

# Disposal Utility Solid Waste Services

Anchorage: Performance. Value. Results.

## Mission

Dispose of municipal solid waste generated within the Municipality in compliance with state and federal regulations.

## Core Services

- Operate the Anchorage Regional Landfill (ARL)
- Operate the solid waste transfer stations and transfer fleet
- Operate the Household Hazardous Waste Program
- Promote community recycling efforts

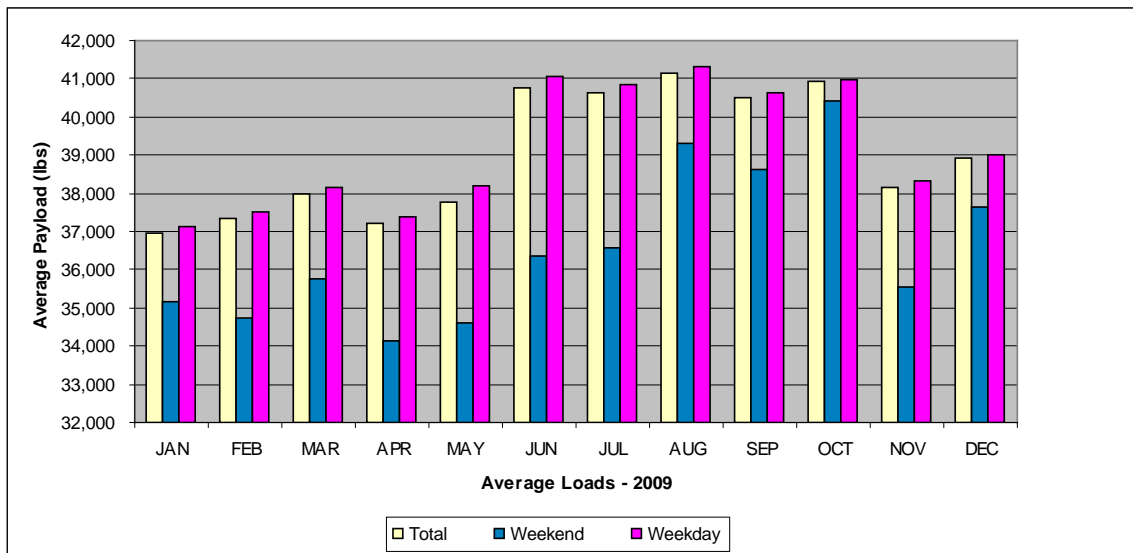
## Accomplishment Goal

Optimize solid waste transfer truck utilization

## Performance Measure

Progress in achieving the goal will be measured by:

### Measure #1: Solid waste transfer truck payload weight



# Refuse Collections Utility Solid Waste Services

*Anchorage: Performance. Value. Results.*

## Mission

Provide solid waste collection and disposal service to rate-paying customers within our defined service area.

## Core Services

- Provide dumpster service to commercial and multifamily residential customers.
- Provide automated garbage and curbside recycle collection and disposal to residential customers.
- Provide manual garbage collection to residential customers not serviced by automated routes

