

CLARK COUNTY

Cost / Benefit Analysis – Waste and Recycling Services

May 04, 2010

Presented to: Clark County Management and
Board of Commissioners



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Presented by:
RSM McGladrey, Inc.

Contact Person:

Shawn O'Mara, Director, Risk Management
602.760.2841 | shawn.o'mara@rsmi.com

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May 04, 2010

RSM McGladrey Inc.
501 N. 44th St.
Suite 300
Phoenix, AZ 85008
D 602.636.6000 F 602.760.2917
www.rsmmcgladrey.com

George W. Stevens
Chief Financial Officer
Clark County
500 South Grand Central Parkway
Las Vegas, NV 89106

Dear George:

Thank you for the opportunity to perform a financial analysis of the Clark County Pilot Recycling Programs (PRP). We found this to be an interesting engagement that allowed us to perform a thorough examination of the revenues and costs associated with the programs and to conduct a comparative analysis of the program outcomes. In our analysis we gathered an understanding of the processes, formulated the revenue and cost factors for the programs, evaluated the methodologies for calculating the inputs, traced the values to the general ledger, and analyzed the results. We also conducted interviews of customers to obtain their feedback on the PRP's.

We would like to thank Clark County and Republic Services for their cooperation throughout this engagement. We appreciate their assistance in providing information, responding to inquiries, and granting us access to information and facilities to perform the analysis objectives.

We appreciate the opportunity to prepare this financial analysis for Clark County and are available to assist you in improving the performance and evaluating the financial structure / effectiveness of the PRP's. We are also available to answer any questions you may have regarding the engagement and this report. Please contact Shawn O'Mara at 602-760-2841, if we can be of further assistance.

Sincerely,



Shawn O'Mara
RSM McGladrey
Director Risk Management Service

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I. DESCRIPTION

Clark County has engaged RSM McGladrey to conduct a financial analysis of the Pilot Recycling Programs (PRP) for 2009. The financial analysis of the PRP's consisted of an analysis of revenue and cost factors for the non-PRP and PRP communities. Recycling and solid waste collection services are provided to Clark County by Republic Services. Only the Clark County communities were within scope for this engagement.

For the non-PRP's trash is collected manually via rear loader (REL) trucks, twice per week. The customer sets out their trash in customer purchased receptacles and loose garbage bags / boxes. Recyclables are collected manually via side loader (SL) trucks every other week, on the same day as trash collection. The customer sets out their recyclables in three twelve gallon crates that separate the recyclables by blue crate: glass, white crate: newspaper / magazines, and red crate: plastic / non-ferrous metals. The recycling crates are either purchased or have been provided by Republic Services.

For the PRP's trash and recyclables are collected via automatic side loader (ASL) trucks. The customer sets out their trash and recyclables in separate ninety six gallon carts, one dedicated to trash and the other to recyclables. Recyclables can be commingled in the recycling cart. The carts are provided by Republic Services. In the PRP's, the types of recyclable materials are expanded to include:

- Corrugated Cardboard
- Paperboard
- Magazines / Catalogs
- Junk Mail
- Office Paper
- Phone Books
- Aluminum / Steel Cans
- Plastic Bottles
- Brown Paper Bags
- Newspapers
- Glass Bottles / Jars

There are three programs for trash and recyclable collection:

- **ASL 1:** Twice per week trash with once a week recycle
- **ASL 2:** Twice per week trash with every other week recycle
- **ASL 3:** Once per week trash with once per week recycle.

The PRP's currently operate in nine communities within Clark County:

COMPOSITION OF COMMUNITIES PER PILOT RECYCLING PROGRAM		
ASL 1	ASL 2	ASL 3
Rhodes Ranch (Red Zone)**	Countryside	Castlewood
	Rhodes Ranch (Green Zone)**	Collina
		Mesa & Villa
		Montagne Marron
		Nellis Air Force Base*
		Red Rock Country Club

*Customer interviews were not performed at Nellis Air Force Base as we were not granted access to the community.

**Customer interviews were combined for Rhodes Ranch Red and Green Zones.

As a third party, RSM McGladrey has been hired by Clark County to analyze the current method of collection compared to the new method used in the Pilot Programs. In doing so, we interviewed key personnel, observed operations / processes, examined supporting documents, and tested transactions for reasonableness. Once the processes were observed, and the amounts affirmed, we constructed a cost / benefit analysis for the three PRP's and presented the results noted in this report to the Clark County Board of Commissioners. Per instructions from the Clark County Board of Commissioners, this report does not draw conclusions or present findings. The report omits SG&A, fixed costs, and overhead. The intent of this report is to state the revenue and cost structure for the non-PRP and PRP's as examined. Our field work was performed from January 25, 2010 thru February 26, 2010.

II. PARTIES INVOLVED

CLARK COUNTY

Clark County has contracted RSM McGladrey to perform a cost / benefit analysis of Republic Services performance with respect to the Clark County PRP's.

REPUBLIC SERVICES

Republic Services provides solid waste and recycling collection services to Clark County via the franchise agreement. Republic Services has agreed to the terms and conditions of the financial analysis of the PRP contract between Clark County and RSM McGladrey. Republic Services has provided RSM McGladrey access to the company's financial information, personnel, facilities, and operational processes related to the PRP's in order to perform the engagement objectives.

