

Alternative Operational Solid Waste Collection Route Models

Recycling & Solid Waste Operations Rural Setting

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2023 NMRC BOD President
NMRC & SWANA Joint Conference
Tuesday September 19th, 2023 / Breakout Session A



Presentation Overview

- Current Method of Rural Solid Waste Collection Models for Communities in Dona Ana County Region.
- Today's Perception of Solid Waste Collections
- Alternative Operational Models for Rural Solid Waste Collections
- General Operational Cost Differences Between Automated & Rear Loader Collection Systems
- Pros & Cons / Automated & Rear Loading Service Models
- Benefits Of Implementing a Solid Waste Collection Service

Current Method of Rural Solid Waste Collection Models For Communities In Our Region

Currently SCSWA/Dona Ana County through an MOU accommodate waste & recycling disposal needs for residence in rural areas within Dona Ana County.

- The Authority Operates 8 Solid Waste & Recycling Community Collection Drop-Off Centers. (**HUB & SPOKE MODEL**)

NORTHERN REGION: Mesquite, Hill, Butterfield, Hatch & Garfield

SOUTHERN REGION: Anthony, La Mesa, La Union, Chaparral Transfer Station & Recycling Center

MAIN HUB: Amador Transfer Station & Las Cruces Recycling Center

- Punch card system sold in increments of \$12 - \$24 - \$48
- March 2023 – I Conducted a solid waste route inspection in the northern region consisted of Rincon, Garfield, Salem & Rodey.
 - Small amount of residence in rural areas are paying for a front loader service provided by private hauler.
 - 2 cubic yard – 4 cubic yard dumpsters and small about of residence have a 95-gallon cart.
- ***FUN FACT:***
- Before Landfills came into existence methods of disposal were to burn or bury trash on their property.
 - Unfortunately, burn barrels or burn pits are still in use today in some of these areas.



Today's perception of Solid Waste Collections

- **Automated Collection – Urban Area**

- One person operation
- On average in an urban setting can service up to 800-900 containers in an 8-hour day
- Proven to be effective model in an urban setting with a minimum of 4000-4500 customer per week Mon-Fri
- On average 8 to 10 tons capacity of solid waste per load – 2 loads per day



Personal Perception

- 1 -Create trash
- 2 -Place trash in container
- 3 -Place container out on curb
- 4 - Abracadabra - Trash is gone!!

Alternative Operational Models for Rural Solid Waste Collections

Rear Loader Recycling/Solid Waste Collection Service

- What is a Rear Loader Collection Truck?
 - Rear loading collection vehicles are trucks designed to load recycling or solid waste at the rear of the unit operating a manual compactor that crushes/pushes waste into to body of the vehicle.
 - Rear loading method is currently utilized in many different markets across the US.

Examples:

- In narrow alleyways or cities that don't have the space for curbside services at the front of the residence; New York, Chicago, Huston, Los Angeles
- Utilized for midsized, bulk waste collection
- City or County special events, community clean up
- In rough terrains



General Operational Cost Difference Between Automated & Rear Load Collection System

Cost Analysis Based On 2000 Customers

Automated Collection Operational Cost

Cost

Truck	= \$ 330,000.00
Driver Salary midrange	= \$ 43,000.00
1 Laborer	= \$ 34,000.00
Fuel per year 250 miles p/d	= \$ 73,000.00
Tires – 2.5 – 3 sets per year	= \$ 8,500.00
Maintenance per year	= \$ 15,000.00
Disposal fees per year	= \$ 8,000.00
96 Gallon Cart – 7 -year cycle	= \$ 61.00

Administration Cost

Director, Program Administrator, Supervisor, Customer Service Rep. Educator	= \$25,000.00
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Estimated Monthly Service Charge = **\$28.50 - \$32.50**

Rear Loading Collection Operational Cost

Cost

Truck	= \$ 290,000.00
Driver Salary midrange	= \$ 43,000.00
2 Laborers	= \$ 68,000.00
Fuel per year 250 miles p/d	= \$ 73,000.00
Tires – 2 sets per year	= \$ 7,500.00
Maintenance per year	= \$ 7,500.00
Disposal fees per year	= \$ 8,000.00

Administration Cost

Director, Program Administrator, Supervisor, Customer Service Rep. Educator	= \$25,000.00
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Estimated Monthly Service Charge = **\$28.50 - \$32.50**

Pros & Cons Between Automated & Rear Loading Operational Models

Automated System Pros

- One person operation less labor costs
- Operator protected from elements
- Can service more containers in an 8-hour day
- Less possibility of injuries
- Mitigates illegal dumping or burning of waste
- Operator stays cleaner throughout the day

Rear Loader System Pros

- More customer interactions to build rapport
- Can create opportunities for education
- Less down time & break downs
- Can service mid-size bulk waste items
- Can be utilized as a back up to grappler
- Less nonacceptable items
- Mitigates Illegal dumping or burning of waste
- Utilize laborers in different areas of operations
- Workers can utilize the buddy system

Automated System Cons

Less customer interaction & education
Mid-size bulk waste not accepted in carts
Higher system sensor failures & break downs
Not typical for service in alleyways
Higher nonacceptable items
If injured operator is alone

Rear Loader System Cons

Higher labor costs
Dog bits, snake bits, insect bits
Operator safety concerns out in the elements
Less services or stops in an 8-hour day
Higher possibility to injuries
Higher Workers Compensation costs



Benefits Of Implementing A Method of Solid Waste Collection Service



- Supports public & private partnerships
- Promotes a basic solid waste utility service to rural residences in our region
- Fosters a healthy and prosperous New Mexico
- Keeps our beautiful desert landscapes free of trash and debris
- Creates job opportunities for members of our community
- Improves the quality of life for residence in rural areas
- Protects the health and safety of our environment



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