SCS ENGINEERS

Final Report

Autoload Feasibility Analysis and Rate Study

Presented to:

City of Idaho Falls, ID

Public Works Department

308 Constitution Way
Idaho Falls, Idaho 83405
(208) 612-8259

Presented by:

SCS ENGINEERS
2405 140th Avenue
Bellevue, Washington 98005
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November 18, 2014
File No. 09214062.00

Offices Nationwide
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Table of Contents

Section **Page**

List of Exhibits

Appendices

1.0 EXECUTIVE SUMMARY

1.1 OVERVIEW OF THE STUDY

This report details the results of the Autoload Feasibility Analysis and Rate Study (Study), which was conducted by SCS Engineers (SCS) for the City of Idaho Falls, Idaho (City). The purpose of the Study was to evaluate the City's solid waste operations, provide a review of current rates, and make recommendations on possible cost savings and implementation alternatives in the following specific areas:

- Conduct a rate or cost of service study for the Department.
- Study and analyze a conversion to automated solid waste collection for the City's residential customers.
- Develop a cost estimate for this automated program.

1.2 CURRENT SYSTEM

SCS conducted a thorough review of the City's current operation and found that the current services provided by the Sanitation Department (Department) to be of the highest level with regards to types of services offered and volumes collected. The Department's collection operation is also cost-effective when measured against other similar manual, rear-load systems. However, regardless of efficiencies, manual systems have inherent limitations, including a required high level of staffing, lower production rates, and by design, employees are prone to the inherent risks of physical injury, posing worker's compensation liability concerns for the City. The cumulative impacts of lifting waste collection containers throughout an entire worker's career have proven to result in major musculoskeletal injuries and ultimately quality of life.

1.3 RECOMMENDATIONS

1.3.1 Automation

Automated collection has repeatedly been proven to provide a safe, efficient, and lower overall cost of solid waste services. A conversion to an automated collection system can provide the City of Idaho Fall's residents with an enhanced level of service, while also providing an opportunity for cost savings and reduced City liability or risk from unanticipated worker injuries.

A move to residential automated collection would also provide a safe and healthy work environment for the City's employees, and will provide an improved quality of life for the City's residents. The standardized type of residential cart and vehicle used in these systems has proven to be extremely reliable over the long-term. Further, customer satisfaction with automated collection programs in countless municipal and private hauler programs has been exemplary. Additionally, a transition to automated collection could increase the choice of cart sizes available to the City's residential customers and enable the City to transition to a true "pay-as-you-throw"

program; a system which enhances waste reduction and diversion, increases recycling, and reduces disposal costs, further reducing the City's overall carbon footprint.

Although a conversion of this magnitude can result in a significant reduction in staffing, its implementation is recommended to occur over time, and can be optimized through a "phased in" approach. This phased in conversion will reduce headcount through attrition rather than through a reduction in force.

SCS was asked to conduct a financial analysis of the residential solid waste and yard waste system. To conduct this analysis, administrative costs of approximately $1.7 million (FY 2014), those that are considered part of the entire department were allocated to the residential services portion of the system in order to recognize a true cost of operations. The administrative allocations include the current costs experienced by the Department and were allocated by a variety of methods including number of trucks, staffing, and percent of revenue, depending on the cost category. A minimum of 30 percent savings in the Department self-insurance fund is estimated to occur upon full implementation of automation. Similar automated systems have recognized greater than 50 percent in some cases. The Pro-Forma Model for Autoload Feasibility in Appendix A illustrates that with the assumptions in place, the City can reduce overall operating expenses for residential service by approximately 15 percent after three years of full implementation.

The majority of these savings can be seen in the personnel expense category, as the full time employee (FTE) headcount is reduced by approximately eight. There is also a significant reduction in insurance claims costs and operating maintenance costs that can be recognized after three years from full automation.

Due to the difference in the moving parts, hydraulics lines and hydraulic cylinders compared to current hand unload trucks, the City should consider a replacement period of six years compared to the current hand load of seven. Further, the City should consider a spare ratio of 50% due to the downtime of repairs, which is the same as the trucks it currently maintains in the hand unload program.

Implementing an automated collection program should preferably be in a series of steps. Implementation should be done in a phased in approach; adding subdivisions and areas of the City to the program over time. In most cases, implementation begins with a pilot program where a small consolidated sector of the city is converted to the new system. This sector size is based roughly on the collection capacity of one vehicle (900 – 1,200 households per route each day), and is typically an active community with a high level of residents involved in the local community. Homeowner association meetings, mailings, and promotional activities are conducted three to six months in advance in order to brief the residents on the program, and feedback is solicited from the residents during the process in order to help anticipate future questions. Once the pilot community is active with the new system for at least three months, planning can begin on a full scale phased in implementation.

Section 4.4.7 details a recommended implementation plan for the City in terms of manpower allocation, public education, and equipment procurement issues, as well as typical issues faced in these new programs.

1.3.2 Rate Analysis

Exhibit 1 presents projected net revenues/deficits for the Solid Waste Fund for the rate planning period (current fiscal year and 10 following years). The data show that Department net revenues trail off dramatically after FY 2016 due to increasing Departmental costs such as labor, equipment, and supplies. This suggests that the City should consider either raising user fees to meet increased revenue needs or look for ways for operational cost savings through automation while improving customer service.

Exhibit 1. Projected Net Revenues (FY 2014-2024

Fiscal Year	Net Revenues	Fiscal Year	Net Revenues
2014	$204,710	2020	($27,598)
2015	$169,446	2021	($71,426)
2016	$132,851	2022	($116,824)
2017	$94,888	2023	($163,835)
2018	$55,518	2024	($212,503)
2019	$14,703		

1.3.3 User Fees and Charges

Current user fees appear adequate to meet projected operational expenses until 2019. Using the Model, an alternative rate scenario was developed assuming a five percent rate increase in FY2015 for hand-unload and commercial container customers. The Model projects that the City could forestall an additional rate increase until 2023 when net revenues are projected to turn negative in that fiscal year. However, if the City implements an automated collection program the City may reduce its costs of operation substantially, as well minimizing the need for additional customer rate increase for residential collection services to beyond Fiscal Year 2024.

2.0 INTRODUCTION

2.1 PURPOSE OF THE STUDY

The City of Idaho Falls (City) provides residential and commercial solid waste collection within city limits, as well as roll offs and compactor services. Not unlike other communities nationwide, the City is considering whether transitioning to automated collection would provide advantages to its customers, increase levels of service, reduce safety hazards, and minimize costs. The report describes both the advantages and disadvantages of such a transition as well as an estimate of the implementation costs and any cost savings. These are more fully described in Section 3.0.

2.2 SCOPE OF SERVICES

A two-phased scope of services was developed by SCS to accomplish the City's goals and objectives.

2.2.1 Phase I – Automation Study

SCS kicked off the project with an initial face-to-face meeting shortly following the award of this project. Background information, data, and other relevant materials to collection operations were requested prior to the meeting. SCS then conducted a review of requested information and data on the City's solid waste collection system, including analysis of its existing rate structure, policies, procedures, and ordinances.

Many solid waste agencies are transitioning from manual collection of solid waste to semi or fully automation. There are many advantages and disadvantages to automation and each community is somewhat different. To analyze these issues in detail for the City, SCS conducted an automation feasibility analysis which will take into account the following major issues:

- Current and projected City solid waste budget for the next five years.
- City growth and demand projections.
- Existing and proposed sanitation routes.
- The fleet replacement plan.
- The proposed staffing plan for automation.
- Cost of replacement vehicles and carts (along with City financing alternatives)
- Injury and insurance claims.
- Transition plan for automation.
- Citizen public education programs.

These are addressed in more detail in Section 4.4.7.

A Pro Forma Financial Model was then developed to help analyze cost impacts and provide projected cost reductions, if any, resulting from operational and vehicle/equipment changes. Findings and recommendations are summarized for review by the City.

2.2.2 Phase II – Rate Study

Establishing or adjusting future solid waste rates requires that the City project its expected revenues at existing rates and forecast its revenue requirement. Available historical financial and budget data were used to help understand the past operating performance. The current customer census information was utilized to calculate the existing revenue, and compare that projected revenue to the actual revenue recorded in the City's accounting system.

SCS then determined how much of the required revenue should come from each customer sector. A series of sensitivity analyses were then constructed to evaluate the rate impact of various critical parameters such as changes to the consumer price index (CPI) and fuel costs, and alternative levels of services.

2.3 REPORT ORGANIZATION

SCS's findings and recommendations are provided at the conclusion of the respective sections and in the Executive Summary. The sections of this report are listed below:

- Section 1 – Executive Summary.
- Section 2 – Introduction and Project Scope of Services.
- Section 3 – Existing Solid Waste System.
- Section 4 – Solid Waste Collection Automation.
- Section 5 – Rate Study.
- Section 6 – Public Comment
- Section 7 - References
- Appendix

3.0 EXISTING SOLID WASTE SYSTEM

3.1 COLLECTION

The City's Sanitation Department (Department) provides residential and commercial solid waste collection services within the incorporated areas of the City (Exhibit 2). The Department has the following holiday schedule:

- New Year's Day.
- Memorial Day.
- Independence Day.
- Thanksgiving Day.
- Christmas Day.

Collection is typically one day late for the rest of the week following a holiday.

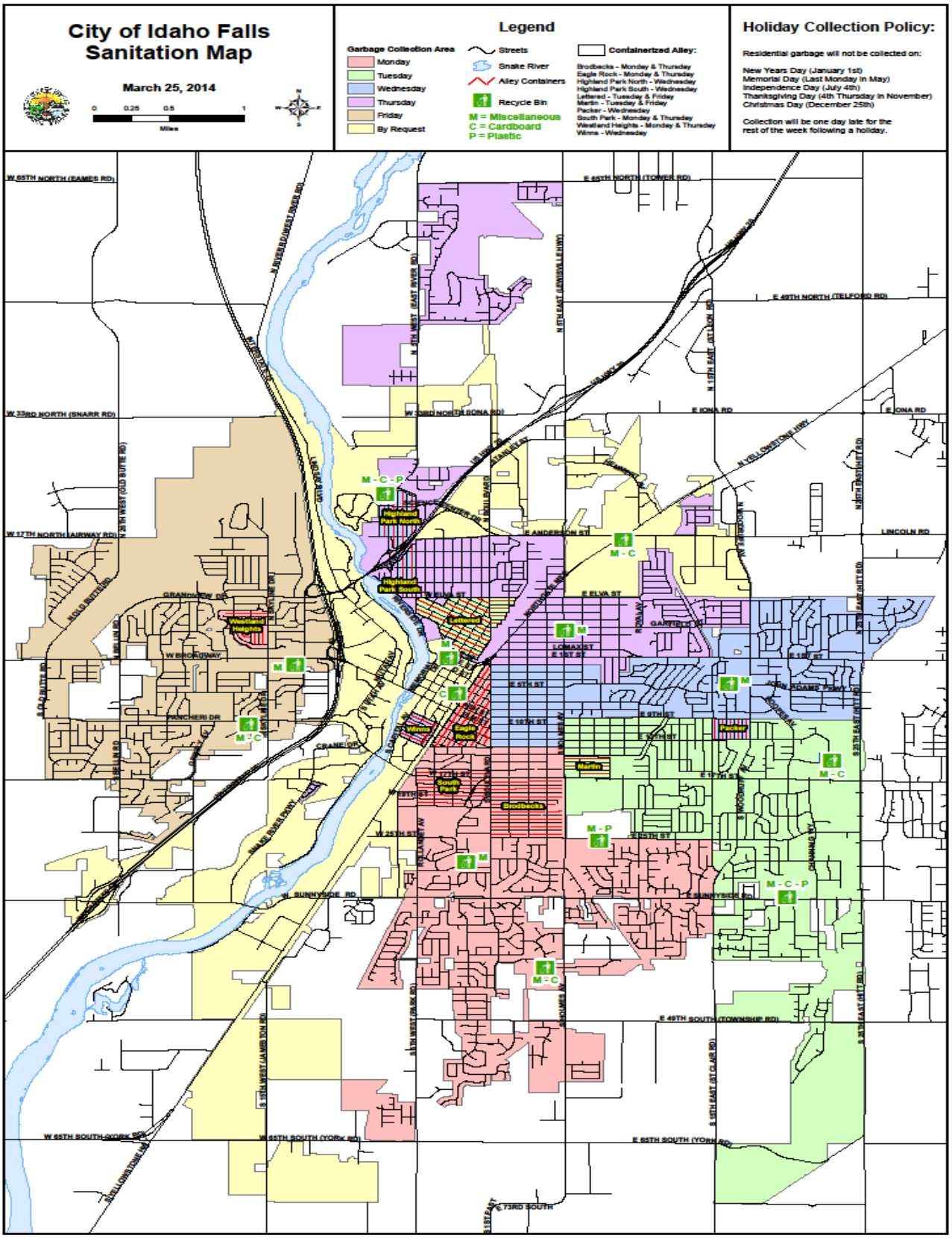

Exhibit 2. Sanitation Map, City of Idaho Falls

Source: City of Idaho Falls, 2014

3.2 RESIDENTIAL COLLECTION

As shown in Exhibits 2 and 3, Department crews offer service five days a week (Monday-Friday) in different sectors of the City using traditional curbside "hand unload" service (roughly 20,945 customers. The curbside pickup counts reflect hand-unload service; others customers are those with container and autoload service in alleys.

Exhibit 3. Department Customer Counts

Days	Number of Customers	Days	Number of Customers
Monday		**Thursday**	
Curbside (Hand Unload)	3,435	Curbside (Hand Unload)	2,472
Non-Containerized Alley (Auto Load)	178	Non-Containerized Alley (Auto Load)	761
Alleys (Containerized):		Alleys (Containerized):	
Broadbecks	557	Broadbecks	557
Eagle Rock	475	Eagle Rock	475
South Park	317	South Park	317
Westland Heights	174	Westland Heights	174
	5,136		4,756
Tuesday		**Friday**	
Curbside (Hand Unload)	2,315	Curbside (Hand Unload)	3,078
Non-Containerized Alley (Auto Load)	1,050	Non-Containerized Alley (Auto Load)	831
Alleys (Containerized):		Alleys:	
Lettered	736	Lettered	736
Martin	93	Martin	93
	4,194		4,738
Wednesday		**Grand Total**	23,287
Curbside (Hand Unload)	3,010		
Non-Containerized Alley (Auto Load)	1,023		
Alleys (Containerized):			
Highland Park North	123		
Highland Park South	89		
Packer	110		
Winns	108		
	4,463		

Source: Idaho Falls Sanitation Department, 2014

3.2.1 Hand Unload Collection

Residential collection is performed once per week utilizing modern, rear-end load compaction vehicles and crews composed typically of a single driver and collector ("bucker"). During peak seasonal waste collection seasons, these teams are supplemented by temporary collectors. The Department's daily objective is to collect everything placed by the public on the public curbs or alleys in order to keep the City clean. This mission becomes extremely problematic or difficult at times due to the areas' high winds and impacts from scavenging pets and birds, and overall litter on the streets and alleys.

A few photographs taken during our site visit in April highlight this issue. As illustrated in Exhibit 4, many residential homes with larger families place an enormous volume of containerized municipal solid waste (MSW), along with significant volume of bagged and un-

bagged trash curbside or in the alleys. As we observed, the crews do an excellent job in cleaning up the roadways with the litter, but the problem is nearly overwhelming (Exhibit 5).

Exhibit 4. Residential Hand Unload With Heavy Volumes of MSW

Exhibit 5. Residential Curbside Littering

3.2.2 Alley Collection

As noted above, the City provides rear-alley collection to roughly 8,980 residential customers (Exhibit 6). Alley collection oftentimes poses a variety of problems for solid waste operations due to the inherent nature of typical City right-of-way conditions. Alley maintenance, utility easements, and homeowner infringement into alleys all impact collection operations. All of

these conditions makes alley collection more time consuming as compared to curbside collection.