RSM MCGLADREY

RSM McGladrey has been contracted by Clark County to perform a cost / benefit financial analysis of Republic Services' performance with respect to the Clark County PRP's. RSM McGladrey was not contracted to draw conclusions and / or make recommendations. The scope of this engagement was limited to providing financial analysis of the Clark County PRP's for 2009. The Clark County Board of Commissioners will draw the conclusions from the financial analysis. Please accept this report as the presentation of the financial analysis of the Clark County PRP's to the Clark County Board of Commissioners.

III. METHODOLOGY

This engagement began by performing interviews with key members of the Republic Services finance and operations teams for Cheyenne and the Recycling Center. Through these interviews we obtained an overview of the financial and operational processes related to the PRP's and the Recycling Center. We also performed walkthroughs of key processes, toured facilities and neighborhoods, and constructed the revenue and cost factors for the non-PRP, ASL1, ASL2, and ASL3 programs. Source documents were obtained to gain reasonable assurance of the transactions supporting the revenue and cost factors. We traced the totals for these factors to the General Ledger for 2009. The methodology used to compute the revenue / cost factors per program is noted in the table below:

REVENUE AND COST FACTOR CALCULATIONS	
Factor	Calculation Methodology
Labor	This calculation includes hourly calculations for driver and helper wage, overtime, insurance, pension, new retiree, training trust, payroll taxes, bonus, personal/ holiday / vacation / sick time, and uniforms.
Direct Management	This calculation includes hourly calculation for management hours dedicated to the programs. This calculation takes into consideration the reduction in management hours in 2009.
Fuel	This calculation includes the fuel cost per driver hour.
Other Equipment Operating	This calculation includes vehicle licenses, registrations, and other costs incurred to operate the equipment per driver hour.
Maintenance	This calculation includes maintenance costs per driver hour. The ASL's are new trucks so the analysis provides the current insurance costs and a comparison using the 2009 maintenance costs for the RS Anaheim trucks.
Insurance	This calculation includes worker's compensation and general liability insurance costs per driver hour. The ASL's are new so the analysis includes the current ASL insurance costs and a comparison to the equivalent insurance costs for the one person side loader trucks.
Depreciation	This calculation includes the depreciation and taxes for the trucks used in the programs. The rear load truck depreciation is based on a 10 year useful life and the side loader truck depreciation is based on an 8 year useful life.
Total Direct Cost	This calculation includes a summation of the direct costs listed above.
Productivity	This calculation includes the total solid waste and recycling homes serviced per hour worked for each program.
Services per Month	This calculation includes the number of times per month the solid waste and recycling collection service are performed.
Bulk Services	This calculation includes the number of times per month the bulk collection services are performed.
Total Services	This calculation is a summation of the number of solid waste, recycling, and bulk collection services per month to derive the total services.
The above calculations describe the costs per hour to provide services. These costs are divided by the productivity factor per program to obtain the per unit cost. The per unit cost is then multiplied by the number of services provided per month to obtain the monthly per unit direct cost.	
Per Unit Direct Costs	This calculation includes the total direct cost per home, the total direct costs, the productivity factor, and the services per month to derive the per unit direct costs.

Per Unit Bulk Hourly	This calculation uses the rear loader total direct cost, the program productivity factor, the services per month, and the percent per hour of bulk collection time to derive the per unit bulk cost per hour. The rear loader total direct cost is used for this calculation because the rear loaders are utilized for the bulk collections.
Per Unit Disposal	This calculation includes the number of homes serviced per month, the disposal tons collected per month, the services per month, and the tipping fee per load tip to derive the per unit disposal cost.
Per Unit Bulk Disposal	This calculation includes the disposal tons collected per month, percent of bulk tons, and bulk tons per month. The bulk tons per month is multiplied by the cost per ton per month to derive the per unit bulk disposal cost.
Per Unit Recycle Processing	This calculation includes recycled tons, number of homes serviced, pounds per service, services per month, tons per month, and cost per ton.
Per Unit Cart / Bin Depreciation	This calculation includes the cost per cart / bin, the number of carts / bins per unit, the useful life of the cart / bin, and the recycling participation rate to derive the monthly recycling cart / bin cost per unit. The carts / bins are depreciated utilizing a 10 year useful life.
Per Unit Cart / Bin Support	This calculation includes the billed residential accounts and the monthly bin support amount to derive the per unit cart / bin support.
Per Unit Cart / Bin Rental	This calculation includes the revenue net of franchise, cart support, and cart depreciation to derive the net cart revenue.
Total Per Unit	This calculation includes a summation of the per unit direct, per unit bulk hourly, per unit disposal, per unit bulk disposal, per unit recycling processing, per unit cart / bin depreciation, per unit cart / bin support, and per unit cart rental to derive the total per unit.

The revenue and cost structures were built for the manual rear loader trucks which are used for trash / bulk collection and the side loader trucks for recycle collection in the non-Pilot neighborhoods. The various revenue and cost factors were divided by the common denominator driver hours so that a uniform comparison of revenue and costs could be applied to the various programs. Additionally, this analysis focuses upon revenue / cost per unit, which is defined as each home serviced. The same revenue and cost structure was built for the PRP's. Detailed work papers were constructed to support the calculations, assumptions, General Ledger amounts, test procedures, and formula recalculations. These work papers are documented, tied, and referenced for ease of understanding the methodology utilized.