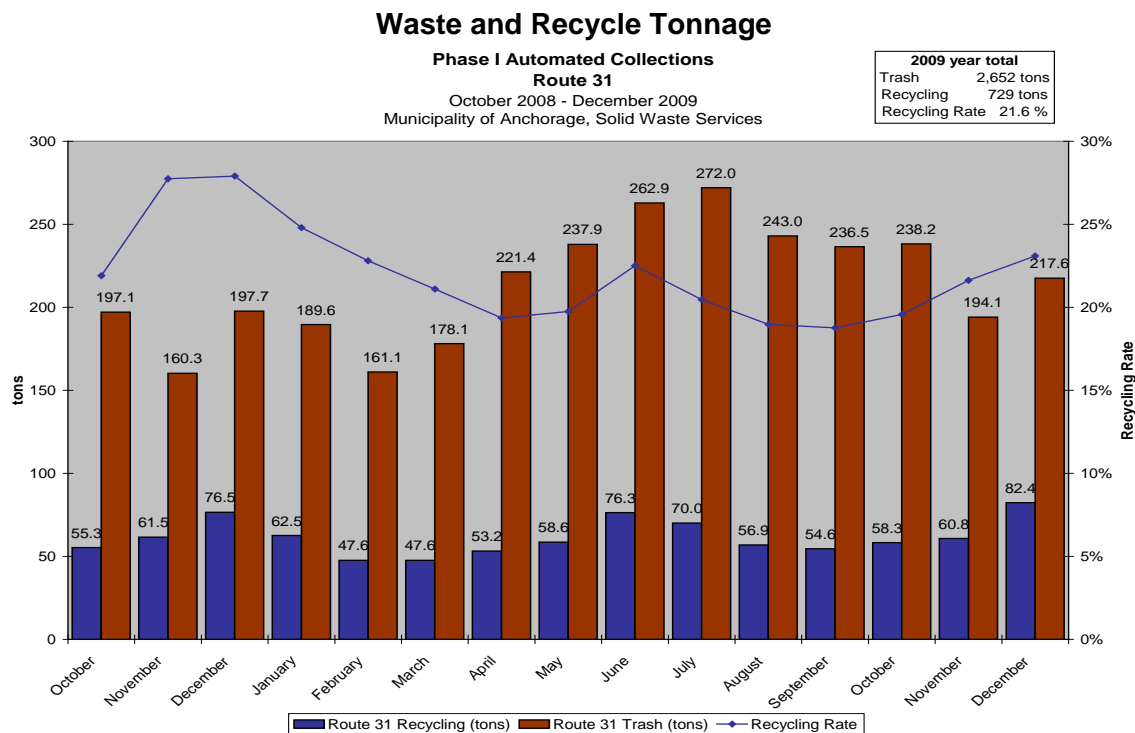
## Accomplishment Goals

- Reduce refuse disposal volumes by promoting waste reduction and increased curbside recycling diversion.
- Reduce injuries associated with residential refuse collection.

## Performance Measures

Progress in achieving these goals will be measured by:

**Measure #2:** Percent change in recyclable material diversion from the residential waste stream.



(Route 31 only is the only route in automated operation for the full year 2009.)

**Measure #3: Percent change in worker injuries**

**2008 Summary of Losses by Work Group**

2008 DART Rate 21.8

	<u>Auto Liability</u>		<u>Workers Compensation</u>					
	<u>Incidents</u>	<u>Losses</u>	<u>TLI Incidents</u>	<u>TLI Losses</u>	<u>MO Incidents</u>	<u>MO Losses</u>	<u>RO Incidents</u>	<u>RO Losses</u>
<b>Collections</b>								
Manual Residential	1	\$4,232	4	\$29,800	1	\$799	4	\$0
Automated Residential	0	\$0	0	\$0	0	\$0	0	\$0
Commercial Vehicle	0	\$0	0	\$0	0	\$0	0	\$0
Maintenance	0	\$0	0	\$0	0	\$0	0	\$0
Other	0	\$0	0	\$0	0	\$0	0	\$0
<b>Total - Group</b>	<b>1</b>	<b>\$4,232</b>	<b>4</b>	<b>\$29,800</b>	<b>1</b>	<b>\$799</b>	<b>4</b>	<b>\$0</b>

**2009 Summary of Losses by Work Group**

2009 DART Rate 43.8

	<u>Auto Liability</u>		<u>Workers Compensation</u>					
	<u>Incidents</u>	<u>Losses</u>	<u>TLI Incidents</u>	<u>TLI Losses</u>	<u>MO Incidents</u>	<u>MO Losses</u>	<u>RO Incidents</u>	<u>RO Losses</u>
<b>Collections</b>								
Manual Residential	0	\$0	2	\$76,898	3	\$4,565	4	\$0
Automated Residential	0	\$0	1	\$1,735	1	\$0	1	\$0
Commercial Vehicle	0	\$0	2	\$45,750	0	\$0	0	\$0
Maintenance	0	\$0	0	\$0	2	\$717	0	\$0
Other	0	\$0	1	\$85,571	0	\$0	1	\$0
<b>Total - Group</b>	<b>0</b>	<b>\$0</b>	<b>6</b>	<b>\$209,954</b>	<b>6</b>	<b>\$5,282</b>	<b>6</b>	<b>\$0</b>