Exhibit 6. City Collector Hand Unloading in Alley

3.2.3 Commercial Waste Collection

MSW in commercial containers are collected using side-loader vehicles. Containers range in volume from 1.5 to 4 cubic yards, with collection frequency from one to six times per week, depending on the needs of the customer.

3.2.4 Recyclables Collection

As shown in Exhibit 2, the Department also maintains recycle bins around the City for the deposit of sorted newspaper, office paper, magazines, and phone books; plastic, food and drink containers marked with number 1 thru 7; aluminum cans; and tin cans. Curbside collection of residential and commercial recyclables is currently only offered by private sector recyclers in the area (Exhibit 7). Residents, who chose to recycle, pay a monthly charge to the private company for this service.

Exhibit 7. Recycling Carts Curbside

3.2.5 City Population and Accounts

Based on data from the U.S. Census, the current City's population is estimated to be 60,829. Historically, the City has grown at a 1.3 percent annual growth rate over the last two decades. Exhibit 8 shows the projected number of residential utility accounts under the assumption of a 1.3 and 3.0 percent annual growth rate. In addition to the total number of residential accounts (about 23,287 in 2014; 14,310 hand unloads; and 8,980 residential containers). The Department also currently services about 1,800 commercial accounts.

Exhibit 8. Population and Projected Growth, City of Idaho Falls

Fiscal Year	Population	Projected Residential Accounts	
		1.30%	3.0%
2014*	60,829	23,287	23,287
2015	62,654	23,590	23,986
2016	64,533	23,896	24,705
2017	66,469	24,207	25,446
2018	68,463	24,522	26,210
2019	70,517	24,841	26,996
2020	72,633	25,163	27,806

*Actual
Source: City of Idaho Falls, 2014.

3.3 TRANSFER STATION

Since 1993, the Department has delivered its MSW to the Environmental Excellence Transfer Station (Station), which is operated by Bonneville County (County). The Station is located on approximately 10 acres of industrially-zoned land in the northern part of Idaho Falls (Exhibit 9). The Station is in close proximity to the Department's yard with access from State highways.

A front-end loader is used to tamp and compact the MSW before it is deposited into large, "walking floor", transfer trailers, which are transported by County crews to the County's Landfill. Exhibit 10 lists the quantities of MSW delivered by the Department to the Station.

Exhibit 9. Environmental Excellence Transfer Station

Exhibit 10. MSW Disposal, City of Idaho Falls, 2010-2014

Year	MSW (Annual Tons)
2010	41,852
2011	44,444
2012	44,563
2013	44,090
2014*	6,525

Source: City of Idaho Falls, 2014

*Partial year (January – February)

3.4 DISPOSAL

The Bonneville County Landfill (Landfill) currently serves as the sole landfill for the County accepting MSW for disposal. All of MSW received is transported from the Station. The Landfill is open to the general public by appointment only (Exhibit 11).

The Landfill is usually staffed with two operators. One operator utilizes a Cat 826H landfill compactor for compacting the waste at the site each day that the site receives waste. The

compactor operator inspects each load as it is unloaded by the transfer trailer. The operator is trained to identify hazardous and other unacceptable waste types. The other operator utilizes a scraper and a Cat 973 loader to place daily and intermediate soil cover. The daily and intermediate cover is excavated with a scraper and transported to the work area for use. Cover is then placed with the loader. Daily cover is placed to a depth of six inches and intermediate cover to a depth of 12 inches. The Landfill has been designed in 10 to 20 acre cells that will last, on the average, approximately 10 to 15 years depending upon the stage of the fill. There are no indications from the County that a change in service is anticipated in the foreseeable future.

The County diverts construction and demolition debris (C&D) to the Hatch Pit which includes the following materials: wood products, branches, lumber, road spoils, bricks, concrete, tree stumps, packing material, soil, rocks, bulky metal items, yard debris, weeds, gravel and asphalt.

Exhibit 11. Peterson Hill Landfill

3.5 SYSTEM OPERATIONS

3.5.1 Staffing

The Department includes 29 full-time equivalent (FTE) employees (Exhibit 12). The staffing includes the following classifications: Superintendent, Secretary, Foreman, Lead Man, Drivers, Bucker, and Welder.

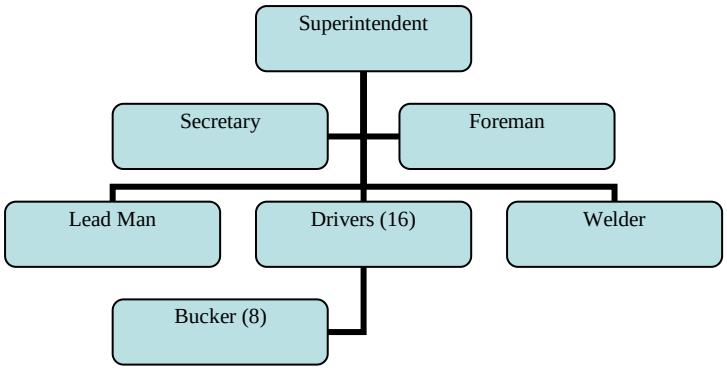

Exhibit 12. Department Organizational Chart

3.5.2 Equipment

A sound capital equipment replacement and maintenance program is essential to the reliability and cost-effectiveness of a solid waste collection program. Further, equipment that is well-maintained and constantly reliable contributes to enhanced employee morale, and a high level of customer satisfaction. At the outset of this assignment, SCS interviewed key members of the City's Fleet Management Department to gather information and data relative to the City's solid waste collection fleet.

Exhibit 13 shows the current major fleet inventory of the Department for the different facets of residential and commercial collection. In addition, the Department currently owns 164, 30-cubic yard roll-off containers, and nearly 1,500 1.5, 3, and 4 cubic yard containers used at businesses, City offices, and schools through the City.

New vehicles are purchased in a variety of ways. The City utilizes the State Bid List and other jurisdictional bid awards via "piggyback", and will directly solicit bids depending on pricing, equipment types desired, and the time frame necessary to replace the equipment.

The City has historically funded vehicle replacement through a Municipal Equipment Replacement Fund (MERF) whereby the cost of the replacement vehicle is already been set aside years in advance through monthly charges to the individual City department. As shown in Exhibit 13, an estimated monthly MERF for replacement and maintenance is calculated and assessed to the Department's budget. For example, should this Autoload study provide feasible, a MERF cost would be assessed to the Department for the automated collection vehicles and rolling carts based on anticipated initial purchase and maintenance costs and overall life expectancy.

Exhibit 13. Solid Waste Department Fleet Inventory

Equipment Number	Area	Description	Year	Manaufacturer	Model	Purchase Cost	MERF Charge		Life Expectancy
							Replacement	Maintenance	
7001	Administrative	Pickup 1/2 ton	2001	Ford	F250 Super Duty	$20,596	175	350	12
7019	Administrative	Pickup 1/2 ton	2011	Chevy	Silverado	$23,005	250	225	12
7040	Administrative	Pickup 3/4 ton	2008	GMC	Sierra	$21,185	300	350	8
778	Administrative	Pickup 3/4 ton Flatbed	2001	Ford	F250	$19,798	200	250	5
7008	Administrative	Loader Front End Telescopic	2006	Gehl	CT7-23T	$74,859	500	375	15
7043	Administrative	Truck, Havy With Knuckleboom	2010	Freighliner	MS-106	$120,890	700	375	10
7015	Commercial	Container Truck	2008	GM	TTBF064/TB500	$160,392	2,700	2,500	6
7017	Commercial	Container Side Loader	2009	American LaFrance	Condor	$162,304	2,700	2,500	6
7021	Commercial	Container Truck	2014	Freighliner	M2-106	$153,519	2,000	2,500	7
7023*	Commercial	Container Truck	2013	Freighliner	M2-106	$153,519	2,000	2,500	7
7025	Commercial	Container Truck	2013	Freighliner	M2-106	$153,519	2,000	2,500	7
7041	Commercial	Container Truck	2012	Freighliner	M2-106	$145,027	2,100	2,800	7
7045	Commercial	Container Truck	2012	Freighliner	M2-106	$145,027	2,100	2,800	7
791		Chipper	2000	Morbark	2400	$30,800	150	25	20
7016	Hand Unload	Truck, Rear-Loader	2010	Freighliner	M2-106	$131,818	1,800	1,500	7
7018*	Hand Unload	Truck, Rear-Loader	2010	Freighliner	M2-106	$131,818	1,800	1,500	7
7020	Hand Unload	Truck, Rear-Loader	2013	Western Star	470058	$145,419	1,900	1,600	8
7022	Hand Unload	Truck, Rear-Loader	2013	Western Star	470058	$145,419	1,900	1,600	8
7036	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$130,237	1,500	1,400	6
7038	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$130,237	1,500	1,400	6
7042	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$141,490	1,900	1,600	7
7044	Hand Unload	Truck, Rear-Loader	2009	GMC	T8500/TTBF064	$141,490	1,900	1,600	7
7006	Commercial	Truck, Tilt Frame	2006	Freighliner	LTBF064	$113,032	1,000	2,000	12
7014	Commercial	Truck, Tilt Frame	2011	Freighliner	M2-106	$116,245	1,500	1,500	11
7037	Commercial	Truck, Tilt Frame	2009	Sterling	LT8500	$109,181	1,000	1,000	11
7039	Commercial	Truck, Tilt Frame	2009	Sterling	LT8500	$109,181	1,000	1,000	11
TOTALS						$2,930,006	$36,575	$37,750	

Source: City of Idaho Falls, 2014.

*Split between hand unload and commercial cost center

3.5.3 Health and Safety

Exhibits 14 and 15 detail the number and costs of injuries by operational area for solid waste collection within the Department for the past four years (2009-2013). This includes payments for medical, indemnity, rehabilitation, and loss of the injured worker off the job (time loss payments). In total, workers in the Sanitation Department incurred a total of $576,704 over this time period.

As shown, the most significant worker's compensation claims deal with shoulder, slip and falls off the collection vehicles, knee/ankle, and back/neck injuries. There were a substantial number of lacerations and puncture wounds due to sharp objects dropping out of the collection container before being deposited into the collection vehicle. A review of the claim history indicated many slip and fall injuries by Department employees due to icy conditions in the City's alleys during the winter months.

Exhibit 14. Sanitation Department Worker's Compensation Claims Costs

Year	Number	Total Amount ($)
2009	15	55,996
2010	13	112,077
2011	11	92,581
2012	12	206,530
2013	11	104,717
Totals	**62**	**571,901**
Time Loss Payments	**1,533 Days**	**161,071**
Total Costs		**576,704**

Source: City of Idaho Falls, 2014

Exhibit 15. Types of Worker's Compensation Claims, Sanitation Department, 2009-2013

Type of Injury	Number	Total Expense ($)
Shoulder	5	189,271
Fall or Thrown from Vehicle	10	157,546
Knee/Ankle/Leg	2	30,348
Back/Neck	9	24,437
Fracture	1	9,255
Head	1	2,200
Laceration or Stab	6	2,029
Eyes	3	279
Miscellaneous	1	268

Source: City of Idaho Falls, 2014

3.5.4 Municipal Code

Title 8, Chapter 6 of the City's Municipal Code is reserved for Sanitation Service. Not unlike other similarly-sized communities providing solid waste collection service, the Code briefly defines the types of containers, which can be used for residential and commercial collection, prohibitions on wind-blown debris due to insufficient closure, and maximum weight when full. The Code is extremely liberal in the amount of MSW that can be placed by each customer

curbside (10 cubic yards volume), which results in large quantities of noncontainerized materials being placed curbside.

3.6 FINANCIAL OVERVIEW

A brief review of the City's financial system in relation to solid waste management is provided below.

3.6.1 Cost Centers

The Department has six cost centers for the solid waste program (Sanitation Fund):

- Sanitation Administration.
- Construction and Maintenance.
- Collection System Containers.
- Collection System Hand Unloads.
- Tilt Frame Containers.
- Disposal.

3.6.2 Fiscal Year

The City's fiscal year (FY) runs from October 1 to September 31.

3.6.3 User Fees

Exhibit 16 lists the current rate structure.

3.6.4 Free Disposal

The Department provides free MSW disposal for City agencies (Airport, Animal Shelter, Cemeteries, Golf Courses, Parks, General Services, Electric Plant, Fire Stations, Public Works, Wastewater Treatment Plant, and Water Department. These are commercial dumpsters and range in size from 1.5 to 3 cubic yards.

Exhibit 16. Current Department Customer Fees and Charges

Residential Service

Pickups per week	Monthly Charge
1	$ 9.00 Per Residence

Commercial Service

Hand-load Containers

Pickups per week	Monthly Charge
1	$ 9.00
2	$ 18.00
3	$ 27.00
4	$ 36.00
5	$ 45.00
6	$ 54.00

Small Containers

Pickups per week – 1-1/2 C. Y.	Monthly Charge
1	$ 38.80
2	$ 48.40
3	$ 58.00
4	$ 67.60
5	$ 77.20
6	$ 86.80
7	$ 96.40
Pickups per week – 3 C. Y.	
1	$ 47.30
2	$ 60.50
3	$ 73.70
4	$ 86.90
5	$ 100.10
6	$ 113.30
7	$ 126.40
Pickups per week – 4 C. Y.	
1	$ 53.40
2	$ 70.20
3	$ 87.00
4	$ 103.80
5	$ 120.60
6	$ 137.40
7	$ 154.20

Large Containers

	Uncompacted 30 C. Y.	Compacted 30 C. Y.
Pickups per month	Monthly Charge	Monthly Charge
1	$ 169.00	$ 123.00
2	$ 304.00	$ 247.00
3	$ 438.00	$ 371.00
4	$ 572.00	$ 494.00
5	$ 707.00	$ 618.00
6	$ 841.00	$ 742.00
7	$ 976.00	$ 865.00
8	$1,110.00	$ 989.00
9	$1,244.00	$1,112.00
10	$1,379.00	$1,236.00
11	$1,513.00	$1,360.00
12	$1,648.00	$1,483.00
13	$1,782.00	$1,607.00
14	$1,916.00	$1,730.00
15	$2,051.00	$1,854.00
16	$2,185.00	$1,978.00
17	$2,320.00	$2,101.00
18	$2,454.00	$2,225.00
19	$2,588.00	$2,348.00
20	$2,723.00	$2,472.00
21	$2,857.00	$2,596.00
22	$2,992.00	$2,719.00
23	$3,126.00	$2,843.00
24	$3,260.00	$2,966.00

Source: City of Idaho Falls, City Code, 2014.

3.6.5 Operating Costs and Revenues

Exhibit 17 lists the annual operating revenues and costs and net revenues for Fiscal Years 2009-2013.

Exhibit 17. Annual Operating Costs and Revenues, Solid Waste Fund

Fund Division	Actuals				
	2009	2010	2011	2012	2013
Operating Revenues	3,892,477	3,773,385	3,830,934	3,796,757	3,901,954
Operating Expenses					
Administration	1,428,819	1,357,352	1,413,598	1,544,803	1,584,604
Construction	122,056	247,655	156,273	133,168	145,927
Containers	960,275	758,341	686,672	876,238	1,041,796
Hand Unloads	1,138,513	1,160,010	978,052	1,128,117	883,392
Tilt Frame Containers	260,468	301,850	237,464	229,747	220,997
Disposal	194,098	187,870	188,036	187,969	195,775
Subtotal	4,104,229	4,013,078	3,660,095	4,100,042	4,072,491
Net Revenues/(Losses)	**$471,682**	**$333,867**	**$171,009**	**$185,379**	**$185,973**

Source: City of Idaho Falls, 2014

3.6.6 Fund Balance

As of the end of the last Fiscal Year (2012/13), the Solid Waste Fund had a net position of $4,282,679. This included the following major accounts:

- Cash - $2,205,497
- Net Capital Assets - $1,962,330
- Other Assets - $114,852

4.0 SOLID WASTE COLLECTION AUTOMATION

4.1 MOVE TO AUTOMATED COLLECTION IN THE UNITED STATES

Automated side-loader trucks were first implemented in the City of Phoenix in the 1970s with the aim of ending the back-breaking nature of residential, solid waste collection, and to minimize worker injuries. Since then thousands of public agencies and private haulers have moved from the once, traditional rear-loader method of waste collection to one that also provides the customer with a variety of choices in standardized, rollout carts. These have enabled communities throughout the country and in Idaho to significantly reduce worker compensation claims and minimize insurance expenses, while at the same time offering opportunities to workers who are not selected for their work assignment based solely on physical skills. A brief review of the history of the development of automated waste collection technology is provided at the outset of our discussion to enable the reader to understand why automation maybe feasible for the City to enable it to achieve its long-term waste collection objectives.