There are three different ways to measure hours: kronos hours, driver hours, and engine hours. Kronos hours are the total hours recorded per driver by day from the clock in time to the clock out time. Driver hours measure the time from clock in to clock out and excludes lunch and break time. Engine hours include the hours the engine is actually running from the moment the engine is turned on to the moment the engine is turned off. The engine hours would exclude the time that the engine is turned off while the driver is on break, at lunch, and the period of time at the end of the shift when the route is completed, the truck is returned to the Cheyenne station, the engine turned off, and the driver remains on site for further instruction until the end of the shift.

We also performed a cursory review of the revenues generated from the recycling center. The tons of recyclable materials processed by the recycling center originated from both Clark County and non-Clark County neighborhoods, so the Recycling Center is outside of the scope of this engagement. This information is provided only for background informational purposes.

In addition to the financial analysis, face to face interviews were conducted with thirty-five customers, five each from the neighborhoods of Castlewood, Collina, Countryside, Mesa & Valla, Red Rock Country Club, Montagne Marron, and Rhodes Ranch. The results of these interviews were compiled to obtain customer feedback.

IV. SCOPE

The scope of this engagement was to perform a cost / benefit financial analysis of the PRP's for 2009 to determine the revenue and cost structures for the current non-Pilot trash and recycling program as a comparison to the PRP's. The period analyzed and tested includes 2009 financial and operational processes.

The objectives for this engagement were to determine the impact of:

- replacing the current recycling crates and trash carts and supplying customers with two new 96-gallon carts
- replacing the current fleet of trucks with automated trucks
- adding / changing the recycling pickup frequency
- the resulting labor and route cost changes.

The audit steps were to:

- gain an understanding of client operations through research, interviews, walkthroughs, and observations of facilities, communities, and key personnel.
- obtain cost evaluation for current manual Rear End Load (REL) solid waste operations
- obtain cost evaluation for current manual Side Load (SL) recycling operations
- obtain cost evaluation for Automated Side Load (ASL) solid waste and recycling operations
- perform reasonableness testing for the material revenue and cost factors for each collection program
- determine the impact of replacing the current recycling crates and trash carts and supplying customers with two new 96-gallon carts
- determine the impact of replacing the current fleet of trucks with automated trucks
- determine the resulting labor and route cost changes
- determine the impact of expanding the pilot recycling program
- obtain feedback from residents on the recycling pilot program.

V. ASSUMPTIONS

In performing our financial analysis, the following assumptions were made:

Cheyenne Managers/Supervisors – In 2009, several Managers/Supervisors were terminated suddenly and within a short period of time. They were not immediately replaced and as a result of lower staffing levels, 2009 Manager/Supervisor costs do not accurately represent costs incurred in a normal period. To compensate for this understatement, we multiplied the actual Manager/Supervisor costs by a factor of 122.1%, based on historical data, assuming this cost would more accurately reflect that of ongoing operations. The 122.1% represents a total of the direct wages divided by the actual wages for 2009.

Route Comparisons – Neighborhoods selected for the PRP's were not selected on the basis of proximity to one another. New routes were established to service the PRP's, which involved traveling significant distances when compared to the non-PRP routes for existing operations. A basis to compare the actual financials for the same, non- PRP and PRP routes does not exist. In order to facilitate a comparison between non-PRP routes and PRP routes we used actual financials per program divided by a common denominator such as driver hours or engine hours to arrive at an average cost / unit. This average cost / unit is then compared between the non-PRP and PRP.

Side Loader Maintenance Costs – Since the automated trucks in the pilot fleet are all relatively new, the maintenance costs for the automated routes serviced in Clark County are not representative of a normal fleet. Trucks go through life cycles that affect the cost to maintain them. In the first few years of implementation, the costs to maintain the trucks are very low and progressively increase as the truck ages. The maintenance cost for the non-PRP SL trucks are based on an average fleet (some new, some with moderate aging, and some old). For this analysis, the historical maintenance costs for the Republic Services Anaheim fleet more accurately reflects the maintenance costs expected to be incurred within a normal period of operations.

Fleet Depreciation – In order to compare depreciation between new (Automated) trucks and existing (Rear Load/Side Load) trucks we used the current replacement cost for each type of vehicle rather than the historical cost, since many of the existing trucks were purchased years ago at prices that do not reflect the cost to purchase a new truck today. Utilizing the current replacement costs to determine the depreciation amount allows for a comparison of the depreciation between the new automated fleet and older rear and side load fleet.

VI. SUMMARY

There is one non-pilot program for trash, recycling, and bulk collection and there are three types of Pilot Recycling Programs. The collection frequency, truck types, and total number of services per month for each program are:

TRASH & RECYCLING PROGRAM COLLECTION ATTRIBUTES					
Program	Trash Collection Frequency	Trash Truck Type	Recycle Collection Frequency	Recycle Truck Type	Total Services Per Month*
REL/ SL	Twice Per Week	Manual Rear Loader	Once Every Other Week	Manual Side Loader	10.833
ASL 1	Twice Per Week	Automated Side Loader	Once Per Week	Automated Side Loader	15.167
ASL 2	Twice Per Week	Automated Side Loader	Once Every Other Week	Automated Side Loader	13.000
ASL 3	Once Per Week	Automated Side Loader	Once Per Week	Automated Side Loader	10.833

* Total services per month include once every other week bulk collection via manual side load trucks for each program.

