



Curbside Weighing System Provides Robust Solution for Recycling Program

When RecycleBank, LLC was founded two years ago out of Philadelphia, it involved a Columbia Business School Graduate and a young lawyer striving to encourage recycling among communities.

Recycling is not only beneficial to the environment, but to the community as well: if recyclables are removed from ordinary trash, the amount of refuse taken to the landfill is reduced. Cities therefore pay less to deposit this trash, and the removed recyclables can often be sent to a recycling center to generate revenue.

To offer another incentive for residents, RecycleBank, with offices now in both Philadelphia and New York, allows recyclers to accumulate RecycleBank Reward Points according to the amount of materials they recycle. These Points, determined by the weight of the contributions, are logged by RecycleBank and can be redeemed for rewards to more than 400 national and local RecycleBank Reward Partners.

In order to track the recyclables for each community member, RecycleBank partner haulers needed to document how often each person's contributions were made and how much the recyclables weighed. To do this, a wheeled tote containing recyclables and an RFID tag, which details the recycler's information, is placed next to the curb at each home and picked up by the tipper on the hauler's truck. The scale on the tipper then needs to generate the weight of the load accurately – without consuming significant amounts of the hauler's time.

"Our goal is to be as transparent as possible to the final end-user, requiring no additional time from them whatsoever," said Scott Lamb, Chief Operating Officer at RecycleBank.

To make the weighing process unobtrusive to the hauler, RecycleBank found an innovative new solution using equipment from Avery Weigh-Tronix. This Curbside Weighing System (CWS) weighs materials in-motion and facilitates easy documentation of all collected materials, improving cycle time and RFID accuracy.

"An Avery Weigh-Tronix Weigh Bar weight sensor is inserted between the truck and the tipper, allowing recyclables to be weighed dynamically and eliminating pauses mid-lift to obtain readings," said Tom Gallagher, Vice-President of Agriculture and OEM Sales at Avery Weigh-Tronix.

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TECHNICAL

Curbside Weighing System

- Performs time-efficient, accurate in-motion weighing
- Determines net weight of recyclables through system indicator
- Transmits collected data to recycler center's computers wirelessly
- Facilitates simple tracking and documentation for recycling program



“RecycleBank places an RFID tag on each tote, which is read by the CWS. Each tote is weighed twice: once while it is lifted before the materials are released into the truck, and once while it is lowered to obtain the weight of the empty tote. This data is then sent to the system indicator, mounted on the side of the truck, and the net weight is determined by subtracting the empty tote’s reading from the initial weight.”

“Once the truck arrives at the recycling center, the indicator sends the collected data via radio frequency signal to the center’s computers, allowing the information to be easily downloaded into RecycleBank’s system,” Gallagher adds. “Since the weight of each collection is already associated with its respective contributor due to the RFID tag system, the information drops right into their program, giving everyone due credit for their recyclables.”

The CWS expedites the hauler’s collection process, and the technology used provides RecycleBank with a simple way to track community contributions.

“The loads are dynamically weighed in 8 seconds, which is same time it takes a normal tipper to operate,” Lamb said. “Plus, with wireless transmission of the collected data, the driver isn’t inconvenienced.”

This combination of the CWS’s convenient in-motion weighing, a multi-faceted indicator for data collection and transmission, and a simple yet robust RFID system has allowed communities to help protect their environment while being rewarded for their participation.

“The Avery Weigh-Tronix system has done just what we required,” Lamb said.

The Curbside Weighing System is being sold through the Avery Weigh-Tronix Ag/OEM division. For any sales inquiries, please contact Tom Gallagher, Vice President for Ag/OEM at 507 238 8240.