4.1.1 Early History of Automated Collection

The evolution of solid waste collection vehicles has been historically driven by an overwhelming desire by solid waste professionals to collect more waste for less money, as well as lessening the physical demands on sanitation workers. Residential waste collection over the past century has evolved from the horse-drawn and human powered carts to motor-operated vehicles specifically designed for solid waste collection. These included the first collection vehicles in the 1940s and 1950s, which incorporated the cab over engine chassis design and improved winch and compaction technologies, to address the need for a shorter turning radius vehicle and for improved waste capacity on each truck that was needed for more efficient residential collection.

It was not until the early 1960s, however, that solid waste collection took a monumental leap in technology to improve overall efficiency. During this era, public works departments in communities in mostly western states, which were experiencing rapid customer growth in suburbia in the post-World War II period, were exploring the concept of improving their labor productivity with their oftentimes limited resources. It is important to point out that these cities and agencies were less constrained by formal labor agreements, which were more typical of their larger sister, communities in the east and Midwest. Consequently, they began to explore ways of moving in the direction of improved vehicle automation as a substitute for labor to lift, tip, and empty garbage containers that were placed curbside.

About this same time, the Federal government also began to study ways of improving solid waste management in the United States. Between 1965 and 1975, the U.S. Public Health Service (the predecessor agency of the U.S. Environmental Protection Agency) provided support for consultant and research studies to develop improved solid waste collection equipment with the aim of eliminating the need for multiple collection workers on each truck to manually lift and empty containers. Major truck manufacturers such as Lodal and Maxxon worked with various cities in the west (Santa Clara, California, Scottsdale and Phoenix, Arizona) to pioneer the development of a drop-frame truck chassis, stand-up driver stations, the use of both right and left

hand steering wheels, and the standardization of refuse containers. These early equipment designs were identified with imaginative names such as "Godzilla" (Exhibit 18) and the "Son of Godzilla" (Exhibit 19).

4.1.2 Godzilla and the Son of Godzilla

First put into service by the City of Scottsdale in 1969, Godzilla was the world's first application of using a standard container and hydraulic arm to reach out, grasp, raise, tip, empty, and return the container to the curb. City mechanics transformed the original 1964 International Harvester designed vehicle, which had a Lodal Load-a-Matic body, to empty 80 and 300 gallon trash barrels using a mechanical arm without the driver leaving the cab.

As shown in Figure 16, the "arm" was designed to slide laterally about six feet to engage the can, allowing a hydraulic claw to grasp it. Then with can held in place, the arm was then retracted to its initial starting point that was aligned with the front of the truck. At this point, the Lodal lifting equipment hoisted and dumped the can similar to the commercial front loading equipment at the time. Total dump time for this design was approximately 30 seconds.

After an evaluation period of six months, Godzilla was deemed by the City to have proven quite effective with 300 gallon bins collected from alleys, but was inefficient when servicing 80 gallon cans from residences due to obstructions such as parked cars. Given that Godzilla was a one-of-a-kind experiment, there was no manual and no service department to call if trouble arose. A common problem on these early side-loaders were issues dealing with the hydraulic hoses which commonly ruptured while the lift arms were raised and passed by the doors of the truck cab during their normal motion.

Exhibit 18. "Godzilla" Collection Truck Used by the City of Scottsdale, Arizona

Later in 1971, the City took delivery of a new, more efficient machine aptly named "The Son of Godzilla" (Exhibit 19), which included a telescopic lifting arm ("Barrel Snatcher") mounted to

the front of the vehicle to overcome some of the problems encountered around obstacles during street collection. The original design had control and breakage problems and the arm was eventually discarded by the City in favor of a side mounted version of the telescopic Barrel Snatcher arm. With this modification, the efficiency in collecting 80 gallon cans from the curb had finally been achieved. City mechanics also adapted a helicopter style "joystick" control to operate the arm, which greatly simplified the operators job and ultimately became an industry standard.

Exhibit 19. "Son of Godzilla" Collection Truck Developed by City of Scottsdale, AZ in 1972

4.1.3 Modern Application of Automation

For this type of collection system, residents are provided a standardized container into which they place their waste (Exhibit 20). Residents must place their cart at the curb on collection day. During collection, the driver positions the collection vehicle beside the cart. Using controls inside the cab of the vehicle, the driver maneuvers a side-mounted arm to pick up the container and dump its contents into the hopper of the vehicle. The driver then uses the arm to place the container back onto the curb. Under this type of collection system, the driver is able to service the entire route; the need for additional manual labor is eliminated. The savings in personnel and worker's compensation costs, as well as the increase in crew productivity for automated collected, are well documented throughout the solid waste industry.

Currently, the Waste Equipment Technology Association (WASTEC) estimates that there are roughly about 120,000 solid waste vehicles on the road in the United States with about half of all new waste collection vehicles purchased in 2013 (the most recent statistics available) were automated. There is a real sense in the solid waste industry today that automated trucks are significantly increasing their share of the new sales in recent years. SCS is of the opinion that this trend is rapidly increasing as many agencies and private haulers attempt to minimize their increasing insurance costs and more effectively control their cost of labor, while at the same time provide increased customer service levels and opportunities for an aging work force.

Exhibit 20. Modern Application of Automated Side-Loaders By the City of Scottsdale, Arizona

4.2 ADVANTAGES OF AUTOMATION

Some of the general advantages of automated collection often touted by its proponents include the following:

For Residents

- Convenient and easy method for residents to dispose of trash.
- Wheeled containers are easier, more maneuverable, and safer for residents because there is no carrying or lifting of heavy trash cans.
- The capacity of most cans provided in these programs are equal to three or four regular trash cans.
- The containers keep rodents and pets out of trash given the tight lids.
- Cleaner, healthier neighborhoods with no litter on streets after pickup.

For the City

- Improved collection efficiency.
- Reduced employee injuries.
- Lower turnover rate and increased productivity due to less time missed by injured employees.
- Reduced Worker's Compensation claims and insurance premiums.
- Reduced rodent problems.

The following paragraphs briefly discuss these general advantages to automated collection.

4.2.1 Improving Safety and Reducing Work Injuries

Solid waste collection workers are exposed to health and environmental safety risks due to exposure to volatile compounds and potentially hazardous or even infectious materials resulting in musculoskeletal, dermal, respiratory, and gastrointestinal problems. Typical rear-loader operations require manually lifting materials into the collection vehicles. Statistics from such programs suggest that collection crews lift on average, over six tons (13,000 lbs.) per worker per day. In general, this heavy, repetitive, manual lifting combined with an aging workforce tends to generate an increasing number of injured staff.

A fully automated collection program enhances worker safety and comfort, minimizes manual lifting and exposure to possible hazards in the waste such as sharp objects. Fully automated collection eliminates heavy lifting, walking between setouts and frequent steps on and off the truck. The mechanical arms on modern, fully automated trucks are typically operated by the driver using a joystick control. Rather than slogging through rain and high temperature environments, operators of automated refuse collection systems spend their shifts in climate controlled comfort. The reduced physical requirement increases the diversity and longevity of the workforce that is able to collect waste. Automated collection has proven to significantly reduce collection worker injuries resulting in reduced workers compensation costs, decreasing disability claims, decreasing the number and cost of light duty assignments, and reducing salary fringe benefit costs in the future.

4.2.2 Enabling Variable Rate Structures

Under the traditional manual collection system, customers in most communities are typically allocated a basic service level of two cans for garbage collected twice weekly. Those homeowners that are ardent recyclers and who reduce waste and regularly set out less than two full cans of garbage oftentimes do not see any savings as they pay the same as those residents that use two full cans.

Most communities have found that implementation of automated collection allows them to provide their customers with varied container sizes and thereby moving closer to a true user pay for garbage disposal system where residents pay only for the service they need. Tailoring the size of the cart to the amount of garbage produced and charging a higher cost for larger garbage cart sizes encourages residents to recycle and reduce the amount of waste disposed in landfills.

4.2.3 Environmental and Aesthetic Benefits

The use of standardized containers for automated collection has proven to result in a number of clear environmental benefits. The rolling carts are more resistant to animals, which reduces unsightly blowing litter and strewn garbage, and replaces unsightly set-outs with a single uniform container over an entire community. The carts also are designed with closed lids which also help to reduce odors and keep water out of setouts, reducing leakage from trucks and water weight at landfills.

4.2.4 Enhanced Level of Service

Automated solid waste collection is considered a higher level of service (versus manual collection) for residents. For most residents, wheeled carts are easier to move and set out than cans and bags that must be lifted. The new wheeled containers are extremely durable, often lasting ten years or more, and are convenient to use as residents no longer need to buy replacement garbage cans or plastic yard trimmings bags. In most cases, carts are owned and maintained by the jurisdiction or servicing hauler.

4.3 DISADVANTAGES OF AUTOMATED COLLECTION PROGRAMS

The primary disadvantage of automated collection is the initial costs of purchasing specialized vehicles and providing carts to homeowners. On average, the capital cost of an automated side-loader is 20 percent more than that of a manual rear loader. Additionally, the useful life of an automated vehicle is often less than a rear loader. Cart costs generally average between $35 and $50 each depending on container size. Additional general disadvantages include the following:

- Automated vehicles require more maintenance than traditional rear end load vehicles and require specialized training of technicians.
- Homeowners must be educated on where to place bins and what kinds of trash can be collected. Bulky items that do not fit in the cart usually require a separate collection. Overloaded containers, or waste left on the ground can impact the productivity of collection.
- Automated collection also does not work in densely populated areas with on-street parking on collection days. However, on-street parking does not prevent a cart based approach to collection. A hybrid system can be employed in these cases where carts are collected in a semi-automated fashion and many cart system benefits can still be enjoyed.
- Adjustments typically need to be made to alley collection in areas with limited side-loader clearance. Some communities have required these areas to migrate to street side collection or implemented semi-automation (use of flippers) .

4.4 ANALYSIS OF IMPLEMENTING AUTOMATED COLLECTION IN IDAHO FALLS

While the capital costs are generally higher, the increased productivity and the costs savings in most communities from reduced personnel by implementing an automated collection program will usually offset the differences in capital costs between rear and automated programs over time. There are also savings produced from labor-related costs such as lower worker's compensation costs, lower health insurance rates, and less turnover. Other ancillary benefits that are oftentimes difficult to quantify include reduced wear and tear on streets and reduced air emissions due to the reduced truck operation times.

4.4.1 Review of Current Rear-Loader Collection Program

4.4.1.1 Field Observations

As outlined above, one of the significant benefits of a conversion to a fully automated collection system is the reduction in worker injuries and overall improvement in safety. Rear load manual collection service comes with inherent safety issues and concerns. SCS conducted field observations of City collection operations. The team reviewed a number of different residential rear load collection routes and recognized that City operations were not atypical of most rear load systems.

- The labor intensive nature of manual collection in any operation leads to worker injury from improper lifting.

- Worker exposure to unacceptable materials was observed during these route observations. Workers recognized the unacceptable materials and did not collect them, leaving them behind for management by the resident. Although automated collection does not eliminate residents from placing unacceptable materials curbside for collection, it does reduce worker exposure to the hazards of these materials, such as needle sticks or chemical exposures.

- Set-out volumes were observed to be excessive for a rear load manual system. Rear end load workers collected materials in varying types of containers. In many cases, waste was contained in plastic or metal garbage cans of varying sizes including oversized containers. In other cases, waste was collected in bags, or even picked up loose from the ground. This type of hand collection can further increase worker exposure to hazards, but also makes it difficult to control the amount of waste a resident is allowed to place out for pickup. Automated collection with containers controls volume limits on set-outs and provides a fair and equitable measurement tool among residents that could potentially evolve into a pay-as-you-throw system.

4.4.2 Importance of Safety to the Automation Equation

4.4.2.1 National Statistics

For the estimated 130,000 men and women involved in the U.S. solid waste collection industry, refuse collection is a sometimes thankless job that affords outdoor work, physical activity, a certain measure of independence, and satisfaction of knowing that it is something that is important. It is also a job that has hazards literally around almost every corner.

Solid waste collection is often viewed as one of the most dangerous jobs due to the number of fatal and non-fatal occupational accidents (Exhibit 21). In 2012, the U.S. Bureau of Labor Statistics (BLS) reported that solid waste collectors in the United States experienced 27.1 fatalities per 100,000 workers, and that solid waste collecting was the sixth riskiest occupation in the United States. This was statistically almost 10 times higher than the overall national average for all U.S. workers and four times higher than construction-related fatalities. Stated differently, the BLS estimates that there would be 20 fatal injuries per 1,000 solid waste collectors over a 45-year working lifetime.

Exhibit 21. America's Most Dangerous Professions, 2012

Ranking	Profession	Deaths Per 100,000 Workers
1	Loggers	127.8
2	Fisherman	117.0
3	Aircraft Pilots	53.4
4	Roofers	40.5
5	Steel/Iron Workers	37.0
6	**Solid Waste Collectors**	**27.1**
7	Electrical Workers	23.0
8	Truckers	22.1
9	Farmers, Ranchers	21.3
10	Construction Laborers	17.4

Source: U.S. Bureau of Labor Statistics, National Census of Fatal Occupational Injuries (CFOI) Report, 2012

One of the most comprehensive studies of workers compensation claims for solid waste collection was conducted by the University of Miami and the Florida Center for Solid and Hazardous Waste in 2000. The study indicated that the high number of fatalities for waste collection can be attributed partly to impatient drivers who try to pass stopped garbage collection vehicles ("struck by accidents") and end up hitting collectors.

According to the National Institute for Occupational Safety (NIOSH), workers in solid waste collection were also in the top three job classifications to have the highest number of nonfatal injuries and illnesses, most caused by overexertion, being struck, striking against, or being compressed in equipment. The majority of worker's compensation claims nationally are typically attributed to back injuries due to both lifting refuse containers and getting in/out of the collection vehicle. Also problematic are the contents of refuse: broken glass, chemical waste, pool chemicals, and left over medical wastes, which results in cuts, lacerations, punctures, bruises, and contusions. Vehicular traffic and repeated lifting while on the run produces thousands of injuries each year. Some injuries stem from constantly repeating awkward movements, such as jumping in and out of the back of collection vehicles, and lifting heavy or oversized containers.

The good news is that workplace safety in the solid waste collection industry is improving. Recent 2012 data reported by the BLS indicate that the fatality rate has declined over the past decade. For example, the fatality rate declined in 2007 from 40.7 to 27.1 per 100,000 workers. NSWMA suggests that this steady and substantial decrease over the past decade is likely due to a number of critical factors. First, an increasing number of both private and public agencies are replacing manual rear-loader waste collection vehicles with automation utilizing rolling cart systems, which almost completely eliminates the need for solid waste collection workers to lift containers, and the consequential risk of exposure to unsafe trash. Second, NSWMA also suggests that the reduction in fatality rates is due in part on the renewed emphasis on safety by senior management, safety managers, and others in the solid waste profession who have looked

for ways to decrease the high costs of workers compensation claims, third party personal injury claims, and property damage claims, and litigation.

4.4.2.2 Safety Programs

Current OSHA regulations do not specifically address solid waste collection vehicles. However, the American National Standards Institute (ANSI) has published Safety Standards for Mobile Refuse Collection and Compaction Equipment, which address safe operation and construction of the equipment and includes recommendations for riders and pedestrian safety (ANSI 1992). These standards provide the following recommendations:

- Ride only in the vehicle cab or on steps specifically designed for riding.
- Remain inside the vehicle cab until the vehicle is completely stopped.
- Ensure that riders are NOT using the riding steps when the vehicle is backing, exceeding 10 miles per hour, or traveling more than 0.2 miles.
- Ensure that no one rides on the loading sills or in hoppers.