A. TOTAL COST / UNIT DETAIL

An analysis of the per unit direct costs for each program was conducted by obtaining the total direct cost for various cost factors per driver hour. Next a productivity factor per unit was determined per truck type. The number of services per month was calculated so that the cost per driver hour and the productivity per hour could be used to derive the total cost per service per driver hour per unit. This analysis allows for a uniform comparison of the collection costs across the collection programs. In order to calculate the interest cost per unit, we used the blended rate of 7% from Republic Services' 2008 Annual Report. The total costs for collection and disposal of trash, bulk, and recycling per unit for each program (including direct / indirect costs, truck depreciation, cart / bin provision / servicing, and cart / bin depreciation) are:

TOTAL DIRECT COST FOR TRASH, BULK, & RECYCLING SERVICES PER UNIT BY PROGRAM					
	REL	/ SL (Recycle)	ASL 1	ASL 2	ASL 3
Labor	\$84.04	\$44.83	\$43.21	\$43.21	\$43.21
Direct Mgmt	\$3.57	\$3.57	\$3.57	\$3.57	\$3.57
Fuel	\$6.07	\$5.26	\$6.85	\$6.85	\$6.85
Other Equip. Operating	\$1.27	\$1.25	\$1.26	\$1.26	\$1.26
Maintenance	\$10.95	\$10.33	\$14.63	\$14.63	\$14.63
Insurance	\$8.95	\$11.01	\$9.24	\$9.24	\$9.24
Other Operating	\$0.68	\$0.51	\$0.59	\$0.59	\$0.59
Depreciation	\$10.79	\$14.43	\$15.17	\$15.17	\$15.17
Interest (7%)	\$0.32	\$0.06	\$0.93	\$0.86	\$0.83
Total Direct Costs / Hour*	\$126.68	\$91.26	\$95.46	\$95.39	\$95.36
Productivity / Hour	105.52	181.74	104.96	98.77	82.41
# of Services / Month	8.67	2.17	13.00	10.83	8.67
Bulk Services / Month			2.17	2.17	2.17
Total Services Per Month		10.83	15.17	13.00	10.83
Per Unit Direct Costs		\$11.49	\$11.82	\$10.46	\$10.03
Per Unit Bulk Hourly			\$1.51	\$1.51	\$1.51
Per Unit Disposal		\$2.50	\$1.50	\$1.61	\$1.46
Per Unit Bulk Disposal			\$0.14	\$0.15	\$0.14
Per Unit Recycle Processing		\$0.09	\$0.37	\$0.33	\$0.51
Per Unit Cart / Bin Depreciation		\$0.09	\$0.87	\$0.87	\$0.87

Costs - Con't	REL / SL (Recycle)	ASL 1	ASL 2	ASL 3
Per Unit Cart / Bin Support	\$0.07	\$0.13	\$0.13	\$0.13
Total Per Unit Excluding Fixed Costs	\$14.24	\$16.34	\$15.07	\$14.66
Lost Revenue: Per Unit Cart Rental		\$0.29	\$0.29	\$0.29

RECYCLE AMOUNTS PER POUND PER MONTH BY PROGRAM				
	REL / SL (Recycle)	ASL 1	ASL 2	ASL 3
Trash	234	139.8	150.6	136.8
Bulk	Included	13.4	14.4	13.2
Recycle	8.4	36.4	33.0	50.4
Total	242.4	189.6	198.0	200.4
Recycle Percentage	3.5%	19.2%	16.7%	25.1%

B. DISPOSAL AMOUNTS & TIPPING FEES / UNIT / MONTH DETAIL

The following is the detailed analysis of the disposal amounts and tipping fees per unit per month by program. The tipping fee for trash and bulk is \$21.40 per ton and the tipping fee for recycling is \$20.30 per ton. The bulk tons for the ASL's are estimated to be 9.6% of the trash tons.

DISPOSAL AMOUNTS & TIPPING FEES PER UNIT PER MONTH BY TYPE & BY PROGRAM				
Disposal Item	REL / SL (Recycle)	ASL 1	ASL 2	ASL 3
TRASH				
Trash Tons	374,863	1,490.51	1,122.53	2,601.43
Cumulative Homes Serviced 2009	27,770,137	184,691	129,210	164,795
Tons / Service	0.0135	0.0081	0.0087	0.0158
Pounds / Service	27.0	16.2	17.4	31.6
Services / Month	8.67	8.67	8.67	4.33
Tons / Month	0.1170	0.0699	0.0753	0.0684
Pounds / Month	234.0	139.8	150.6	136.8
Tipping Fee / Ton	\$21.40	\$21.40	\$21.40	\$21.40
Tipping Fee / Unit / Month	\$2.50	\$1.50	\$1.61	\$1.46
BULK				
Estimated Bulk Tons / Month		0.0067	0.0072	0.0066
Pounds / Month		13.4	14.4	13.2
Tipping Fee / Ton		\$21.40	\$21.40	\$21.40

Recycle – Con't	REL	/ SL (Recycle)	ASL1	ASL 2	ASL 3
Tipping Fee / Unit / Month			\$0.14	\$0.15	\$0.14
RECYCLABLE					
Recycle Tons		19,585	385.76	245.86	957.64
Cumulative Homes Serviced		10,035,085	92,033	32,286	164,795
Tons / Service		0.0020	0.0042	0.0076	0.0058
Pounds / Service		4.0	8.4	15.2	11.6
Services / Month		2.17	4.33	2.17	4.33
Tons / Month		0.0042	0.0182	0.0165	0.0252
Pounds / Month		8.4	36.4	33.0	50.4
Tipping Fee / Ton		\$20.30	\$20.30	\$20.30	\$20.30
Tipping Fee / Unit / Month		\$0.09	\$0.37	\$0.33	\$0.51
TOTAL					
Total Tipping Fee / Unit / Month		\$2.59	\$2.01	\$2.09	\$2.11

C. CART - BIN DEPRECIATION / UNIT DETAIL

The depreciation per unit was calculated for the non-PRP and the PRP based on a 10 year useful life for the recycle bins / carts. For the non-PRP program, 57.6% of the customers have recycle bins so this participation factor, or \$1.04, was used to calculate the monthly depreciation amount per unit.