**Notes:**

TLI = Time Loss Injury

MO = Injury requiring medical care but no lost time

RO = Reportable injury involving no medical care or lost time

2009 Collections "Other" TLI was slip/fall on wet break room floor, not attributable to any operational function.

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**Performance Measure Methodology Sheet**  
**Disposal Utility**  
**Solid Waste Services**

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<b>Measure #1: Average transfer payload rate.</b>
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**Type**

Efficiency

**Accomplishment Goal Supported**

Maximization of fleet utilization by ensuring that all transfer loads meet load targets (40,000 lbs in summer; 38,000 lbs in winter) whenever possible and that drivers typically make 5 trips per day to the landfill.

**Definition**

This measure will ensure that utilization of the transfer fleet is optimized. Significant deviation from this measure may be an indication that the fleet is under- or over-staffed.

**Data Collection Method**

All transfer trucks are weighed upon arrival at ARL. Truck number, driver identification, load weight and origin are recorded into our automated scale house database for each truck.

**Frequency**

Measurement is made for every truckload hauled to ARL. A summary report is produced on a weekly basis showing each load, by driver, by day.

**Measured By**

Weights are measured by the commercial scales at ARL which are certified for commerce by the State of Alaska. Truck number and driver identification are entered by the scale house staff, but weights are recorded directly from the scale to the database.

**Reporting**

A weekly report is prepared by the SWS IT group which summarizes the loads by driver, weight and day. Total loads and truck count are recorded in an Excel spread sheet which summarizes the sources of all loads entering the landfill by day, day of week, month and year.

**Used**

Data is used by the Director and Disposal General Foreman to schedule staffing and shifts and make decisions on fleet size and vehicle replacement.

## **Explanatory Information**

Approximately 70 percent of all solid waste processed by the Disposal Utility is received at the Central Transfer Station (CTS) and then transported by our transfer fleet to ARL. Operation of our transfer fleet is one of the more costly operational activities of the utility. Each day, SWS processes approximately 800 tons of garbage through CTS. SWS operates a fleet of transfer trailers, each with a capacity of 120 cubic yards (cy). A trailer can carry a maximum payload of 45,000 pounds. Actual payloads are often less than that, and depend on the amount, type and condition of garbage received. Payloads are also further reduced when load restrictions are in force during spring thaw.

There are no national standards for transfer operations as each transfer station represents a unique combination of transfer equipment, haul distance and local garbage characteristics. SWS has tracked transfer operations since the inception of ARL. Our general goal for weekday operations is 40,000 pounds of payload per trailer in summer and 38,000 pounds in winter. Except under unusual circumstances, a driver can typically complete 5 round trips per shift.

The optimal material for waste transfer operations is municipal solid waste from commercially collected residential and commercial garbage routes. These loads are soft, compressible and generally free of oversized materials. Loads of this material only could exceed the allowable axle load limits before reaching the volume capacity of the trailer. When frozen, the efficiency of packing these materials is reduced as the garbage tends to take on a more rigid structure. Loads tend to fill the trailer volume at between 38,000 pounds and 40,000 pounds in winter.

Loads containing construction and demolition debris, fabrication and warehouse wastes and loads hauled by individual homeowners and businesses tend to contain bulky objects and materials which do not pack well into the transfer trailers. Refuse received on Saturdays generally contains a much higher percentage of these less-optimal wastes due to the large number of residential users. Consequently load efficiencies on these days are significantly decreased and highly variable.

Over the past two years, garbage tonnage has been declining as a result of the downturn in the economy. Tonnages decreased by approximately 6 percent in 2008 and 5 percent in 2009. These declines have been attributed to a general decline in the local economy during this period. As tonnages vary, it is important for us to have adequate truck capacity on a daily basis, but also match our capacity to the tonnage received.