The National Waste and Recycling Association (NWRA)[1] has developed comprehensive national safety practices for workers engaged in solid waste collection. The Association's, *Manual of Recommended Safety Practices*, contains detailed procedures for backing safety, acting as a spotter during vehicle backing, and working around vehicles. These procedures include the following standard procedures:

- Maintaining visual contact between the driver and workers on foot when working close to the vehicle and when backing.
- Checking both side mirrors when backing.
- Using a reliable spotter to see both the driver and any blind spots behind the driver and any blind spots behind the vehicle when backing.
- Using standard hand signals when backing.
- Stopping the truck if the spotter must change positions.
- Immediately stopping the maneuver if visual contact with the spotter is lost.

Remaining clear of the rear of the vehicle when the backup lights are on or the alarm is sounding. Organizations have determined that by focusing efforts on eliminating unsafe behavior, worker injuries and accidents can be reduced. In recent years, both private and public solid waste operations have elevated the importance of safe work behavior by creating safety committees, adopting new work rules and employee policies, and implementing training

[1] NWRA is a sub association of the Environmental Industry Association representing for profit companies in the U.S. that provide solid, hazardous, and medical waste collection, recycling, and disposal services.

regimens to effect a change in employee behavior. The City of Mesa, AZ regularly updates their Solid Waste Division Work Rules, Procedures, and Safety Guidelines, which begins appropriately with "No short cuts or alibis in Safety," highlighting the importance of safe work behavior.

Recognizing that the cost of risk, in both dollars and human lives, was having an impact on their business, Waste Management, Inc. (WM), the nation's largest solid waste company, began a comprehensive safety initiative to change the way the company conducted its business. In 2001 a "Mission to Zero" (M2Z) tolerance was begun, vowing that if a work practice was deemed unsafe in any way, that it would not be attempted until the unsafe condition was eliminated, even if that meant losing a customer to protect the safety of WM employees or the public. As the industry leader, WM has more than 55,000 employees and operates over 25,000 trucks each day. M2Z impacts every employee:

- Initial multi-day training of the WM Operations and Safety Rules Book
  - The Rule Book is a comprehensive, leather bound manual of safe work practices for every collection job function.
  - Every employee is required to have the Rule Book with them at all times.
  - The Rule Book should be used to assist employees in identifying potential risks and providing the correct work procedure.
- Regularly conducted safety meetings
  - Safety metrics are reviewed (OSHA injury rates, and accident frequency rates).
  - Injuries and accidents are reviewed, root cause investigated, and preventability discussed.
- Daily Safety Briefings
- Supervisor Safe Driver/Helper Observations
- Repeat Offender Program (ROPE)
  - WM identified that a small percentage of employees were involved in the majority of accidents or injuries.
  - Employees allowed no more than three preventable accidents or injuries in a 12-month period.
  - Employees must complete retraining after preventable incidents and are subject to progressive discipline.
  - WM determined that by correcting repeat offender behavior, safety metrics improved.

- As a result of these M2Z efforts, WM has reduced their OSHA recordable injury rate by 70 percent, and the number of vehicle accidents by 35 percent in just the last four years.

In 2003, NWRA and the Environmental Research and Education Foundation (EREF) applied for a grant from BLS to develop safety training tools for the solid waste collection industry. This effort culminated in the development of four "Be Safe, Be Proud" videos that show real life solid waste workers and equipment, highlighting specific safety issues involving waste collection. This effort expanded upon a similar program initiated by Rumpke Consolidated Companies, Inc, in 2003, one of the nation's largest privately-owned waste hauling firms. Since 2003, more than 1,200 videos have been issued, many to public solid waste collection agencies. As part of this effort, NWRA also produced television ads with support from OSHA.

A variety of local governments have also developed different types of safety incentive programs for their employees. Typical is a safety program developed by the City of Clovis, CA for their solid waste collection staff. Under its program, the City pays a safety bonus to those employees who have not a job related injury, lost time from work from a job-related injury, or a at-fault accident within the last two years. The program is pursuant to an agreement with the City union[2].

4.4.3 Impact of Automation on Worker Safety

In the late 1990's, the City of Dunedin, FL (pop. 37,000, Pinellas County) transitioned operations from traditional rear load collection to one-man, manual side load collection. The City made this change in an effort to control escalating costs and forego rate increases to City residents. As a result, staffing levels were drastically reduced and the City recognized savings in both labor and workers compensation claims. The reduction in claims, however, were a direct result of the reduction in staffing, and not the conversion to manual side load collection. Although production levels increased because of the new manual side load application, worker injuries continued to occur, forcing the City investigate other methods to increase worker safety.

In 2001, the City piloted and subsequently introduced a citywide containerized automated collection program, replacing the manual side load collection program. The City immediately recognized a reduction in worker injuries and a subsequent savings in worker compensation claims. Since implementing their automated collection program, the City of Dunedin has recognized a 77 percent reduction in residential workers compensation costs, and a 52 percent reduction in workers compensation costs for the entire solid waste division. Exhibit 22 illustrates this reduction in worker compensation claims.

[2] Personal communication with Mr. Luke Serpa, Unities Director, City of Clovis, CA, April 8, 2014.

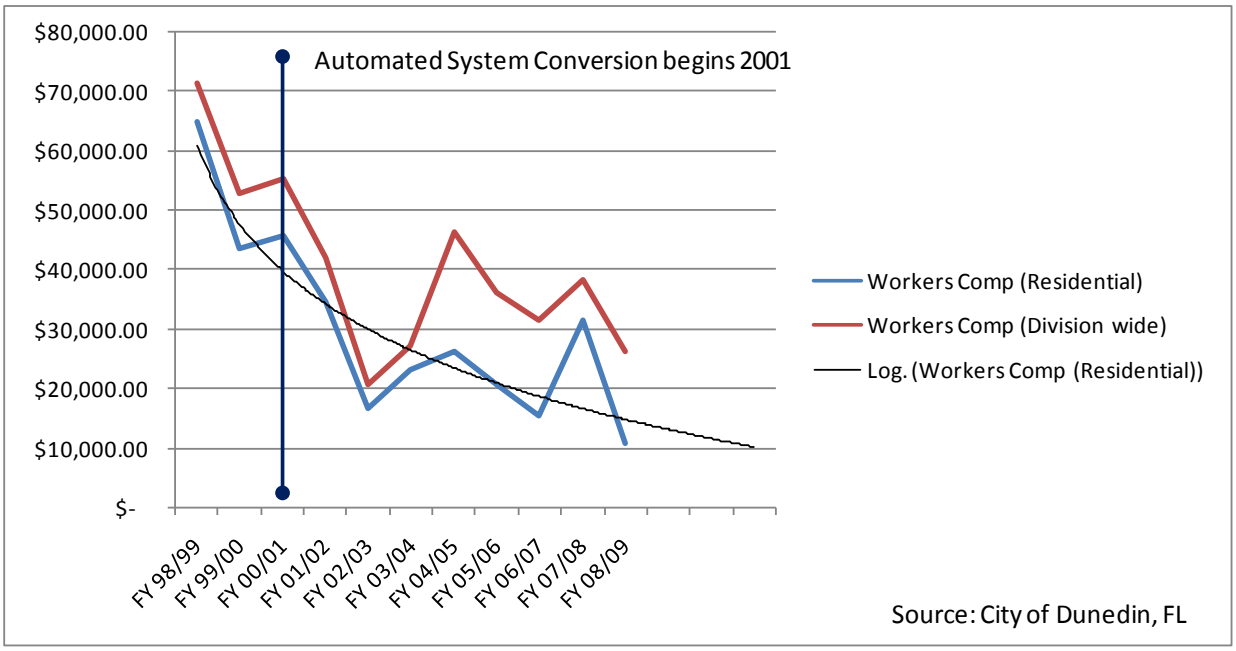

Exhibit 22. Reduction in Workers Compensation Costs After Conversion from Manual to Automated Collection

4.4.4 Cost Impact of Automation in Idaho Falls

A Pro-Forma Model (Appendix A) was constructed to help estimate the projected costs to the City to implement an automated solid waste collection program. The Model illustrates the estimated financial impact of implementing an automated collection program that includes once weekly collection of 95-gallon containers.

4.4.5 Model Assumptions

The following assumptions were utilized to construct the Model:

- 14,400 hand-unload customers.
- 110 homes per hour rate of production.
- Five-day work week.
- Labor cost assumptions based on the median of salary ranges as provided by City, escalated 2.3% for most recent 11-year average CPI.
- Benefit costs calculated at 72% of total salaries.
- Model does not consider revenues from sale of surplus equipment.
- Equipment depreciated over useful life of vehicle (6 years).

- MERF costs provided by City.
- Vehicle spare (backup) ratios calculated at 50%.
- Manpower backup ratio calculated based on City provided time off (vacation & sick time) benefits.
- Automated containers are depreciated for 10 years (coinciding with factory backed warranty of 10 years).
- Spare ratios for carts calculated at 5 % for spares and replacements (new accounts, resident damage to carts, etc.) over a 10-year period.
- Insurance cost reduction estimated at 30% of similar municipal experience.

4.4.6 Projected Results

SCS was asked to conduct a financial analysis of the residential solid waste and yard waste system. To conduct this analysis, administrative costs of approximately $1.7 million (FY 2014), those that are considered part of the entire department, need to be allocated to the residential services portion of the system in order to recognize a true cost of operations. The administrative allocations include the current costs experienced by the Department and were allocated by a variety of methods including number of trucks, staffing, and percent of revenue, depending on the cost category. A minimum of 30 percent savings in the Department self-insurance fund is estimated to occur upon full conversion of automation. Similar systems have recognized greater than 50 percent in some cases. The Pro-Forma Model for Autoload Feasibility in Appendix A illustrates that with the assumptions in place, the City can reduce overall operating expenses for residential service by approximately 15 percent after three years of full implementation.

The majority of these savings can be seen in the personnel expense category, as the full time employee (FTE) headcount is reduced by approximately eight. There is also a significant reduction in insurance claims costs and operating maintenance costs that can be recognized after three years from full automation.

4.4.7 Implementation Issues

4.4.7.1 Phase In Approach

Implementing an automated collection program should preferably be in a series of steps. Implementation should be done in a phased in approach; adding subdivisions and areas of the City to the program over time. In most cases, implementation begins with a pilot program where a small consolidated sector of the city is converted to the new system. This sector size is based roughly on the collection capacity of one vehicle (900 – 1200 households per route each day), and is typically an active community with a high level of residents involved in the local community. Homeowner association meetings, mailings, and promotional activities are conducted three to six months in advance in order to brief the residents on the program, and feedback is solicited from the residents during the process in order to help anticipate future questions. Once the pilot community is active with the new system for at least three months,

planning can begin on a full scale phased in implementation. The benefits to a phased in approach include:

- Acclimating residents to the program organically and not concurrently - Except for the first city area to be converted, other residents will be exposed to ongoing education and outreach programs about the new system and will have an understanding of the program when their neighborhood is ready for conversion. Also, a phased-in approach will allow the City to adjust program education based on initial feedback from the pilot program residents.

- Provides an opportunity for better capital management - A phased in approach to citywide conversion allows for the phased in purchase of new collection vehicles, rather than purchasing all at the same time. As vehicles age, the cost to repair increases, and at some future point, all vehicles again have to be replaced. In a phased approach, new vehicles can be purchased a few at a time each year, maintaining an average age of fleet of three to four years, while at the same time maintaining a predictable level of variable maintenance expenses.

- Today, there is a choice in automated collection vehicles and a phased-in approach allows the City the opportunity to test and experiment with different units on a smaller scale, rather than an initial commitment to one style, make, or model. Automated side load vehicles typically operate at a higher cost which is normally offset through labor savings and increases in efficiencies. The industry is working to develop options to address these higher operating costs while still maintaining the gains in efficiencies. These new technologies should be examined through pilot scenarios to maximize the cost savings benefit of automation.

- A significant portion of program capital and the system's most noticeable feature are the containers. Carts can be purchased or leased from container manufacturers who can also provide the maintenance services required. Each supplier offers a different level of specifications that should be considered, including subsequent repair and maintenance.

  Although most cart suppliers offer a ten year warranty on manufacturer defects, all cart systems require a level of service to deliver, remove, and regularly repair carts that become damaged during day to day operations. In many cases, containers can be procured with and without a service maintenance program. If the cart company is not conducting the service, City staff will be required to maintain the cart system, and once fully implemented will require full time staffing. When procuring containers, the city should consider requests for pricing that include both cart purchases and a separate price for cart maintenance services in order to properly evaluate the cost associated with this service. Additionally, today's economic climate has resulted in very low interest rates that the City could leverage when making new equipment and container purchases.

- Conversions should begin in newly planned subdivisions. Newly planned subdivisions are designed with adequate turning radii and street width, and sufficient amounts of off street parking, which are conducive to automated collection systems. Conversions in these newer neighborhoods can occur quickly such that:

- Adding contiguous subdivisions (of acceptable route size) to the first area maintains route density, enhances production, and assists with planning new equipment purchases.
- Equipment is purchased in stages as new areas are developed.
- Education programs are introduced three to six months in advance of equipment delivery, and can be accelerated as a greater percentage of the City is converted.
- Older neighborhoods are added to the program last.

4.4.7.2 Manpower

As staffing and personnel costs represent the largest portion of savings in an automated conversion, there are a number of issues that should be addressed by the City during the planning phase. In the Department's case, an automated conversion is estimated to reduce the Department staffing levels by approximately eight positions, most of which are solid waste "buckers".

In our experiences with similar municipal programs, automation provides significant opportunities for current solid waste employees to cross-train and advance in the Department. Further, automation preserves the Department's workforce by reducing physical labor requirements for waste collection.

Nonetheless, these new collection vehicles will have new technology requiring specialized training for technicians in the Fleet Management Department. Although this can present a challenge, it also can provide opportunities for current Fleet Department employees to cross-train and advance in the department with advanced technical certifications.

By deploying the new automated program in a "phased in approach", the Department can plan for staff reductions through attrition: In this way, retiring employees are not replaced. As standard turnover occurs, employees are also not replaced, or are replaced with temporary staffing until such time the conversion to automation is complete.

4.4.7.3 Public Education

Our experience has shown that the success of a new automated collection program is clearly dependent on deployment of a successful education and outreach campaign. A variety of media should be used to communicate the new service to residents such as:.

- Direct mail of brochure and post cards to residents
- Press releases
- Brochure distribution through standard information outlets
- Government access television
- Public events and demonstrations

- Homeowner association meetings
- Literature delivery with containers
- Support from container manufacturers

It is important that every effort be used to ensure that residents have a clear understanding of how the new system will impact them. In the early stages of conversion, education should begin at least six months before the program begins, and can be accelerated as a greater percentage of the City is converted. The City's education programs should include all the requirements of the new program, why the city is making is the change, and anticipates how the change in service will affect the residents.

The first external barrier with most communities is to educate the residential customers on the proper use and placement of the wheeled carts, which is critical when using automated, side-loaders. Because the goal of automation is to keep the driver in the cab of the truck as much as possible, the cart needs to be placed within three feet of the curb with the lid opening facing towards the street. Further, residences need to be educated that the carts should not be placed within six feet of trees, mailboxes, cars, and power poles because the automated arm of the collection vehicle needs room to maneuver without risking damage to property.

An important implementation issue with automation is dealing with "outside the container waste". With a rear-loader collection system, an extra bag of garbage was rarely a problem, but in a cart system, extra garbage can significantly slow on-route production when drivers have to exit the vehicle to collect waste from outside the container. Again, the major issue is to minimize the number of times that the driver exits the cab of the truck to pick up these non-containerized, wastes. Therefore it is important at the outset of the program that residents understand that waste left outside of the containers will not be collected. Typically, most agencies have found that once they have offered extra carts that the random "extra bag setters" can be accommodated easily.