CART – RECYCLE BIN DEPRECIATION COST PER UNIT BY PROGRAM			
SL RECYCLE BINS		ASL CARTS	
Per Bin Cost	\$6.04	Two 96 Gallon Carts / Unit	\$99.25
Bins / Unit	3	Cart Delivery	\$5.50
Bin Cost / Unit	\$18.13	Cart Cost / Unit	\$104.75
Annual Depreciation	\$1.81	Annual Depreciation	\$10.48
Participation	\$1.04	Monthly Dep / Unit	\$0.87
Monthly Dep / Unit	\$0.09		

D. DIRECT LABOR COST / TRUCK TYPE DETAIL

The driver hours were utilized to calculate the incremental contribution of driver and helper hours to the total hours, including overtime, per unit. The total direct labor per truck type was calculated using the following factors

LABOR COSTS PER TRUCK TYPE			
FACTOR	REL	SL	ASL
Driver Wage	\$7,143,000	\$1,535,000	\$382,000
Helper Wage	\$7,270,000	\$109,000	\$31,000
Benefits	\$5,169,000	\$464,000	\$93,000
Payroll Taxes	\$1,268,000	\$142,000	\$35,000
Bonus	\$12,000	\$0	\$0
Carts Delivered for Existing PRP	\$0	\$0	\$6,000
Personal Days	\$211,000	\$18,000	\$4,000
Holiday	\$411,000	\$36,000	\$9,000
Vacation / Sick Time	\$614,000	\$61,000	\$10,000
Uniforms	\$92,000	\$7,000	\$0
Sub Total	\$2,608,000	\$264,000	\$64,000
Driver Hours	263,181	55,216	14,527
Other Labor Hours	\$9.91	\$4.78	\$4.41
Total Labor	\$22,190,000	\$2,372,000	\$570,000
Driver Wage / Hour	\$27.14	\$27.80	\$26.30
Helper Wage / Hour	\$27.62	\$1.97	\$2.13
Hourly Insurance	\$4.33	\$4.33	\$4.33
Hourly Pension	\$4.49	\$4.49	\$4.49
Hourly New Retirees	\$0.75	\$0.75	\$0.75
Hourly Training Trust	\$0.025	\$0.025	\$0.025
Total Driver Benefit	\$9.60	\$9.60	\$9.60
Factored Helper Benefit	\$9.77	\$0.68	\$0.78
Hourly Wages & Benefit	\$74.13	\$40.05	\$38.81
Other Wage	\$9.91	\$4.78	\$4.41
Total Direct Labor	\$84.04	\$44.83	\$43.21

E. MANAGERS - SUPERVISORS COST / HOUR DETAIL

The contribution of the manager / supervisor cost was divided by the total driver hours to determine the manager – supervisor cost per driver hour. The 2009 Actual Supervisory Salaries were multiplied by a factor of 122.1% to compensate for the understatement of salaries due to sudden termination of employment of several Supervisors.

MANAGER – SUPERVISOR COST / HOUR	
FACTOR	REL, SL, & ASL
Total Direct Annual Salary	\$1,184,178.00
Total Driver Hours	331,282
Supervision / Driver Hour	\$3.57

F. FUEL COST / HOUR DETAIL

A factor of the engine hours to the driver hours was used to derive the fuel cost per driver hour.

FUEL COST DETAIL			
FACTOR	REL	SL	ASL
Expense	\$1,611,000	\$292,000	
Gallons	737,724	134,069	
Cost / Gallon	\$2.18	\$2.18	\$2.56
Gallons / Engine Hour	3.26	3.15	3.20
Cost / Engine Hour	\$7.12	\$6.86	\$8.18
Driver Hours	263,181	55,216	14,527
Engine Hours	224,387	42,328	12,175
Factor	0.85	0.77	0.84
Fuel Cost / Driver Hour	\$6.07	\$5.26	\$6.85

G. OTHER EQUIPMENT OPERATING COST / HOUR DETAIL

The other equipment operating expenses were divided by the driver hours to obtain the other equipment operating expenses per driver hour. An average of the REL and SL other equipment operating expense was used to obtain the ASL other equipment operating expense / driver hour.

OTHER EQUIPMENT OPERATING COST DETAIL			
FACTOR	REL	SL	ASL
Other Equip Operating	\$335,000	\$69,000	
Driver Hours	263,181	55,216	
Other Equip Op / Hour	\$1.27	\$1.25	\$1.26

H. MAINTENANCE COST / HOUR DETAIL

A factor of the engine hours to the driver hours was used to obtain the maintenance cost per driver hour. The driver hours and the engine hours from the Anaheim location were utilized to derive the maintenance factor for the ASL's. Since the ASL's are newer trucks, the Anaheim location more accurately reflects the driver and engine hours for a fully implemented and mature fleet of ASL's.