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**Performance Measure Methodology Sheet**  
**Refuse Collections Utility**  
**Solid Waste Services**

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**Measure #2: Improved safety for Refuse Collection Workers**

**Type**

Effectiveness

**Accomplishment Goal Supported**

Reduce injuries for Refuse Collection Workers

**Definition**

SWS will provide fleet improvements and training to all Refuse Collection staff to improve operational safety of this group. We will track costs and lost time associated with worker injuries by comparison to other workers in similar occupational work environments.

**Data Collection Method**

All accident and injury related data is reported to and compiled by the Municipal Risk Manager's office in accordance with Municipal policies and procedures and Occupational Health and Safety Administration (OSHA) requirements.

**Frequency**

Data is collected on a per incident basis.

**Measured By**

Injuries and incidents are measured and reported per OSHA standard reporting requirements.

**Reporting**

The Municipal Risk Management department provides monthly reports which detail losses by month and year-to-date. The SWS Health and Safety Officer will calculate the DART rate on a monthly basis.

**Used**

Data is used by the SWS Health and Safety Officer and Director to identify high risk activities, perform job safety analyses, and develop training and safety system adjustments to focus on reducing incidents.

**Explanatory Information**

From 2002 through 2006, the Refuse Collection Utility incurred approximately \$860,000 in Worker's Compensation medical claims. Other communities who have implemented automated collection have seen injury-related costs drop by more than 95 percent. In 2008 Solid Waste Services (SWS) began implementation of automated refuse collection for residential customers who were previously served by manual can / bag collection routes. SWS elected to implement the automated collection program to reduce work-related injuries, increase productivity and to provide a working platform for other programs such as curbside recycling.

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**Performance Measure Methodology Sheet**  
**Refuse Collections Utility**  
**Solid Waste Services**

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**Measure #3: Increase curbside recycle diversion**

**Type**

Effectiveness

**Accomplishment Goal Supported**

Achieve an overall recycle diversion rate of 20 percent for all residential customers.

**Definition**

Refuse Collections currently diverts between 18 percent and 27 percent of the waste stream from residential customers to recycle markets. We currently service about 60 percent of our customers on automated routes. With the next year, all residential refuse collection routes will be automated. Increasing diversion of recyclables reduces our operating costs.

**Data Collection Method**

All refuse and recycle loads are weighed by commercial scales at the Central Transfer Station. The diversion rate is calculated as the percentage of materials delivered to the recycle center out of all materials collected by the residential collection trucks. Customer participation is currently measured solely by subscription rate. SWS is evaluating means of estimating actual household participation by other measures, such as lift arm cycles on the recycle collection vehicles.

**Frequency**

All vehicles are weighed prior to unloading. Weights are automatically entered into our load management system, with scale house staff entering vehicle numbers on the weight transaction. Lift arms have an on-board cycle counter. Route drivers would record the beginning and ending count on the cycle counter for every shift.

**Measured By**

Weights are measured using the SWS commercial scales. Load counter data are recorded by route drivers on their daily route sheets. Diversion rate is calculated as the ration of tonnage diverted to total tonnage collected.

**Reporting**

Weight and arm cycle data are provided to the SWS Recycling Coordinator who reviews the data and calculates the diversion rates and household participation.

**Used**

Data is used by SWS to budget for disposal and recycle processing costs. Diversion and participation rates can be used to focus educational materials and customer outreach to better promote the program.

## **Explanatory Information**

The automated refuse collection program includes a voluntary curbside recycling program which is provided to the customers at no additional charge. Source reduction and diversion of recyclables extends the life of the landfill. The Collection Utility realizes a savings for each ton of recyclable materials diverted. The cost to dispose of refuse delivered to the Transfer Station is \$63/ton whereas the cost to process recycled materials is currently \$40/ton.

Approximately 13 percent of customers refused to have a recycling roll cart when they selected their automated service level. There are many other customers who have a recycling roll cart but do not use it.