Typically, 95 or 96-gallon carts (depending on the supplier) are the standard size utilized in automated container programs nationwide. Combined with curbside recycling service, yard waste, and household hazardous waste programs, this garbage capacity is sufficient for once weekly collection. In cases of above average generation such as large families, many communities offer a second container for a fee for a second cart at a reduced price since the bulk of the collection cost is dumping of the first cart, with the second cart being incidental when compared to the driver's time getting in and out of the truck cab.

Although most programs utilize a 95-gallon container, modern automated equipment has the ability to service different container sizes with the same vehicle. Older residents may find it difficult to move larger containers. As the program matures, the City can decide to add smaller containers for the convenience of older residents or for those that no longer require large containers because of waste conservation and recycling efforts.

4.4.7.4 Variable Rate Pricing or Pay-as-you-Throw (PAYT) Systems

Every conversion to automated collection should also consider variable rate programs as an option. These Pay-as-you-Throw (PAYT) systems are considered equitable, and have a positive impact on waste diversion and recycling programs. There are various options and approaches to consider when implementing a PAYT residential collection system. PAYT, also known as unit-based pricing, is described as a system that charges a household by the amount of solid waste it disposes, instead of utilizing a fixed rate per household, regardless of the quantity of waste set out at the curb. PAYT has traditionally been used in commercial waste collection where haulers base commercial business customer pricing on the container size or cubic yard of waste collected. Since its introduction to residential collection in the early 1990's, PAYT has been successfully implemented by almost 7,100 jurisdictions in the United States.[3] In 2007, 30 of the largest 100 U.S. cities used PAYT, reaching 25 percent of the U.S. population. Solid waste managers often consider PAYT when their existing collection infrastructure has become too costly, or when attempting to increase recycling in their communities. There is a variety of information readily available regarding some of the country's more successful programs.

Although PAYT programs are all considered variable rate systems, different approaches have been used to reach a similar result. Ultimately, all PAYT programs introduce a level of accountability to the waste generator, by offering a financial incentive to place less waste out for disposal. Current systems in use today include either volume-based or weight-based systems.

[3] Skumatz & Freeman , "PAYT In the US: 2006 Update and Analyses"

5.0 RATE STUDY

5.1 PREVIOUS RATE STUDIES

In August 1995, the City engaged the services of CH2M-Hill to conduct a solid waste cost-of-service rate analysis. It presented projected solid waste rates by customer class for a four-year period (Fiscal Year 1995/1996 through 1998/1999). At that time, the City was then charging all residential customers a flat rate of $4.75 per monthly billing period. Since that time the City has increased the Department's customer rates (Exhibit 23).

Exhibit 23. Previous Rate Studies and Customer Solid Waste Collection Rates

	1994 Rates					Current 2014 Rates				
Customer Class	Number of Pickups (Week)	Monthly Charge ($)				Number of Pickups (Week)	Monthly Charge ($)			
Residential	1	4.75				1	9.00			
Commercial:		Cans								
		1 to 3	4 to 6	7 to 9		Per Week	Charge ($)			
Handload	1	4.75	5.35	7.45		1	9.00			
	2	5.35	9.25	13.95		2	18.00			
	3	7.45	13.95	18.65		3	27.00			
	4	9.25	18.65	27.90		4	36.00			
	5	11.60	23.25	34.85		5	45.50			
	6	13.95	27.90	41.85		6	54.00			
	Cubic Yards					Cubic Yards				
	Per Week	1.5	3	4		Per Month	1.5	3	4	
Small Containers	1	23.75	29.00	42.75		1	38.80	47.30	53.30	
	2	29.75	40.50	47.50		2	48.40	60.50	70.20	
	3	35.75	51.50	62.60		3	58.00	73.70	87.00	
	4	41.50	63.00	77.25		4	67.60	86.90	103.86	
	5	47.50	74.25	92.00		5	77.20	100.10	120.60	
	6	53.50	85.50	107.00		6	86.80	113.30	137.40	
	7	72.00	107.50	129.00		7	96.40	126.40	154.20	
		Uncompacted		Compacted		Per Month	Uncompacted 30 cubic yard	Compacted 30 cubic yard		
	Per Month	30	40	30	40					
Large Containers	1	93.00	116.00	144.00	156.00	1	169.00	123.00		
	2	138.00	162.00	229.00	252.00	2	304.00	247.00		
	3	183.00	207.00	314.00	349.00	3	438.00	371.00		
	4	228.00	252.00	399.00	445.00	4	572.00	494.00		
	5	273.00	297.00	484.00	542.00	5	707.00	618.00		
	6	318.00	342.00	569.00	638.00	6	841.00	742.00		
	7	363.00	387.00	654.00	735.00	7	976.00	865.00		
	8	409.00	432.00	739.00	831.00	8	1,110.00	989.00		
	9	454.00	477.00	824.00	928.00	9	1,244.00	1,112.00		
	10	499.00	523.00	908.00	1,024.00	10	1,379.00	1,236.00		
	11	544.00	568.00	993.00	1,121.00	11	1,513.00	1,360.00		
	12	589.00	613.00	1,078.00	1,217.00	12	1,648.00	1,483.00		
	13	634.00	658.00	1,163.00	1,314.00	13	1,782.00	1,607.00		
	14	678.00	703.00	1,248.00	1,410.00	14	1,916.00	1,730.00		
	15	724.00	746.00	1,333.00	1,507.00	15	2,051.00	1,854.00		
	16	770.00	793.00	1,418.00	1,603.00	16	2,185.00	1,978.00		
	17	815.00	838.00	1,503.00	1,700.00	17	2,320.00	2,101.00		
	18	860.00	884.00	1,588.00	1,796.00	18	2,454.00	2,225.00		
	19	905.00	929.00	1,673.00	1,893.00	19	2,588.00	2,348.00		
	20	950.00	974.00	1,758.00	1,989.00	20	2,723.00	2,472.00		
	21	995.00	1,019.00	1,842.00	2,086.00	21	2,857.00	2,596.00		
	22	1,040.00	1,064.00	1,927.00	2,182.00	22	2,992.00	2,719.00		
	23	1,085.00	1,109.00	2,012.00	2,279.00	23	3,126.00	2,843.00		
	24	1,128.00	1,164.00	2,097.00	2,375.00	24	3,260.00	2,966.00		

Source: CH2M-Hill, 1994.

5.2 BENCHMARKING

The Association of Idaho Cities undertakes a periodic survey of utility and franchise fees across the state for a variety of utility services including solid waste. The purpose of the survey was to provide city officials with information on how their city compares with others in terms of services offered, customer fees, and billing procedures. The most current survey was completed in 2010. Results revealed that solid waste collection averaged $12.62 per month. Exhibit 24 is a recent survey conducted by SCS on monthly residential, solid waste collection rates for the largest cities in Idaho.

Exhibit 24. Curbside Collection Rates in Idaho Cities, 2014

City	Population (U.S. Census 2013)	Service	Rolling Cart Choices (Gallons)	Curbside Recycling Provided	Residential Monthly Charge ($)
Boise	214,237	Automated, Franchise	95 64 or 48	Yes Yes	$14.08 (With Recycling) $17.80 (Without Recycling) 13.06 (With Recycling) 17.14 (Without Recycling)
Nampa	86,518	Automated, Franchise	96 or64	Yes	$15.22
Meridian	83,596	Automated, Franchise	96 65 32	Yes	$17.00 $15.00 $13.00
Idaho Falls	**60,829**	**Manual City**	**None**	**Yes Private Subscription**	**$9.00**
Pocatello	54,350	Automated City	96 64	Yes	$15.87 $14.77
Caldwell	48,957	Automated, Franchise	95	Yes Extra Service	$10.86 $4.95
Coeur d'Alene	46,402	Automated, Franchise	96 64 35	Yes	$9.60 $8.80 $7.70
Lewiston	32,401	Automated, Franchise	65	Yes	$18.25

Source: SCS Engineers, 2014.

5.3 RATE MODEL

This section presents SCS's economic analysis of managing solid waste in the City over a 10-year planning period. SCS developed a rate model (Model) specifically for this study to provide preliminary, planning-level cost estimates, which can be used to evaluate the City's customer rates and the impact of long-term financial liabilities.

The Model is a spreadsheet program that projects annual revenues and costs to operate, administer, and maintain the Solid Waste System and provides a means for comparing alternative operational, institutional, and facility scenarios. The Model addresses major capital and

operational costs to operate the Solid Waste System, as described in more detail in the paragraphs below.

Various assumptions are made regarding yearly solid waste quantities, demographic information, escalation factors for waste growth and costs, administration, personnel and utility costs, transport and processing cost. The costs of various programs and disposal options were estimated using published information on the City's Solid Waste System, SCS's experience on other similar projects, input from the private solid waste industry, other published information, and planning-level cost estimates prepared by SCS. The key assumptions are detailed in the following pages.

5.3.1 Basic Assumptions and Elements of the Model

A list of major assumptions regarding escalators, interest rates, transportation costs, and other cost elements is presented in Exhibit 25. These assumptions are used throughout the Model, and can be adjusted relatively easily for sensitivity analysis. Other key assumptions regarding waste projections, capital costs and debt assumptions are presented below.

Exhibit 25. Major Assumptions Rate Model

Model Parameters	Assumption	Source/Basis
Planning Period	2014 - 2024	Assumed
Fiscal Year	October 1 – September 31	City Fiscal Reporting System
Consumer Price Index (inflation rate)	2.3%	Assumed
Growth in Customer Accounts	1.3%	City Provided

5.3.2 Data Collection

At the beginning of SCS' engagement, City staff provided background data and information concerning Department revenues and operating expenses. This included the following critical information and data:

- Staffing and organizational charts.
- Wages and benefit rates.
- Customer records.
- Rate schedules.
- Fund account summaries (totals and comparisons).
- Past and current operating budgets by cost centers.
- Equipment replacement schedules.
- Waste deliveries to the County transfer station.
- Fleet replacement program (MERF).

- Department fleet labor, equipment, and miscellaneous costs.
- Ordinances.

5.3.3 Components

At the outset of the work effort, SCS developed a Microsoft Excel™ spreadsheet-based, Model to assist in the completion of the rate analysis. This model includes the following facets:

- An analysis of operational expenditures (personnel, contract and purchased services, and materials, supplies, and transfers.
- Analysis of MERF capital outlays (equipment replacement and capital projects).
- Revenue sufficiency analysis (annual revenue projections and rate plan to provide sufficient revenues)
- Funds analysis (reserve requirements, transfers to other funds, administrative costs, beginning and ending fund balances).

Based on data and information provided by the City, these individual spreadsheets were linked to develop an overall Model to conduct the rate analysis.

5.3.4 Methodology Overview

The following methodology was utilized by SCS to conduct the cost of service analysis:

- **Collect Historical Actual Expenses and Revenues for the Department** – The first task was to gather available historical actual revenue and cost data and include these into a financial database.
- **Development of the "Test Year"** - The second task was the development of an annual revenue requirement for a "Test Year". The revenue requirement represents the total revenue for the System to recover during a year to fund all System costs. SCS worked with City staff to select a period that reflected a typical year for the System. Actual expenses for FY 12/13 were used as the basis of the Test Year for the Study. The resulting Test Year was used as the basis for forecasting expenses for the 10-year forecast (FY 14/15 to FY 23/24).
- **Development of a Revenue Requirement Projection** – After developing the revenue requirement for the Test Year, SCS worked with City staff to project changes in anticipated costs due to inflation, labor increases, facility and vehicle maintenance, planning costs, etc. This resulted in a 10-year revenue requirement forecast for the entire collection program if no changes occurred during the planning horizon.
- **Allocation of Solid Waste System Costs** – SCS then worked with City staff to assign costs to the various cost centers, as noted in the paragraphs above.

- **Projected New Revenues/Deficits** –SCS then developed annual estimates of operating revenue and expenses and net revenues to the Solid Waste Fund

- **Calculation of the Monthly Fee** – SCS then distributed the costs across the projected number of hand unload and commercial units.

5.3.5 Development of the Revenue Requirement Projection

In addition to developing the Test Year revenue requirements, SCS forecasted the annual revenue requirement for FY 14/15 to FY 23/24. In order to develop the forecast, SCS projected how costs would change over the forecast period due to factors such as inflation and growth of the Department's customer base.

5.3.6 Allocation of Costs to Department's Cost Centers

As noted in the paragraphs above, the Division has six different cost centers. These include the following:

- Administration (e.g., customer service, overall management, route scheduling, etc.)

- Construction (repair of City containers).

- Containers (large commercial container collection).

- Hand Unload (residential and commercial manual collection by containers).

- Tilt Frame (roll-off container collection).

- Disposal (hazardous waste and MSW disposal at County landfill).

5.4 RATE RECOMMENDATIONS

5.4.1 Projected Net Revenues/Deficits

Exhibit 26 presents projected net revenues/deficits for the Solid Waste Fund for the rate planning period (current fiscal year and 10 following years). These data show that Department net revenues trail off dramatically after FY 2016 due to increasing departmental costs such as labor, equipment, and supplies. This suggests that the City should consider either raising user fees to meet increased revenue needs or look for ways for to achieve operational cost savings, while improving customer service (e.g., autoload).

Exhibit 26. Projected Net Revenues (FY 2014-2024

Fiscal Year	Net Revenues	Fiscal Year	Net Revenues
2014	$204,710	2020	($27,598)
2015	$169,446	2021	($71,426)
2016	$132,851	2022	($116,824)
2017	$94,888	2023	($163,835)
2018	$55,518	2024	($212,503)
2019	$14,703		

5.4.2 User Fees and Charges

As shown in Exhibit 26, current user fees appear adequate to meet projected operational expenses until 2019. Using the Model, an alternative rate scenario was developed (Exhibit 27) assuming a five percent rate increase in FY2015 for hand-unload and commercial container customers. The model projects that the City could forestall an additional rate increase until 2023 when net revenues are projected to turn negative in that fiscal year. However, if the City implements an automated collection program the Department is projected to reduce its costs of operation substantially, as well minimizing the need for an additional customer rate increase for residential services to beyond Fiscal Year 2023.

Exhibit 27. Projected Net Revenues With 5% Rate Increase (FY 2014-2024

Fiscal Year	Net Revenues	Fiscal Year	Net Revenues
2014	$204,710	2020	$129,832
2015	$317,029	2021	$88,050
2016	$282,353	2022	$44,725
2017	$246,334	2023	($185)
2018	$208,933	2024	($46,726
2019	$170,112		

6.0 PUBLIC COMMENTS

A public meeting was conducted on October 16, 2014 at the City Council Chambers to discuss the Citywide Sanitation Autoload Program. Participants were notified about the meeting by an article that was printed in the *Post Register* describing what was to be covered and letting them know the date, time and place along with postings on the City's social media. The meeting was held in an open house format, allowing meeting participants to examine displays and discuss project information with the project staff.

Exhibit 28. Public Comment, October 16, 2014

Comments were collected from October 16, 2014 through November 15, 2014. All of the comments received at the meeting, via e-mail, and later through the U.S. mail, are included in Exhibit 29, which are summarized comments from the forms, as well as proposed resolutions of identified concerns.

Exhibit 29. Public Comments Received and Response

Number	Comments	Response
1	Autoload is a step in the right direction. It will improve service and cost less over time. I especially like the idea of reducing injuries for sanitation workers.	This is in agreement with the draft report.
2	I have asked myself many times why the City of Idaho Falls has not made the switch to automated garbage trucks, both form a financial standpoint and a worker health and safety standpoint. While the initial cost of equipment may be more, it has been proven time and time again that automated loaders are much more economical to operate overall. I have lived in several communities that have used automated garbage trucks and I don't think any of them would go back to the rear loaders that require two people to operate. The transition for households is not a difficult one either, I for one would look forward to not having to purchase large garbage can liners that must surely slow down the decomposition of the waste I put out for pickup. This is not a complicated decision in my opinion.	This is in agreement with the draft report.
3	Currently, I don't leave my garbage cans in my alley trash alcove (an alcove that might actually not be the right size for the new containers). I put the cans out Sundays and pull them back into my fenced backyard Monday mornings after trash pickup. That's because of the wind, of people going through my garbage, people stealing my cans, etc. I don't think the new containers will fit through the doorway area from my backyard to the alley. Also, what happens when you have too much trash any given week? Maybe I did spring cleaning and have lots of bags. Maybe I have an old, broken chair. Maybe I have 10 large bags of leaves.	It has been noted that other communities have had to adjust for the usage of the cart. The full size 96 gallon carts typically are about 1 foot wider than the standard 2 foot diameter (32 gallon) cans. The large wheels on the carts help in handling. If there is a need with the transition where it makes sense smaller carts may be offered in the future for households requesting this. The City Sanitation department offers special pick-ups for odd sized garbage to be handled or that may not fit in the containers. There is also the spring clean-up for leaves and grass clippings that cannot fit in the containers provided. If households feel additional containers are necessary, they can be provided at an additional cost.