OTHER EQUIPMENT OPERATING COST DETAIL			
FACTOR	REL	SL	ASL
Maintenance Cost / Engine Hour	\$12.84	\$13.47	\$15.79
Driver Hours	263,181	55,216	250,690
Engine Hours	224,387	42,328	232,279
Factor	0.85	0.77	0.93
Maintenance Cost / Driver Hour	\$10.95	\$10.33	\$14.63

I. INSURANCE COST / HOUR DETAIL

To obtain an accurate reflection of the insurance costs per driver hour, the insurance costs were averaged for 2007, 2008, and 2009 for the REL and SL truck types.

REL INSURANCE COSTS FOR 2009, 2008 & 2007 USING DRIVER HOURS						
FACTOR	FY 2009	COST / DRIVER HOUR	FY 2008	COST / DRIVER HOUR	FY 2007	COST / DRIVER HOUR
Fixed WC	\$685,000	\$2.60	\$651,000	\$2.43	\$719,000	\$2.68
Occurrence WC	\$479,000	\$1.82	\$154,000	\$0.58	\$286,000	\$1.07
Fixed AL/GL	\$522,000	\$1.98	\$576,000	\$2.15	\$484,000	\$1.81
Occurrence AL/GL	\$132,000	\$0.50	\$32,000	\$0.12	\$29,000	\$0.11
Subtotal	\$1,818,000	\$6.91	\$1,413,000	\$5.28	\$1,518,000	\$5.66
Other Insurance	\$680,000	\$2.58	\$695,000	\$2.60	\$1,027,000	\$3.83
Total Insurance	\$2,498,000		2,108,000		2,545,000	
Driver Hours	263,181		267,636		268,051	
Total	531,237	\$9.94	540,976	\$7.88	539,834	\$9.49

REL AVERAGE INSURANCE COSTS FOR 2009, 2008 & 2007

FACTOR	AVERAGE FOR 2009, 2008, & 2007	AVERAGE COST / DRIVER HOUR
Fixed WC	\$2,055,000	\$2.57
Occurrence WC	\$919,000	\$1.15
Fixed AL/GL	\$1,582,000	\$1.98
Occurrence AL/GL	\$193,000	\$0.24
Subtotal	\$4,749,000	\$5.94
Other Insurance	2,402,000	\$3.01
Total Insurance	7,151,000	
Driver Hours	798,868	
Helper Hours	813,239	
Total Hours	1,612,107	
Total Insurance / Driver Hour		\$8.95

SL INSURANCE COSTS FOR 2009, 2008 & 2007 USING DRIVER HOURS

FACTOR	FY 2009	COST / DRIVER HOUR	FY 2008	COST / DRIVER HOUR	FY 2007	COST / DRIVER HOUR
Fixed WC	\$74,000	\$1.34	\$69,000	\$1.21	\$73,000	\$1.36
Occurrence WC	\$45,000	\$0.81	\$18,000	\$0.31	\$93,000	\$1.74
Fixed AL/GL	\$116,000	\$2.10	\$123,000	\$2.15	\$111,000	\$2.07
Occurrence AL/GL	\$368,000	\$6.66	\$298,000	\$5.21	\$69,000	\$1.29
Subtotal	\$603,000	\$10.92	\$508,000	\$8.89	\$346,000	\$6.46
Other Insurance	\$134,000	\$2.43	\$127,000	\$2.22	\$109,000	\$2.03
Total Insurance	\$737,000		635,000		455,000	
Driver Hours	55,216		57,162		53,574	
Helper Hours	4,044		0		1,942	
Total	59,260	\$13.35	57,162	\$11.49	55,516	\$8.49

SL AVERAGE INSURANCE COSTS FOR 2009, 2008 & 2007

FACTOR	AVERAGE FOR 2009, 2008, & 2007	AVERAGE COST / DRIVER HOUR
Fixed WC	\$216,000	\$1.30
Occurrence WC	\$156,000	\$0.94
Fixed AL/GL	\$350,000	\$2.11
Occurrence AL/GL	\$735,000	\$4.43
Subtotal	\$1,457,000	\$8.78
Other Insurance	370,000	\$2.23
Total Insurance	1,827,000	
Driver Hours	165,952	
Helper Hours	5,986	
Total Hours	171,938	
Total Insurance / Driver Hour		\$11.01

The current insurance costs for the ASL trucks are not reflective of the insurance costs for a fully stocked fleet, as these trucks have only been deployed to PRP's. To derive an accurate total insurance cost per driver hour the SL insurance costs were used for the fixed work compensation and the occurrence work compensation factors. An average of REL and SL insurance cost was used for the fixed AL/GL, the occurrence AL/GL, and the other insurance.

ASL INSURANCE COSTS FOR 2009

FACTOR	COST BASED ON REL & SL DRIVER HOUR 3 YEAR AVERAGE
Fixed WC	\$1.30
Occurrence WC	\$0.94
Fixed AL/GL	\$2.04
Occurrence AL/GL	\$2.34
Subtotal	\$6.62
Other Insurance	\$2.62
Total	\$9.24

J. OTHER OPERATING COST / HOUR DETAIL

The other operating costs were derived by dividing other operating cost by driver hours. The ASL other operating costs are not reflective of a fully implemented program so this amount was derived from an average of the REL and SL other operating amounts.

