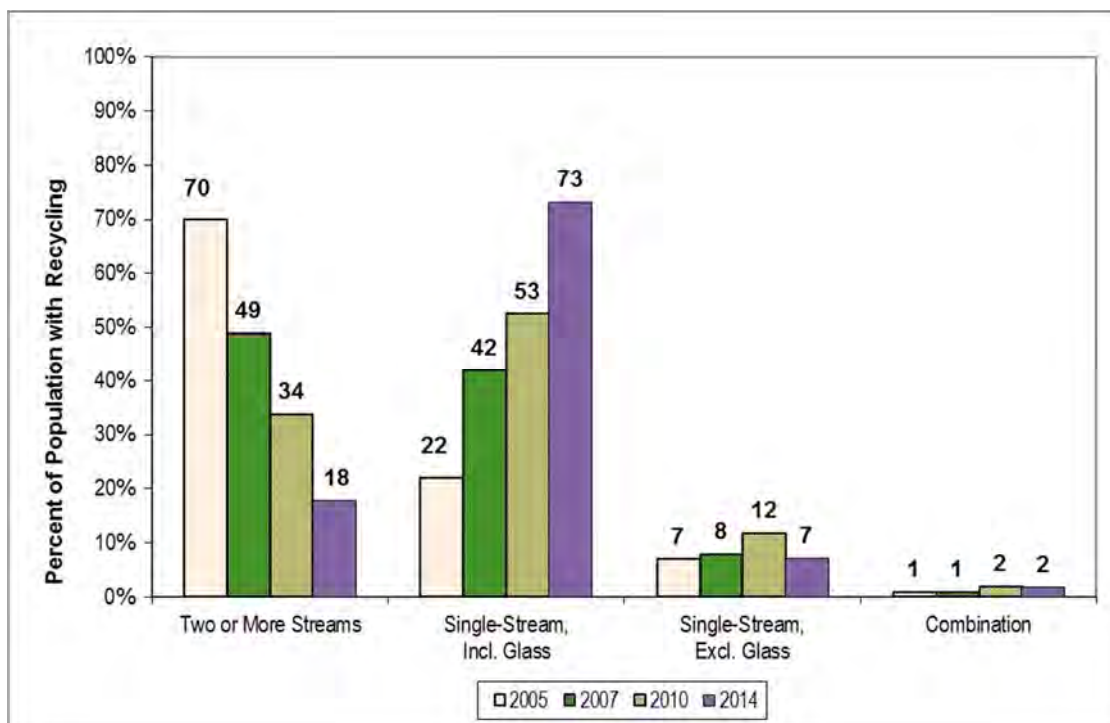
Figure ES-3
 2010 vs. 2014 Comparison: Percentage of Communities Collecting Paper/Paperboard



*"Collecting Paper" refers to the total number of programs that collect at least one paper or paperboard category.

Growth in Single-stream Collection: Single-stream recycling – where all fiber grades and recyclable containers are collected commingled together in one compartment on the recycling collection vehicle – has been a growing trend for the past fifteen to twenty years. The prevalence of single-stream collection was first evaluated in the 2000 Survey, and has continued to be evaluated in the subsequent surveys. As shown in Figure ES-4, the growth in single-stream recycling has steadily increased. In 2005, only 29 percent of the population with recycling had access to a single-stream program. By 2014, that number has increased to 80 percent. Although the Project Team has not attempted to correlate the trend to single-stream collection with the expansion in fiber products collected in programs, anecdotal evidence suggests such a relationship exists.

Figure ES-4
Paper/Paperboard Collection Techniques



* "Combination" means different haulers in some communities may use different collection techniques for recycling collection.

Acknowledgements

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