Number	Comments	Response
4	Will there be various container sizes? Some people do not utilize large containers due to recycling. How will you handle yard waste if it is more than will fit in the container? Will you charge for extra bags or trash outside the container? How will the "Phase in" happen What about cars parked on the curbside, could the truck reach around? If you do have various container sizes, will they each have a different cost per container?	We propose to start with a standard 95-96 gallon container size, as this size matches 90% of the demand for other communities that use auto-load. As we phase the program, evaluation of offering smaller containers will be evaluated. B-C. The benefits of this program are contingent upon the waste being able to fit in the containers. The City Sanitation department offers special pick-ups for odd sized garbage to be handled or that may not fit in the containers. There is also the spring clean-up for leaves and grass clippings that cannot fit in the containers provided. If households feel additional containers are necessary, they can be provided at an additional cost. We propose to phase in the program on a 3 year schedule as we replace hand-load trucks with auto-load trucks. Curbside neighborhoods will be implemented first. Neighborhoods that can be served with the autoload equipment as it is acquired will be transitioned in the spring. The containers will require about a 3-4 foot clearance on each side of the container from parked vehicles. The costs for additional containers or reduced sizes to be offered will be considered as we gain experience of the procurement of containers.
5	Comment summary: The report is structured more as an implementation study versus a "do or not do" study. Study claims "enhanced level of service" and 'improved quality of life", however the container size restrictions will reduce the bulk or amount of garbage currently being serviced and yard waste pick-up limitations. Injury concerns should include a vigorous and religious attention to employee safety practices. I can support the program for just one reason, improved safety and less injuries to the Sanitation Departments MSW workers. Seldom does a new program such as this realize the benefits it is based upon. The "study" recommendation and assumptions that they are based on must be followed explicitly.	Consistent disproportionate workers compensation claim costs with respect to the rest of the City as well as the desire to evaluate the sanitation rate structure triggered the interest in evaluating the current operations versus consideration of auto-load. The study does site "enhanced levels of service" (potential cost reductions in cost per pick-up) and "improved quality of life" (cleaner pick-up through lidded containers and reduced employee injuries). The examples given in the detailed comments do reflect that costs could be higher for households that cannot be accommodated within the container capacity. The City Sanitation department offers special pick-ups for odd sized garbage to be handled or that may not fit in the containers. There is also the spring clean-up for leaves and grass clippings that cannot fit in the containers provided. If households feel additional containers are necessary, they can be provided at an additional cost. The Sanitation department holds monthly safety meetings, provides for employee orientation/training with experienced workers, and attends all proper lifting trainings as available. Agreed. We will try to consider this as we review further.
6	I think it is about time. Everyone else I know outside of Idaho Falls has these. There must be good reasons that trash pickup is done this way everywhere else. I do however live on a street with an alley and hope that it will be possible to still do garbage pick up in the alley.	We will evaluate the alleys and equipment constraints as we can to determine if the pick-up can remain in the alley.

Number	Comments	Response
7	I've been watching with interest what the City Council is doing with garbage collection. There is one thing that I have not seen addressed and it involves disabled individuals. My sister lives in Akron, Ohio, and they have the type of garbage pick-up the City Council is looking into. There is one thing that Akron does that Idaho Falls should consider, if you have not already done so. When my sister became disabled, she was unable to pull her big garbage can to the sidewalk for pickup. Akron has a policy that, with a doctor's statement, one of the truck drivers comes up her driveway, moves her garbage can to the sidewalk, the truck dumps the garbage, and the truck driver takes the empty garbage can and puts it back by her garage. I don't remember if she had to pay an additional charge. It would have been difficult for her living on her Social Security disability. But I'm sure this situation is one you are likely to run into. This might be something that falls under "reasonable accommodations". Thanks for considering this suggestion. There was no extra charge for this service. She also said Akron came up with a standardized letter that is used by all folks wanting this service. It says something to the effect that the person is disabled, unable to move their garbage cans, and they need this service. My sister had her doctor sign this letter and returned it to the city. And it remained in effect until she discontinued her service when she moved.	The sanitation department currently provides this service to disabled individuals now and would pursue this in the future. The concept of providing a doctor's note is a good thought and will be considered.
8	One of the advantages of living in the city has been the garbage service. I am 100% against going auto!!	We appreciate the level of service that the city sanitation department is able to provide and will strive to continue this, however the benefits of less operational injuries and reduced operational costs require us to consider autoload.
9	I think it would clean up the city better I am not thrilled about our rates going up but I believe it will be Minimal. It would be nice to have some better garbage cans the ones people own get real bad looking including mine. It would also be nice not to have as many workers injured on the job.	This is in agreement with the draft report.

Number	Comments	Response
10	I moved to Idaho Falls 20 years ago from Pocatello. My wife is a life-long resident of Idaho Falls. Pocatello currently uses automated curb-side garbage and recycle pickup. Over the years Pocatello has used private contractors and city operated services. They have also used a variety of pickup methods and therefore they would be a great source of information for this proposed change in Idaho Falls. As an Idaho Falls homeowner and landlord I am always concerned about the safety and cost effectiveness of municipal provided services. I see no value in continuing the current method of curb-side garbage pickup compared to automated pickup. In my area of Highland Park we have alley pickup with one truck with one driver servicing the big yellow bins. Speed of service, personnel safety, lack of torn bags and subsequent scattered waste are just a few of the obvious advantages. In nearby neighborhoods I see curb-side pickup; considerably more time and personnel (money) consuming, refuse scattered around the pickup sites, hand loading of bags, cans and piles of debris (safety and cost). Curb-side containers like those used in Pocatello would eliminate these problems. The process would be the same as the existing yellow bin pickup, except on a per-household scale. I see no need to make this a three-year phase-in approach. Because of the obvious cost savings in personnel and equipment costs, as well as personnel safety concerns, the change should be made a soon as practical. Some of the personnel currently employed in the current curb-side method could be utilized in the automated method. The excess personnel would be available for reassignment to other open/suitable city positions if available. However, creating new positions or delaying the change just to maintain FTE levels would negate the savings available by the change. Existing equipment could be sold to other municipalities or private contractors.	We agree that we can learn a lot form our neighboring Cities as we try to do provide services better. We have actually been in discussion with City officials from Pocatello on their experience with the Auto-load program and how it was run. They have been very helpful in the process. We will evaluate our equipment replacement schedule and budget to see what can get us the best transition we can.
11	I am so excited for automated garbage pickup! I support it wholeheartedly. I have lived in communities where this has been used and it is a fabulous service to the community. It truly does improve the look and feel of a community. Not only will it reduce the amount of cans and loose garbage on the street but also flying debris from wind. It also prevents animals from tearing into the loose bags. This is a challenge the city will eventually need to undertake. A phased approach is a good idea. I feel that the upfront cost of implementation is well worth the outcome. Thank you.	This is in agreement with the draft report.

Number	Comments	Response
12	I'm writing in regards to automating the garbage pickup, which sounds like the right path to take from a labor savings perspective, but more importantly from an employee safety perspective. Having lived in Boise where we had this type of service, the only item that I would ask that the Council, Procurement, and Sanitation Division to consider is that the rolling containers be of a neutral (dark brown/gray/black) color. Boise had the most obnoxious blue containers that, in my opinion, ultimately detracted from the general aesthetics of the neighborhood as they sat beside each home.	Thanks for the comment. The example cans we have received are grey or black. The color will be considered with the procurement process.
13	I am against this program for more than one reason. I feel that in these economic times much more consideration should be given to people and jobs. Not only does this program not create jobs, it takes away existing jobs and only adds to the unemployment and associated problems. I believe the rates for sanitation pick-up are as fair as anywhere and believe many like-minded individuals would rather see a small increase in rates to assure jobs will not be lost. Another negative aspect, in my opinion, is the fact that people will probably, if not for sure, be fined for leaving their monstrous trash cans where they are visible. I've noticed this is almost always and ordinance in towns that have this system. A final note that I believe affects me and many elderly such as myself is the size and weight of these cumbersome receptacles that can prove to be a daunting task to move especially in the winter with slick driveways and sidewalks. Thank you for allowing me to give my opinion.	It's acknowledged that jobs are important to the viability of the City and local economy. There is a balance of "quality of life" due to the nature/hazards of the work at present along with the reduced costs for insurance claims as well as operational efficiency that warrants consideration. Perhaps the savings could be applied to other programs that would generate additional jobs in a safer environment. Idaho Falls City Ordinance 8-6-13 references the removal of the waste containers where it says "….All empty waste containers shall be withdrawn from the curb or inside edge of the sidewalk as soon as possible after removal of the waste from the container." We are not expected to change portion of the ordinance or add fines accordingly. The large wheels on the carts help in handling. If there is a need after the transition to autoload, where it makes sense, smaller carts may be offered in the future for households requesting this. Also, the sanitation department does provide for the movement of the cart for those who cannot move them to the curb themselves.

7.0 REFERENCES

1. Association of Idaho Cities, 2010 Idaho Utility and Franchises Survey, 2010. Accessed April 2, 2014 from www.idahocities.org.

2. Bonneville County, Environmental Excellence Transfer Station Operations Plan, 2008.

3. Bonneville County, Peterson Hill Operations Plan, 2008.

4. Bonneville County, Hatch Pit Operations Plan, 2006.

5. CH2M Hill, Cost of Service Solid Waste Study Final Report, August 1995.

6. Marc Rogoff, Solid Waste Recycling and Processing, Second Edition, Waltham, MA, William Andrew/Elsevier, 2014.

Appendix A

Pro Forma Model

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
ADMINSTRATIVE COSTS PRO FORMA

Fund	Division	Budget Item	Actuals						Projected										
			2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1100		Administrative Salaries	62,883	64,055	64,671	65,325	66,991		68,532	70,108	71,720	73,370	75,057	76,784	78,550	80,356	82,205	84,095	86,029
1200		Assistance & Clerical	39,755	39,570	40,039	56,527	32,490		33,237	34,002	34,784	35,584	36,402	37,240	38,096	38,972	39,869	40,786	41,724
1300		Other Salaries & Wages	1,016,090	1,015,215	1,073,865	1,050,708	1,077,641		1,102,427	1,127,783	1,153,722	1,180,257	1,207,403	1,235,173	1,263,582	1,292,645	1,322,376	1,352,790	1,383,904
1500		Seasonal Employees	26,420	35,248	39,976	30,390	35,805		36,629	37,471	38,333	39,215	40,117	41,040	41,983	42,949	43,937	44,947	45,981
1600		Overtime	82,511	90,173	82,247	76,774	47,625		48,721	49,841	50,988	52,160	53,360	54,587	55,843	57,127	58,441	59,785	61,160
1900		Salary Redistribution	(922,254)	(964,354)	(1,075,648)	(958,017)	(957,275)		(979,292)	(1,001,816)	(1,024,858)	(1,048,430)	(1,072,543)	(1,097,212)	(1,122,448)	(1,148,264)	(1,174,674)	(1,201,692)	(1,229,331)
2100		Employee Benefits	676,980	667,596	740,318	760,702	792,915		811,152	829,809	848,894	868,419	888,392	908,825	929,728	951,112	972,988	995,366	1,018,260
2501		Prov For Adjust Wages	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
2502		Unemployment Adjustment	1,771	4,145	531	171	996		1,019	1,042	1,066	1,091	1,116	1,142	1,168	1,195	1,222	1,250	1,279
2504		Retired Emp Health Ins	0	0	0	600	1,200		1,228	1,256	1,285	1,314	1,344	1,375	1,407	1,439	1,473	1,506	1,541
2700		Clothing	6,994	6,847	6,846	8,096	6,465		6,613	6,765	6,921	7,080	7,243	7,410	7,580	7,754	7,933	8,115	8,302
3100		Office Supplies	383	425	760	552	542		554	567	580	594	607	621	636	650	665	680	696
3200		Special Dept Supplies	93	246	207	268	6		7	7	7	7	7	7	7	8	8	8	8
3212		Safety Suplies	865	1,620	1,590	2,104	1,760		1,801	1,842	1,884	1,928	1,972	2,017	2,064	2,111	2,160	2,209	2,260
3400		Minor Equipment	0	0	873	13,100	0		0	0	0	0	0	0	0	0	0	0	0
4200		Professional Services	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
4205		Drug Testing Services	1,324	2,035	1,227	1,480	982		1,005	1,028	1,052	1,076	1,101	1,126	1,152	1,178	1,205	1,233	1,261
4210		Accounting & Auditing	3,057	3,282	3,846	3,584	4,144		4,239	4,337	4,437	4,539	4,643	4,750	4,859	4,971	5,085	5,202	5,322
4217		Public Works - Admin Transfer	68,920	68,920	72,000	73,272	120,817		123,596	126,438	129,347	132,322	135,365	138,478	141,663	144,922	148,255	151,665	155,153
4219		Public Works - GIS Transfer	32,000	30,856	32,428	33,292	31,850		32,583	33,332	34,099	34,883	35,685	36,506	37,346	38,204	39,083	39,982	40,902
4220		Billing and Collection Transfer	175,546	170,811	183,436	188,048	177,015		181,086	185,251	189,512	193,871	198,330	202,892	207,558	212,332	217,215	222,211	227,322
4221		City Gen & Admin Transfer	57,570	62,148	64,795	60,539	61,267		62,676	64,118	65,592	67,101	68,644	70,223	71,838	73,491	75,181	76,910	78,679
4400		Advertising	3,968	3,712	3,300	2,659	2,688		2,750	2,813	2,878	2,944	3,012	3,081	3,152	3,224	3,298	3,374	3,452
4500		Printing and Binding	447	300	325	1,835	1,018		1,041	1,065	1,089	1,114	1,140	1,166	1,193	1,221	1,249	1,277	1,307
4600		Insurance	14,409	14,568	16,176	16,176	16,268		16,642	17,025	17,416	17,817	18,227	18,646	19,075	19,513	19,962	20,421	20,891
4700		Travel	862	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
4800		Dues & Subscription	195	198	136	184	291		298	305	312	319	326	334	341	349	357	365	374
4900		Personnel Training	0	25	0	240	0		0	0	0	0	0	0	0	0	0	0	0
5000		Custodial Cleaning	7,800	7,800	7,800	7,800	7,800		7,979	8,163	8,351	8,543	8,739	8,940	9,146	9,356	9,571	9,792	10,017
5100		Telephone	646	847	906	1,006	1,059		1,084	1,109	1,134	1,160	1,187	1,214	1,242	1,271	1,300	1,330	1,360
5200		Heat, Light & Utilities	13,086	14,395	13,652	13,215	12,362		12,646	12,937	13,235	13,539	13,850	14,169	14,495	14,828	15,169	15,518	15,875
5600		Rental Auto Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
5800		Rep & Main Office Equipment	143	113	120	125	168		172	176	180	184	188	192	197	201	206	211	215
5900		Rep & Main Grounds	6	129	197	0	0		0	0	0	0	0	0	0	0	0	0	0
6000		Rep & Main Building	0	0	0	334	10,696		10,941	11,193	11,451	11,714	11,983	12,259	12,541	12,829	13,124	13,426	13,735
6017		Repair Damage By Trucks	1,244	166	586	362	420		430	440	450	460	471	481	492	504	515	527	539
6100		Rep & Main Auto Equipment	11,081	8,732	10,631	15,607	12,343		12,627	12,917	13,214	13,518	13,829	14,147	14,472	14,805	15,146	15,494	15,851
6400		Main Work Order Transfers	45,407	11,122	9,905	8,460	8,521		8,717	8,918	9,123	9,333	9,547	9,767	9,992	10,221	10,456	10,697	10,943
6600		Laundry	665	655	525	482	571		584	597	611	625	639	654	669	685	700	716	733
6900		Miscellaneous	0	1,893	630	300	0		0	0	0	0	0	0	0	0	0	0	0
6934		Project Help Costs	0	315	0	0	0		0	0	0	0	0	0	0	0	0	0	0
6951		Recycling Charges	0	0	1,234	1,703	80		82	84	86	88	90	92	94	96	98	100	103
7200		Buildings	0	0	0	0	8,000		8,184	8,372	8,565	8,762	8,963	9,169	9,380	9,596	9,817	10,043	10,274
7400		Office Equipment	1,226	0	1,741	1,805	3,253		3,328	3,404	3,483	3,563	3,645	3,729	3,814	3,902	3,992	4,084	4,177
7500		Auto Equipment	0	0	23,005	0	0		0	0	0	0	0	0	0	0	0	0	0
7501		MERF Auto Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7600		All Other Equipment	0	0	0	4,293	0		0	0	0	0	0	0	0	0	0	0	0
7601		MERF All Other Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7800		Construction Work Orders	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7900		MERF Depreciation	6,780	6,780	8,280	9,780	10,000		10,230	10,465	10,706	10,952	11,204	11,462	11,725	11,995	12,271	12,553	12,842
9800		Interfund Transfers	(10,053)	(13,238)	(19,558)	(9,076)	(14,169)		(14,495)	(14,829)	(15,170)	(15,519)	(15,876)	(16,241)	(16,614)	(16,996)	(17,387)	(17,787)	(18,196)
		Total	**$1,428,819**	**$1,357,352**	**$1,413,598**	**$1,544,803**	**$1,584,604**		**$1,621,050**	**$1,658,334**	**$1,696,476**	**$1,735,495**	**$1,775,411**	**$1,816,246**	**$1,858,019**	**$1,900,754**	**$1,944,471**	**$1,989,194**	**$2,034,945**

