ON LOCATION

What's Driving the Move to Increased Automated Collection

Rachael Zimlich | Jul 27, 2015

Updated with more recent statistics and quote.

Rising insurance claims brought on by an aging workforce and employee injuries, as well as the desire to collect more waste at a lower cost is driving the growing trend toward automated waste collection.

A 2014 report estimated that there were 120,000 solid waste vehicles on the road, and half of the new vehicles purchased were one-person automated units.

At the Waste360 Recycling Summit , panelists at a Sept. 10 session on automated waste collection will detail the latest equipment and technologies, highlighting new trends through case studies. Panelists at the 10:40 a.m. session include Marc Rogoff, PhD, of SCS Engineers; Ken Beaver of Environmental Solutions Group; and Craig Williams of Labrie Enviroquip Group. The session will provide an overview of the advantages and disadvantages of automated collection from the perspective of municipal decision-makers and the public.

"Both private and public sector waste agencies have seen declines in their workers compensation claims after they replaced manual rear load trucks with automated trucks," says David Biderman, executive director and chief executive officer of the Solid Waste Association of North America.

Rogoff wrote in a report on automated collection that the trend has been rapidly increasing as municipalities and commercial haulers work to stem climbing labor and insurance costs while still providing high levels of customer service. H

For residents, automated collection offers easier, more maneuverable disposal through wheeled containers that are maintained by the city or hauler, according to SCS. The standardized cans improve the appearance throughout the community and help keep pests out of cans, which are outfitted with tight-fitting lids.

For cities and haulers, Rogoff wrote that benefits of automation include improved efficiency and reduced costs, fewer employee injuries, and overall improved employee health and job satisfaction.

The transition to automated collection doesn't come without some trade-offs, though. Rogoff notes that the initial investment can be high—side-loading automated collection vehicles can cost 20 percent more than traditional rear-loading vehicles, and resident collection bins can cost $35 to $50 each. Automated collection vehicles also require more maintenance, and resident education is a must for new programs. Additionally, automated collection may not work in densely populated communities that utilize on-street parking.

During his presentation at the summit session, Rogoff will discuss a case study of how a small community implemented automated collection, touching on concerns about labor staffing and customer expectations during his presentation at the summit session.

In that case, Rogoff says the city in the study was unsure about the advantages of automated collection for its customers, and the cost and safety concerns about increasing levels of service. The city had seen its insurance and worker's compensation claims increase over the previous years, and hired SCS in 2014 to evaluate and make recommendations on its program. Included in the review was a cost of service study, a report on the conversion to automated solid waste collection, and a cost estimate for program implementation.

The review found that the city's services, performed by the municipal solid waste department, were at the highest level and already cost-effective but still limited by lower production levels and higher employee safety risks.

"The cumulative impacts of lifting waste collection containers throughout an entire worker's career have proven to result in major musculoskeletal injuries," Rogoff says.

SCS conducted a major automation feasibility analysis for the city which took into account waste projections over the next five years, collection routes, fleet replacement, customer education and more.

Beaver, director of business development for Environmental Solutions Group in Chattanooga, Tenn., says trends toward automation continue to be strong. Five percent of drivers make up 50 percent of safety incidents and equipment abuse, he says, but automated collection vehicles allow haulers to identify potentially dangerous behavior and target education to specific workers.

Automation and compressed natural gas (CNG) vehicles are also driving up per refuse collection costs, Beaver says. Along with increasing fleet size brought on by industry consolidation, he says the need for tracking and improving asset utilization through processes like automated collection are increasing.

In his presentation during the summit, Beaver will discuss equipment standardization and front-end loader use as a means to an increasing difficulty in finding qualified maintenance personnel.