OTHER OPERATING COST DETAIL

FACTOR	REL	SL	ASL
Other Operating	\$178,000	\$28,000	
Driver Hours	263,181	55,216	
Other Op / Driver Hour	\$0.68	\$0.51	\$0.59

K. DEPRECIATION / HOUR DETAIL

Estimates to replace the REL, SL, and ASL trucks were obtained. The current replacement cost was utilized to determine the depreciation amount because the fleet of REL and SL trucks is substantially older than the ASL trucks. The historical cost of the trucks does not allow for a uniform comparison of depreciation costs between the programs. To make the comparison uniform, we utilized the current replacement cost. The route factor is the cumulative number of routes run by the trucks per year. The truck factor is the cumulative number of trucks used per year to service the cumulative number of routes. The spare factor takes into consideration the number of trucks above the cumulative route. This factor is greater than the cumulative routes as extra trucks are needed to service routes when trucks are in the shop for maintenance. The ASL spare factor of 115% is based on an average of the REL and SL spare factor. The annual depreciation for the REL trucks is based on a 10 year straight-line useful life. The annual depreciation for the SL trucks is based on an 8 year useful life as the SL trucks have more moving parts and tend to break down faster than the REL trucks. The current driver hours for the ASL trucks are not reflective of a fully implemented fleet of ASL trucks, as the driver hours are based on the PRP's. The driver hours for the Anaheim location were utilized to calculate the depreciation of a fully implemented fleet of ASL trucks.

DEPRECIATION COST DETAIL			
FACTOR	REL	SL	ASL
Truck Base Cost	\$222,900.00	\$215,401.04	\$237,500.20
Tax	\$16,232.56	\$15,726.31	\$17,315.41
Total REL	\$239,132.56	231,127.35	\$254,815.34
2009 Routes	1,315	273	
2009 Trucks	1,425	331	
Spare	108%	121%	115%
Truck Capital Total	\$259,136.05	\$280,231.33	\$293,037.64
Annual Depreciation	\$25,913.60	\$35,028.92	\$36,629.71
Driver Hours	263,181	55,216	250,690
Hours / Route / Year	2,402	2,427	2,414
Depreciation / Hour	\$10.79	\$14.43	\$15.17

L. PRODUCTIVITY FACTOR DETAIL

The productivity factors for the REL and SL trucks were traced to the GL. The productivity factors for the PRP's were calculated using the cumulative number of trash and recycle units serviced, the kronos hours, and the bulk hours.

PRODUCTIVITY DETAIL					
FACTOR	REL	SL	ASL1	ASL2	ASL3
Trash Units			184,691	129,210	164,795
Recycle Units			92,033	32,286	164,795
Kronos Hours			2,794.0	1,635.0	4,752.25
Bulk Hours			157.5	0.0	753.0
Productivity	105.52	181.74	104.96	98.8	82.4

M. CART RENTAL / UNIT DETAIL

A franchise fee of 5% of the monthly cart rental amount is paid to Clark County. The vehicle depreciation amount is for the pickup trucks used to pickup and deliver the bins – carts to the residences per the service work orders. The bin participation rate of 57.6% is the billed residential accounts to derive the bin cost per unit.

CART RENTAL DETAIL	
FACTOR	AMOUNT
Monthly Cart Rental	\$208,977.80
Less, Franchise Fee	\$9,951.32
Net	\$199,026.48
Base Amount	\$3.84
Franchise Fee	\$0.19
Monthly Rental	\$4.03
Calculated Units	51,856
Billed Residential Accounts	503,305
Gross Revenue / Unit	\$0.42
Net Revenue / Unit	\$0.40
Pre-DDA Service Costs	\$743,640.00
Vehicle Depreciation for Bin – Cart Work Orders	\$20,731.00
Total Support Costs	\$764,371.00
Bin Work Orders	26,591
Cart Work Orders	21,626
Total Work Orders	48,217
Cost / Work Order	\$15.85
Bin Support Cost	
Monthly Bin Support	\$35,128.32
Bin Support Cost / Unit	\$0.07
Cart Support Cost	
Monthly Cart Support	\$28,569.26
Cart Support Cost / Unit	\$0.06
Cart Depreciation	\$313,878.00
Monthly Depreciation	\$26,156.50
Cart Depreciation / Unit	\$0.05
Cart Rental Summary	
Revenue Net of Franchise Fee	\$0.40
Cart Support	\$(0.06)
Cart Depreciation	\$(0.05)
Net Cart Revenue Lost	\$0.29

N. TIPPING FEES ANALYSIS

The disposal amounts per type were obtained along with the tipping fees, number of units serviced, and services provided to derive the tipping fee per unit per month. The disposal amounts and tipping fees per unit per month by type and by program are:

DISPOSAL AMOUNTS & TIPPING FEES PER UNIT PER MONTH BY TYPE & BY PROGRAM					
Disposal Item	REL	SL	ASL 1	ASL 2	ASL 3
TRASH					
Trash Tons	374,863		1,490.51	1,122.53	2,601.43
Tipping Fee / Unit / Month	\$2.50		\$1.50	\$1.61	\$1.46
BULK					
Estimated Bulk Tons / Month			0.0067	0.0072	0.0066
Tipping Fee / Unit / Month			\$0.14	\$0.15	\$0.14
RECYCLABLE					
Recycle Tons		19,585	385.76	245.86	957.64
Tipping Fee / Unit / Month		\$0.09	\$0.37	\$0.33	\$0.51
TOTAL					
Total Tipping Fee / Unit / Month		\$2.59	\$2.01	\$2.09	\$2.11

