

Improving Customer Service and Increasing Revenue Opportunity in the Solid Waste Industry

Leveraging Data to Cost Efficiently Improve Asset Management

Executive Summary

Municipalities who manage their waste and recyclables, or the companies who manage it for them, realize both the challenge and expense of this operation. They also realize the opportunity to treat a significant portion of the waste stream as a valuable resource and profit center by initiating creative recycling programs for their communities. Economic and environmental factors are pushing the waste management industry to use better technology and solutions to improve customer service, reduce costs, increase revenues and improve sustainability.

Waste and recycling collection containers are a valuable asset and can play an important role in an overall solution to lower costs, increase revenues and improve sustainability. They are the contact point around which a successful waste management program revolves. A collection container needs to be durable and easy to repair for long-term success, because it can also play a critical role in improving customer service, increasing customer participation in recycling and revenue generation. The container is an asset that needs to be correctly managed in order to reduce operational costs, prevent capital loss and increase collection and material revenue streams.

This white paper addresses the challenges that municipalities and waste companies face regarding container management and the potential costs associated with it. It will then provide a detailed overview of how tracking and managing waste & recycling containers will improve customer service, improve participation in revenue generating recycling programs and reduce operational expenses associated with container loss and servicing non-paying accounts.

This paper begins with a basic definition of technologies. It then outlines the factors driving municipalities, government entities and waste companies to investigate and adopt asset management programs. It briefly discusses what to consider in a partner and the best way to begin implementing an asset management program. Finally, it demonstrates the value of

implementing an asset management program using Rehrig Pacific's proprietary web-based software tool - Container Asset Recovery and Tracking System (C.A.R.T.S.).

Issues that municipalities and waste companies face

There are four challenges common to both municipalities and waste companies relating to container asset management. The first issue they both face is the continual lack of service verification data. Consistently, customers call and claim they were not serviced, and the reality is that they may have forgotten to put their container out or they want to be serviced twice. The second challenge is not receiving the proper amount of revenue for services rendered. This includes the servicing of non-paying accounts or the over-servicing of paying accounts. Over-servicing accounts includes service to customers who have two or more containers and are only paying for one, or servicing accounts which are paying for a smaller container, when in actuality they are using a larger container. Account audit studies have shown that in most mature container collection programs, up to 10% of the accounts in a particular service area could be receiving services that they are not paying for. Third, there is the challenge of ongoing container maintenance and inventory management. A mismanaged container maintenance program can result in customer service issues and increased operational costs. Poor visibility of container inventories - both in and out of service - can lead to an over purchasing of assets that are not needed for the operation and/or result in service issues due to not being able to fulfill the container needs for new and existing customers. Finally, there is the reality of misplaced containers and actual container loss, which translates into real capital loss. Industry estimates state that more than 2% of a container fleet can become lost or stolen during each year of service. Consider this example: If 50,000 containers are used in a community and 2% are lost, this means that 1,000 containers are lost annually. Using an estimated replacement cost of \$50 per container translates into an annual capital loss of \$50,000.

The Solution to These Challenges

The best solution to these challenges is to develop an asset management program which is based on the simple philosophy of value-added pro-active prevention. Value-added prevention rests on implementing a solution which will deliver accurate service verification data, aid in generating the proper amount of revenue for services rendered, maintain containers in top condition and help to reduce or prevent containers from being lost or stolen. Additional factors to be considered in developing an asset management program include the cost of implementation, ongoing expenses of asset management and what should happen with the container, which is a valuable asset, at the end of its lifecycle.

What to look for in a partner to implement an asset management program

There are many details to consider in implementing a successful and profitable program. Therefore, municipalities, government entities and waste companies must consider partners with the proven track record and logistical ability to implement a comprehensive asset management program. Partners must also have the flexibility to unite a customer's current situation with adaptable solutions that are scalable.

A partner or partners must also offer a comprehensive solution that includes a database for set-up and maintenance, the hardware and reporting software to be integrated, and the personnel implementing the project.

The first question to be answered is whether to seek one partner or multiple partners for the container and supportive asset services. The answer involves how much additional time and expense will using manifold partners bring to implementation of an asset management program. Also to be considered is the commitment of the company or companies to work together to deliver a turn-key and sustainable solution.

The second question involves a partner's ability to adapt. Each municipality, government entity or waste hauler has a unique set of problems and find themselves at a different stage in developing an asset management solution. A partner therefore must be able to customize a solution for every circumstance which is scalable and capable of achieving each customer's desired goal.

Rehrig Pacific is a single-source, complete solutions provider offering a wide variety of proven, innovative, and sustainable solutions for the waste industry. Using a consultative approach, Rehrig Pacific's Environmental Services Group tailors a solution to a municipality's or waste company's existing situation; a solution that is cost effective and scalable for future growth.