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
CONSTRUCTION PRO FORMA

Fund Division	Budget Item	Actuals						Projected									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1701	Regular	51,163	47,942	46,079	54,023	54,251	55,499	56,775	58,081	59,417	60,783	62,181	63,611	65,075	66,571	68,102	69,669
1702	Overtime	2,087	2,810	2,148	2,120	311	319	326	333	341	349	357	365	373	382	391	400
1703	Seasonal Employees	4,482	7,809	13,347	1,067	853	873	893	913	934	956	978	1,000	1,023	1,047	1,071	1,095
3100	Special Dept Supplies	1,190	561	975	443	781	799	818	836	856	875	895	916	937	959	981	1,003
3242	Materials - Paint	11,025	10,105	17,797	1,515	18,515	18,941	19,376	19,822	20,278	20,744	21,221	21,709	22,209	22,720	23,242	23,777
3257	Materials - Steel	3,482	7,431	14,793	4,501	12,834	13,130	13,432	13,741	14,057	14,380	14,711	15,049	15,395	15,749	16,111	16,482
3258	Materials - Welding	3,722	5,217	6,681	5,929	6,216	6,359	6,506	6,655	6,808	6,965	7,125	7,289	7,457	7,628	7,804	7,983
3259	Materials - Maintenance	19,352	10,084	21,416	26,373	18,299	18,720	19,150	19,591	20,041	20,502	20,974	21,456	21,950	22,454	22,971	23,499
3400	Minor Equipment	301	726	906	665	507	518	530	542	555	568	581	594	608	622	636	651
5200	Heat, Lights & Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5600	Rental Auto Equipment	513	599	171	357	428	437	447	458	468	479	490	501	513	525	537	549
5700	Rental Property & Equipment	525	574	522	0	0	0	0	0	0	0	0	0	0	0	0	0
6018	Quonset Hut	0	0	0	574	0	0	0	0	0	0	0	0	0	0	0	0
6019	Repairs Sump Pump	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
6100	Rep & Main Auto Equipment	11,397	12,197	11,499	12,833	13,143	13,445	13,755	14,071	14,395	14,726	15,064	15,411	15,765	16,128	16,499	16,878
6102	Rep Small Equipment & Other	1,742	2,420	889	467	1,686	1,724	1,764	1,805	1,846	1,889	1,932	1,976	2,022	2,068	2,116	2,165
6200	Rep & Main Other Equipment	233	905	433	664	1,214	1,242	1,271	1,300	1,330	1,360	1,392	1,424	1,456	1,490	1,524	1,559
6227	Main Minor Equipment	540	1,000	405	0	0	0	0	0	0	0	0	0	0	0	0	0
6400	Main Work Order Transfer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7200	Buildings	0	0	0	0	89	91	93	95	97	100	102	104	107	109	112	114
7600	All Other Buildings	0	1,894	0	4,836	0	0	0	0	0	0	0	0	0	0	0	0
7601	MERF All Other Equipment	0	120,580	1,400	0	0	0	0	0	0	0	0	0	0	0	0	0
7900	MERF Depreciation	10,800	14,800	16,800	16,800	16,800	17,186	17,582	17,986	18,400	18,823	19,256	19,699	20,152	20,615	21,089	21,575
9800	Interfund Transfers	(496)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Totals	**$122,056**	**$247,655**	**$156,273**	**$133,168**	**$145,927**	**$149,283**	**$152,716**	**$156,229**	**$159,822**	**$163,498**	**$167,259**	**$171,105**	**$175,041**	**$179,067**	**$183,185**	**$187,399**

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
CONTAINERS PRO FORMA

Fund Division	Budget Item	Actuals						Projected										
		2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1701	Regular	192,788	185,848	228,587	190,115	207,373		212,143	217,022	222,013	227,120	232,343	237,687	243,154	248,747	254,468	260,321	266,308
1702	Overtime	36,579	58,490	40,975	36,424	31,048		31,762	32,493	33,240	34,004	34,787	35,587	36,405	37,242	38,099	38,975	39,872
1703	Seasonal Employees	0	0	0	1,657	549		562	575	588	601	615	629	644	659	674	689	705
3200	Special Dept Supplies	26	99	70	88	138		142	145	148	152	155	159	162	166	170	174	178
6100	Rep & Main Auto Equipment	212,400	216,000	214,800	217,800	223,731		228,876	234,141	239,526	245,035	250,671	256,436	262,334	268,368	274,540	280,855	287,314
6400	Main Work Order Transfer	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7500	Auto Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7501	MERF Auto Equipment	310,183	126,304	0	237,554	383,057		391,867	400,880	410,101	419,533	429,182	439,053	449,151	459,482	470,050	480,861	491,921
7600	All Other Equipment	37,400	0	18,640	0	0		0	0	0	0	0	0	0	0	0	0	0
7900	MERF Depreciation	170,900	171,600	183,600	192,600	195,900		200,406	205,015	209,730	214,554	219,489	224,537	229,702	234,985	240,389	245,918	251,574
9800	Interfund Transfers	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	TOTALS	**$960,275**	**$758,341**	**$686,672**	**$876,238**	**$1,041,796**	**$864,664**	**$1,065,757**	**$1,090,270**	**$1,115,346**	**$1,140,999**	**$1,167,242**	**$1,194,088**	**$1,221,552**	**$1,249,648**	**$1,278,390**	**$1,307,793**	**$1,337,872**

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
HAND UNLOAD PRO FORMA

Fund Division	Budget Item	Actuals						Projected										
		2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1701	Regular	485,523	502,264	545,597	512,714	522,434		534,449	546,742	559,317	572,181	585,341	598,804	612,577	626,666	641,079	655,824	670,908
1702	Overtime	34,586	35,034	59,428	25,558	5,411		5,536	5,663	5,794	5,927	6,063	6,203	6,345	6,491	6,640	6,793	6,949
1703	Seasonal Employees	17,495	26,176	25,958	28,408	34,059		34,842	35,644	36,463	37,302	38,160	39,038	39,936	40,854	41,794	42,755	43,738
3200	Special Dept Supplies	1,167	403	343	67	188		192	197	201	206	211	215	220	225	231	236	241
3400	Minor Equipment	0	96	602	0	0		0	0	0	0	0	0	0	0	0	0	0
5600	Rental Auto Equipment	0	0	428	0	0		0	0	0	0	0	0	0	0	0	0	0
5900	Rep & Main Grounds	0	0	0	32	0		0	0	0	0	0	0	0	0	0	0	0
6100	Rep & Main Auto Equipment	164,400	170,700	165,098	152,700	149,100		152,529	156,037	159,626	163,298	167,054	170,896	174,826	178,847	182,961	187,169	191,474
7300	Imp Other Than Buildings	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7500	Auto Equipment	600	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7501	MERF Auto Equipment	271,981	251,636	0	230,838	0		0	0	0	0	0	0	0	0	0	0	0
7600	All Other Equipment	12,861	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7601	MERF All Other Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7900	MERF Depreciation	149,900	173,700	180,600	177,800	172,200		176,161	180,212	184,357	188,597	192,935	197,373	201,912	206,556	211,307	216,167	221,139
9800	Interfund Transfers	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	TOTALS	**$1,138,513**	**$1,160,010**	**$978,052**	**$1,128,117**	**$883,392**	**$1,057,617**	**$903,710**	**$924,495**	**$945,759**	**$967,511**	**$989,764**	**$1,012,528**	**$1,035,816**	**$1,059,640**	**$1,084,012**	**$1,108,944**	**$1,134,450**

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
TILT FRAME PRO FORMA

Fund Division	Budget Item		Actuals					Projected										
		2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1701	Regular	85,451.01	84,777	99,113	91,684	90,236		92,311	94,434	96,606	98,828	101,101	103,427	105,805	108,239	110,728	113,275	115,881
1702	Overtime	12,101.93	13,203	14,417	14,246	10,750		10,998	11,251	11,509	11,774	12,045	12,322	12,605	12,895	13,192	13,495	13,806
1703	Seasonal Employees	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
2800	Meals	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
3200	Special Dept Supplies	0	26	335	216	11		11	11	11	12	12	12	13	13	13	13	14
6100	Rep & Main Auto Equipment	84,000	75,600	69,600	69,600	66,000		67,518	69,071	70,660	72,285	73,947	75,648	77,388	79,168	80,989	82,851	84,757
6200	Rep & Main Other Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7500	Auto Equipment	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7501	MERF Auto Equipment	0	79,245	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7600	All Other Equipment	18915	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7900	MERF Depreciation	60000	49,000	54,000	54,000	54,000		55,242	56,513	57,812	59,142	60,502	61,894	63,317	64,774	66,264	67,788	69,347
9800	Interfund Transfers	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	TOTALS	**$260,468**	**$301,850**	**$237,464**	**$229,747**	**220,997**		**$226,080**	**$231,280**	**$236,599**	**$242,041**	**$247,608**	**$253,303**	**$259,129**	**$265,089**	**$271,186**	**$277,423**	**$283,804**

AUTOLOAD FEASILITY STUDY
CITY OF IDAHO FALLS, IDAHO
REVENUES PRO FORMA

Fund Division	Budget Item		Actuals					Projected										
		2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	Any Federal Grant	0	0	32,370	0	0												
	Interest Earnings	9,361	4,525	5,377	6,519	6,448.26												
	Miscellaneous Earnings	2,686	10,543	27,797	43,292	25,477.96												
	Sale of Assets	170	0	0	0	(76,872.73)												
	Hand Unload Grabage Fees	1,707,588.00	1,707,588.00	1,707,588.00	1,707,588.00	1,707,588.00												
	Non-Compacted Garbage Fees	2,174,370	2,046,237	2,053,133	2,034,433	2,229,972.32												
	Late Fees	7,663	8,521	8,386	8,623	9,340.10												
	TOTALS	**$3,901,839**	**$3,777,414**	**$3,834,651**	**$3,800,455**	**$3,901,954**												

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO

Fund Division	Budget Item		Actuals					Projected										
		2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
4231	Hazardous Waste Collection	0	179	0	868	7,906		8,088	8,274	8,464	8,659	8,858	9,062	9,270	9,483	9,701	9,925	10,153
5700	Payment In Lieu of Taxes	194,098	187,691	188,036	187,101	187,869		192,190	196,610	201,132	205,758	210,491	215,332	220,285	225,351	230,534	235,837	241,261
9800	Interfund Transfers	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	TOTALS	**$194,098**	**$187,870**	**$188,036**	**$187,969**	**195,775**		**200,278**	**204,884**	**209,597**	**214,417**	**219,349**	**224,394**	**229,555**	**234,835**	**240,236**	**245,761**	**251,414**

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
SUMMARY PRO FORMA

Fund Division	Actuals						Projected										
	2009	2010	2011	2012	2013		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Operating Revenues																	
Federal Grant	0	0	32,370	0	0		0	0	0	0	0	0	0	0	0	0	0
Interest Earned	0	496	1,660	2,821	6,448		2,285	2,338	2,391	2,446	2,503	2,560	2,619	2,679	2,741	2,804	2,868
Miscellaneous Revenues	2,856	10,543	27,797	43,292	(51,395)		6,619	6,771	6,927	7,086	7,249	7,416	7,586	7,761	7,939	8,122	8,309
Charges for Service																	
Hand Unload Garbage Fees	3,685,505	3,646,418	3,630,071	3,599,137	3,789,464		3,838,727	3,888,630	3,939,183	3,990,392	4,042,267	4,094,816	4,148,049	4,201,974	4,256,599	4,311,935	4,367,990
Containers	196,453	107,407	130,650	142,884	148,096		150,022	151,972	153,948	155,949	157,976	160,030	162,110	164,218	166,353	168,515	170,706
Late Fees	7,663	8,521	8,386	8,623	9,340		8,507	8,617	8,729	8,843	8,958	9,074	9,192	9,312	9,433	9,555	9,679
Subtotal	3,892,477	3,773,385	3,830,934	3,796,757	3,901,954		4,006,159	4,058,328	4,111,177	4,164,716	4,218,952	4,273,896	4,329,557	4,385,943	4,443,065	4,500,931	4,559,553
		-3.1%	1.5%	-0.9%	2.8%	0.09%											
Operating Expenses																	
Administration	1,428,819	1,357,352	1,413,598	1,544,803	1,584,604		1,621,050	1,658,334	1,696,476	1,735,495	1,775,411	1,816,246	1,858,019	1,900,754	1,944,471	1,989,194	2,034,945
Construction	122,056	247,655	156,273	133,168	145,927		$149,283	$152,716	$156,229	$159,822	$163,498	$167,259	$171,105	$175,041	$179,067	$183,185	$187,399
Containers	960,275	758,341	686,672	876,238	1,041,796		1,065,757	1,090,270	1,115,346	1,140,999	1,167,242	1,194,088	1,221,552	1,249,648	1,278,390	1,307,793	1,337,872
Hand Unloads	1,138,513	1,160,010	978,052	1,128,117	883,392		903,710	924,495	945,759	967,511	989,764	1,012,528	1,035,816	1,059,640	1,084,012	1,108,944	1,134,450
Tilt Frame Containers	260,468	301,850	237,464	229,747	220,997		226,080	231,280	236,599	242,041	247,608	253,303	259,129	265,089	271,186	277,423	283,804
Disposal	194,098	187,870	188,036	187,969	195,775		200,278	204,884	209,597	214,417	219,349	224,394	229,555	234,835	240,236	245,761	251,414
Subtotal	4,104,229	4,013,077	3,660,095	4,100,042	4,072,490		4,166,158	4,261,979	4,360,005	4,460,285	4,562,871	4,667,817	4,775,177	4,885,006	4,997,362	5,112,301	5,229,884
		-2.2%	-8.8%	12.0%	-0.7%	0.08%											
Net Revenues/(Losses)	**($211,752)**	**($239,692)**	**$170,839**	**($303,285)**	**($170,536)**		**($159,999)**	**($203,651)**	**($248,827)**	**($295,569)**	**($343,919)**	**($393,921)**	**($445,620)**	**($499,063)**	**($554,297)**	**($611,369)**	**($670,331)**
MERF	**$1,050,320**	**$995,539**	**$463,320**	**$928,501**	**$831,957**		**$851,092**	**$870,667**	**$890,692**	**$911,178**	**$932,136**	**$953,575**	**$975,507**	**$997,943**	**$1,020,896**	**$1,044,377**	**$1,068,397**
Dep	**$366,886**	**$421,980**	**$463,150**	**$439,838**	**$475,448**		**$486,383.30**	**$497,570.12**	**$509,014.23**	**$520,721.56**	**$532,698.16**	**$544,950.21**	**$557,484.07**	**$570,306.20**	**$583,423.24**	**$596,841.98**	**$610,569.34**
Fin statement net Revenue	**$471,682**	**$333,867**	**$171,009**	**$185,379**	**$185,973**		**$204,710**	**$169,446**	**$132,851**	**$94,888**	**$55,518**	**$14,703**	**($27,598)**	**($71,426)**	**($116,824)**	**($163,835)**	**($212,503)**