The best way to begin implementing a comprehensive asset management program

It begins with knowledge. Our experience tells us that the best, most cost efficient way to begin creating a successful asset management program is to gain an understanding of our customer's current situation, immediate goals and long-term objectives. Whether our customer is switching from a manual collection program, or already has a mature automated collection program in place, Rehrig Pacific's consultative approach will find ways to increase participation rates, improve use of underutilized assets, increase material revenue and lower disposal costs. We recommend beginning with an audit to determine what solutions will work best immediately and create a plan for long-term success.

Comprehensive asset management solutions

Rehrig Pacific currently manages and operates multiple container maintenance/management programs throughout the U.S. and Canada, servicing over 2 million carts. Rehrig Pacific can set up and manage a customized container management program throughout the U.S., Canada, and Mexico. This program can be implemented onsite at your facility or offsite.

Rehrig's flexible container management program can perform a wide range of services, including:

- Delivery of containers to residents
- Repair and maintain all plastic containers in the service area, regardless of the container manufacturer
- Manage replacements of containers, parts, and RFID tags
- Maintain and organize container inventories
- Administer warranty claims
- Offer a "Material Buy Back" program for non-repairable carts
- Maintain an accurate customer service database that tracks work orders and inventory, Rehrig's C.A.R.T.S. program
- Track lost or stolen containers
- Handle customer requests for new or additional service, termination, size change out, repair.

Here are a few benefits that can be realized:

- Calculate a fixed capital costs for maintaining cart inventories and repairs
- Eliminate workman's comp and safety/accident liabilities associated with cart service
- Eliminate the direct labor/benefits associated with staffing these positions
- Eliminate the vehicle costs and fuel required for this service
- Streamline the warranty process
- Reduce cart capital expenditures by retrieving lost or stolen assets

C.A.R.T.S. provides a municipality, government entity or waste hauler with a technology advantage

A successful asset management program has the ability to know where, when and how containers are being deployed, serviced, maintained and replaced. The foundation for the solutions we provide relies on our powerful and sophisticated Container Asset Recovery Tracking System (C.A.R.T.S.). C.A.R.T.S. is a unique web based asset and inventory management software solution which can be customized to a municipality's or waste company's specific requirements. This flexible solution also has the ability to integrate with any legacy software currently being used.

- **Delivery & Inventory Management:** Track the progress of container shipments from Rehrig manufacturing facilities and manage inventory levels at your multiple hauling operations, providing inventory visibility to multiple users within a specific region.
- **Container Distribution:** Record container deliveries in real time by using handheld scanners that run the C.A.R.T.S. software and generate daily distribution reports that include household address, container serial number, RFID tag number, type, size, G.P.S. coordinates for the service location of the cart along with the date and time of delivery.
- **Route Auditing and/or Container Retrofits:** Take better control of your assets and build an accurate billing database by utilizing the C.A.R.T.S. system for a new distribution, container retrofits (existing carts that need RFID tags installed in the field) or a route audit.
- **Container Management:** CA.R.T.S. is a complete container management work order system that tracks container inventories (at multiple locations), repairs, and work flow at each household address and it will allow our customers to maintain an accurate account database to better control their assets and provide the foundation for

tracking collection data with RFID. Without a system that pro-actively manages your containers in the field and keeps them associated to the appropriate account, your data will become inaccurate over time.

- **Collection Data Tracking Services:** The RFID systems on the collection vehicles transmit their data to C.A.R.T.S. either through a WiFi (data dump at the end of the collection day) or cellular (real time data transfer) network. The data is displayed in C.A.R.T.S. with various reports (Participation, Non-Participation, Tip History, Collection Time Study, etc.) available online to our customers 24/7. All reports are 100% customizable to meet the program requirements.

Here are several benefits a customer can expect to experience:

- Gain an accurate account database for billing and optional RFID based collection data tracking programs
- Eliminate the cost of printing work orders
- Automate the work order process and get real time operational data for improved customer service
- Minimize administrative and IT support
- Reduce lost containers and minimize capital loss
- Realize cost recovery for lost containers
- Realize savings in inventory carrying costs
- Reduce space used to house containers
- Streamline the warranty process
- Experience a "touch free" asset and collection data tracking method
- Gain real time visibility of collections, overall routes and individual vehicles
- Provide a foundation for incentive and pay as you throw programs
- Establish and provide sustainable back up data for improved accuracy in billing operations
- Create an "Everyday Audit" to help proactively track lost and stolen containers
- Avoid fines for missed collections by providing service verification reports to your customers
- Download recycling participation reports as the foundation for tailoring education programs or provide other unique programs designed to increase recycling participation, which will increase the material recovered at your MRF's and decrease your disposal costs
- Efficiently bill for overages on your commercial routes

Conclusion

Economic and environmental factors are driving innovation in the waste management industry. With mandates to reduce costs and increase revenue while meeting sustainability initiatives, it is clear that better technology, which can also improve customer service, is the best method to achieve these goals.

Rehrig Pacific's C.A.R.T.S. Asset Management Solution is a comprehensive single source solution, which realizes the goals of lowering costs, increasing revenues, improving customer service, and enhancing ongoing sustainability initiatives.

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