Cost Center	Allocation By Expenses					Average
Administration	34.8%	33.1%	34.4%	37.6%	38.6%	35.7%
Construction	3.0%	6.0%	3.8%	3.2%	3.6%	3.9%
Containers	23.4%	18.5%	16.7%	21.3%	25.4%	21.1%
Hand Unloads	27.7%	28.3%	23.8%	27.5%	21.5%	25.8%
Tilt Frame Containers	6.3%	7.4%	5.8%	5.6%	5.4%	6.1%
Disposal	4.7%	4.6%	4.6%	4.6%	4.8%	4.6%

($159,999)	($363,650)	($612,477)	($908,046)	($1,251,965)	($1,645,886)	($2,091,507)	($2,590,570)	($3,144,867)	($3,756,236)	($4,426,567)	
-151,998.8											
-7.35											
-0.61											

SCS ENGINEERS

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
FLEET INVENTORY AND MERF CHARGES

Equipment Number	Area	Description	Year	Manaufacturer	Model	Purchase Cost	Charge		Life Expectancy
							Replacement	Maintenance	
7001	Administrative	Pickup 1/2 ton	2001	Ford	F250 Super Duty	$20,596	175	350	12
7019	Administrative	Pickup 1/2 ton	2011	Chevy	Silverado	$23,005	250	225	12
7040	Administrative	Pickup 3/4 ton	2008	GMC	Sierra	$21,185	300	350	8
778	Administrative	Pickup 3/4 ton Flatbed	2001	Ford	F250	$19,798	200	250	5
7008	Administrative	Loader Front End Telescopic	2006	Gehl	CT7-23T	$74,859	500	375	15
7043	Administrative	Truck, Havy With Knuckleboom	2010	Freighliner	MS-106	$120,890	700	375	10
7015	Commercial	Container Truck	2008	GM	TTBF064/TB500	$160,392	2,700	2,500	6
7017	Commercial	Container Side Loader	2009	American LaFrance	Condor	$162,304	2,700	2,500	6
7021	Commercial	Container Truck	2014	Freighliner	M2-106	$153,519	2,000	2,500	7
7023*	Commercial	Container Truck	2013	Freighliner	M2-106	$153,519	2,000	2,500	7
7025	Commercial	Container Truck	2013	Freighliner	M2-106	$153,519	2,000	2,500	7
7041	Commercial	Container Truck	2012	Freighliner	M2-106	$145,027	2,100	2,800	7
7045	Commercial	Container Truck	2012	Freighliner	M2-106	$145,027	2,100	2,800	7
791		Chipper	2000	Morbark	2400	$30,800	150	25	20
7016	Hand Unload	Truck, Rear-Loader	2010	Freighliner	M2-106	$131,818	1,800	1,500	7
7018**	Hand Unload	Truck, Rear-Loader	2010	Freighliner	M2-106	$131,818	1,800	1,500	7
7020	Hand Unload	Truck, Rear-Loader	2013	Western Star	470058	$145,419	1,900	1,600	8
7022	Hand Unload	Truck, Rear-Loader	2013	Western Star	470058	$145,419	1,900	1,600	8
7036	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$130,237	1,500	1,400	6
7038	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$130,237	1,500	1,400	6
7042	Hand Unload	Truck, Rear-Loader	2008	GMC	T8500/TTBF064	$141,490	1,900	1,600	7
7044	Hand Unload	Truck, Rear-Loader	2009	GMC	T8500/TTBF064	$141,490	1,900	1,600	7
7006	Commercial	Truck, Tilt Frame	2006	Freighliner	LTBF064	$113,032	1,000	2,000	12
7014	Commercial	Truck, Tilt Frame	2011	Freighliner	M2-106	$116,245	1,500	1,500	11
7037	Commercial	Truck, Tilt Frame	2009	Sterling	LT8500	$109,181	1,000	1,000	11
7039	Commercial	Truck, Tilt Frame	2009	Sterling	LT8500	$109,181	1,000	1,000	11
TOTALS						**$2,930,006**	**$36,575**	**$37,750**	

Notes:

* 50% Commercial/50% Residential

** 70% Commercial/30% Residential

AUTOLOAD FEASIBILITY PLAN
CITY OF IDAHO FALLS, IDAHO
WAGE AND BENEFIT CALCULATION (March 21, 2014)

							Regular Wage Benefit						Total	O/T Wage Benefit			
Employee	Description	Hourly Rate	Longevity Amount	Yearly Hours	OT Rate	Base Wage	FICA	PERSI	WC	H/D Ins	Life Ins	Total	Labor Cost	FICA	PERSI	WC	Total
ADER, RODNEY D	Driver	17.70	747	2,080	27.09	37,563	0.0765	0.1132	0.127	0.5244	0.0047	0.8458	69,334	0.0765	0.1132	0.0847	0.2744
ALCARAZ, JOSE	Lead Man	21.12	2,060	2,080	33.17	45,990	0.0765	0.1132	0.127	0.4283	0.044	0.789	82,275	0.0765	0.1132	0.0847	0.2744
AREHART, TONY J	Admin	32.36	2,372	2,080	50.25	69,681	0.0765	0.1132	0.127	0.1978	0.0033	0.5178	105,762	0.0765	0.1132	0.0847	0.2744
BARZEE, RYAN A	Driver	18.55	1,230	2,080	28.71	39,814	0.0765	0.1132	0.127	0.4948	0.0046	0.8161	72,306	0.0765	0.1132	0.0847	0.2744
BEATY, MARVIN R	Foreman	28.71	2,372	2,080	44.78	62,089	0.0765	0.1132	0.127	0.3173	0.0037	0.6377	101,683	0.0765	0.1132	0.0847	0.2744
DENISON, ORVAL V	Driver	19.80	1,230	2,080	30.59	42,414	0.0765	0.1132	0.127	0.4645	0.0046	0.7858	75,743	0.0765	0.1132	0.0847	0.2744
DUTTON, TERRY L	Driver	20.74	2,372	2,080	32.82	45,511	0.0765	0.1132	0.127	0.3028	0.0045	0.624	73,910	0.0765	0.1132	0.0847	0.2744
FELISO, CHRISTOPH	Driver	18.55	747	2,081	28.36	39,350	0.0765	0.1132	0.127	0.5006	0.0047	0.822	71,695	0.0765	0.1132	0.0847	0.2744
FRENCH, GARY E	Driver	21.23	2,372	2,080	33.56	46,530	0.0765	0.1132	0.127	0.2962	0.0044	0.6173	75,254	0.0765	0.1132	0.0847	0.2744
GARDNER, ALAN K	Driver	20.74	2,372	2,080	32.82	45,511	0.0765	0.1132	0.127	0.4329	0.0045	0.7541	79,831	0.0765	0.1132	0.0847	0.2744
GARRICK, HENRY	Bucker	16.88	351	2,080	25.57	35,461	0.0765	0.1132	0.127	0.5555	0.0048	0.877	66,561	0.0765	0.1132	0.0847	0.2744
GERDES, BILLY J	Bucker	17.70	747	2,080	27.09	37,563	0.0765	0.1132	0.127	0.5244	0.0047	0.8458	69,334	0.0765	0.1132	0.0847	0.2744
HIGHT, FRED E	Driver	18.55	747	2,080	28.36	39,331	0.0765	0.1132	0.127	0.5009	0.0047	0.8223	71,673	0.0765	0.1132	0.0847	0.2744
HUNTING, DOUGLA	Driver	20.23	2,060	2,080	31.83	44,138	0.0765	0.1132	0.127	0.4463	0.0044	0.7674	78,010	0.0765	0.1132	0.0847	0.2744
KIENLEN, PATRICK	Bucker	14.84	0	2,080	22.26	30,867	0.0765	0.1132	0.127	0.2163	0.0047	0.5377	47,464	0.0765	0.1132	0.0847	0.2744
LAKE, TRAVIS J	Driver	19.80	1,577	2,080	30.84	42,761	0.0765	0.1132	0.127	0.4607	0.0045	0.7819	76,196	0.0765	0.1132	0.0847	0.2744
LILJENQUIST, STAN	Driver	21.23	2,372	2,080	33.56	46,530	0.0765	0.1132	0.127	0.2962	0.0044	0.6173	75,254	0.0765	0.1132	0.0847	0.2744
LINDLEY, TRAVIS	Bucker	14.84	0	2,080	22.26	30,867	0.0765	0.1132	0.127	0.2163	0.0049	0.5379	47,471	0.0765	0.1132	0.0847	0.2744
MCCORMICK, LERO	Driver	19.80	1,577	2,080	30.84	42,761	0.0765	0.1132	0.127	0.4607	0.0045	0.7819	76,196	0.0765	0.1132	0.0847	0.2744
MCVEY, VANCE H	Bucker	16.88	351	2,080	25.57	35,461	0.0765	0.1132	0.127	0.5555	0.0048	0.877	66,561	0.0765	0.1132	0.0847	0.2744
PACKER, MICHEAL	Bucker	15.48	0	2,080	23.22	32,198	0.0765	0.1132	0.127	0.6118	0.0049	0.9334	62,252	0.0765	0.1132	0.0847	0.2744
PONCE, MANUEL A	Welder	21.68	2,240	2,080	34.14	47,334	0.0765	0.1132	0.127	0.4162	0.0045	0.7374	82,239	0.0765	0.1132	0.0847	0.2744
POWELL, LEONARD	Driver	22.09	2,372	2,080	34.85	48,319	0.0765	0.1132	0.127	0.4162	0.0045	0.7374	83,950	0.0765	0.1132	0.0847	0.2744
RUMBLE, MICHAEL	Driver	19.34	1,230	2,080	29.90	41,457	0.0765	0.1132	0.127	0.1382	0.0043	0.4592	60,494	0.0765	0.1132	0.0847	0.2744
STEWART, MICHAE	Driver	19.80	2,060	2,080	31.19	43,244	0.0765	0.1132	0.127	0.3324	0.0044	0.6535	71,504	0.0765	0.1132	0.0847	0.2744
SWATTS, ENRIQUE	Driver	19.34	1,230	2,080	29.90	41,457	0.0765	0.1132	0.127	0.4555	0.0045	0.7767	73,657	0.0765	0.1132	0.0847	0.2744
THOMPSON, JUSTI	Bucker	16.23	0	2,080	24.35	33,758	0.0765	0.1132	0.127	0.4752	0.0046	0.7965	60,647	0.0765	0.1132	0.0847	0.2744
WILCOX, WADE M	Bucker	18.57	2,060	2,080	29.34	40,686	0.0765	0.1132	0.127	0.1977	0.0046	0.519	61,801	0.0765	0.1132	0.0847	0.2744
WINDMILLER, JAN	Admin	16.25	351	2,080	24.63	34,151	0.0765	0.1132	0.0061	0.4842	0.0045	0.6845	57,527	0.0765	0.1132	0.0041	0.1938
Totals						**1,222,800**				**0.72**			**2,096,584**				

Residential Hand Unload

Average Salaries
Driver 72,795

Source: City of Idaho Falls, 2014

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
AUTOLOAD PRO FORMA

	Number	Unit Cost	Subtotal	Annual	2013 Budget	Variance
Labor						
ASL Drivers	4.0	$ 72,795.27		$ 291,181		
ASL Relief Driver	1.0	$ 41,137.70		$ 41,138		
Subtotal	5.0			**$ 332,319**	561,904	(229,585)
Equipment						
ASL Vehicles (Front line)	4.0	$38,950	$ 155,800	$ 155,800		
ASL Vehicles (Spare)	2.0	$38,950	$ 77,900	$ 77,900		
ASL Containers	2	$75,600	$ 151,200	$ 151,200		
Subtotal			$ 384,900	**$ 384,900**	172,200	212,700
Operating Costs						
Maintenance						
ASL	4.0	$ 2,000.00	$ 8,000	$ 96,000		
ASL (Spare)	1.0	$ 2,000.00	$ 2,000	$ 24,000		
Subtotal				**$ 120,000**	149,288	(29,288)
Fuel	5.0	$ -	$ -	**$ -**	0	0
Disposal MSW and HHW		$ -	$ -	**$ 117,465**	117,465	117,465
Administration Allocations						
Residential Hand Unload				$ 778,739		
Payroll reduction benefits credit			$ (160,710)	$ (160,710)		
Potential Reduction in Insurance Fund*	-30%			$ (45,052)		
Subtotal				**$ 572,977**	$ 778,739	(205,762)
Total				**$ 1,527,661**	**$ 1,779,596**	**$ (134,470)**
Fully Loaded Administrative Costs (FY2013)				$ -		
Cost Per Household						
Annual				$ 106.09	$ 123.58	
Estimated Monthly Cost per Household:				$ 8.84	$ 10.30	

Assumptions		Source
# Collection Days / Week (MSW)	1	City
Weeks/Mos.	4.33	
Customers	14,400	City
Production Rate (homes/hr)	110	SCS
Hours per Employee / week	40	City
ASL Work Days Proposed	5	SCS
Hours worked per day	8	SCS
Homes/Route	880	
Benefits (72 % of Payroll)	1.7	City Data
Trucks		
ASL Fleet Replacement (yrs)	6	City
REL Fleet Replacement (yrs)	7	City
Carts (yrs)	10	SCS
Carts (spare ratio)	5%	SCS
Annual Leave Per Employee (days)	15.0	City
Sick Leave Per Employee (days)	12.0	City
Spare Staff Req	1.0	SCS
Staff Backup (Spare Ratio)	25%	SCS
Spare Equipment Ratio	50%	SCS
Insurance Fund (2013 budget)	150,174	Shown in Administration Budget (a portion of the Employee
Inflation	1.023	SCS; 11-Year CPI Average

MERF	Month	Year	Initial Costs	Unit
Carts	$6,300	$75,600	$756,000	$50
ASL	$3,246	$38,950	$1,402,200	$233,700

current			
$ 9.00	$	0.16	$ 27,539

Potential Savings		
savings	monthly	annual
$ (1.46)	$ (20,995)	$ (251,935)

SCS ENGINEERS

AUTOLOAD FEASIBILITY STUDY
CITY OF IDAHO FALLS, IDAHO
ASSUMPTIONS

Item	Input Description	Quantity	Units/Description	Comments/Source
	REVENUE			
1	Recyclables		per ton	
2	Tipping Fee		per ton	Calculated by Model
3	Customer Charges			City Provided
4	Government Grants	$ -	None Anticipated	City Provided
5	Growth in Customer Accounts			
	Average Growth	1.3%		City Provided; Annual growth rate over 2 decades
	High Growth	3.0%		City Provided
	EXPENSES			
6	Inflation Rate	2.3%		SCS Assumptions - 11 Year US Average
7	Bonneville County Tipping Fee Escalation Rate	2.3%		SCS Assumptions
	RESERVES			
		$0		City Provided
7	General Department Reserve	$0		City Provided
	CUSTOMERS			
8	Residential	20,688		City Provided
9	Commercial			City Provided
	ADMINISTRATIVE ALLOCATION			

SCS ENGINEERS