The purchase of new trucks may be required to fully implement the new PRP's. In order to provide a uniform comparison between the current program and the PRP's, we assumed that the total population to be serviced included 200,000 units. Purchase estimates of new trucks were obtained for the calculation of the total capital expenditure required for the full program implementation. The factors to derive the total capital expenditure included: number of services per month, the productivity factor, weekly hours, truck hours, the static number of trucks required to cover the routes, the spare factor, and the functional total number of trucks to cover the routes. To implement the various programs, the capital expenditures required to implement the trash, bulk, and recycling programs including the cart / bin costs, assuming a population of 200,000 customers, would be:

ESTIMATED TOTAL CAPITAL EXPENDITURES TO IMPLEMENT EACH PROGRAM				
Capital Exp Factor	REL /SL	ASL 1	ASL 2	ASL 3
Estimated Customers	200,000	200,000	200,000	200,000
Total Trash Trucks Required	86	137	121	116
Cost Per Trash Truck	\$239,132.56	\$254,816.34	\$254,816.34	\$254,816.34
Total Bulk Trucks Required	14*	31	28	26
Cost Per Bulk Truck	\$231,127.35*	\$239,132.56	\$239,132.56	\$239,132.56
Total Cost Trash Trucks	\$20,565,400.33	\$34,909,838.58	\$30,382,777.14	\$29,558,695.44
Total Cost Bulk Trucks	\$3,235,782.93	\$7,413,109.00	\$6,695,712.00	\$6,217,447.00
Cart / Bin Delivery	\$126,623.60	\$329,221.00	\$329,221.00	\$329,221.00
Cart / Bin	\$2,088,460.80	\$20,950,000.00	\$20,950,000.00	\$20,950,000.00
Total Capital Exp.	\$26,016,267.66	\$63,602,169.36	\$58,807,710.24	\$57,055,363.41
Interest (7%) / Unit	\$0.38	\$0.93	\$0.86	\$0.83

*For the REL/SL Program the bulk items are collected by the REL Trucks. The SL trucks are utilized to collect the recyclables. There are 14 SL trucks required to collect the recyclables. Each SL truck costs \$231,127.35.

The scope of this engagement was limited to a financial analysis of the current collection program and the PRP's. One of the items to be analyzed though is a comparison of the revenues / costs of the recyclable materials. An analysis of the recyclable materials cannot be conducted without analyzing the revenues / costs of the Recycling Center. The financials for the Recycling Center include the total population of transactions, so Clark County, non-Clark County, and intercompany transactions are represented. The selected 2009 financials for the Recycling Center are as follows:

RECYCLING CENTER FINANCIALS	
Account	Amount
Revenue	\$3,614,735.12
Cost	\$4,392,490.14
Net Revenue (Loss)	\$(777,755.02)
Gross Revenue Per Ton	\$79.01
Cost Per Ton	\$96.01
Net Revenue (Loss) Per Ton	\$(17.00)

The Recycling Center processes a variety of recyclable materials for Clark County, non-Clark County, and intercompany locations. The amount of materials recycled at the Recycling Center for 2009 were:

RECYCLABLE REVENUES*			
Commodity	Tons	Revenue	% of Revenue
Glass	4,824.86	\$33,273.34	0.92
Plastic	2,225.85	\$455,189.35	12.59
Non-Ferrous Metals	820.61	\$297,777.97	8.24
Paper	37,879.02	\$2,828,494.46	78.25
Total	45,750.34	\$3,614,735.12	100.00

*Includes revenues for all communities serviced by the Recycling Center, not just Clark County communities.

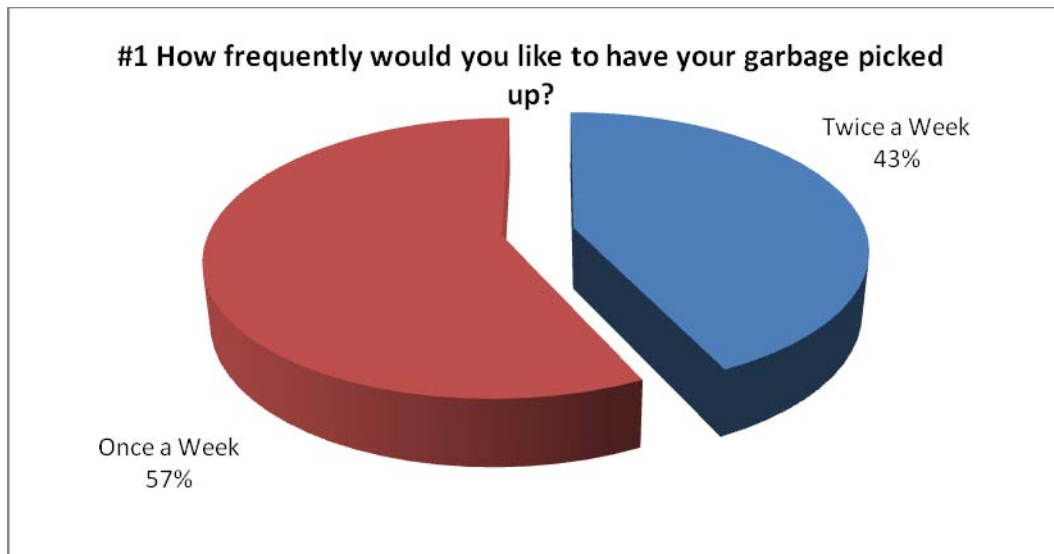
VII. MODEL

A model of the total cost per unit table was created to allow Clark County to run simulations of the effects of changes in the variables upon the financial performance of the programs. The model will allow Clark County to determine the financial outcome based on if the conditions changed or if they remained the same. This model is included in the work papers for this report.

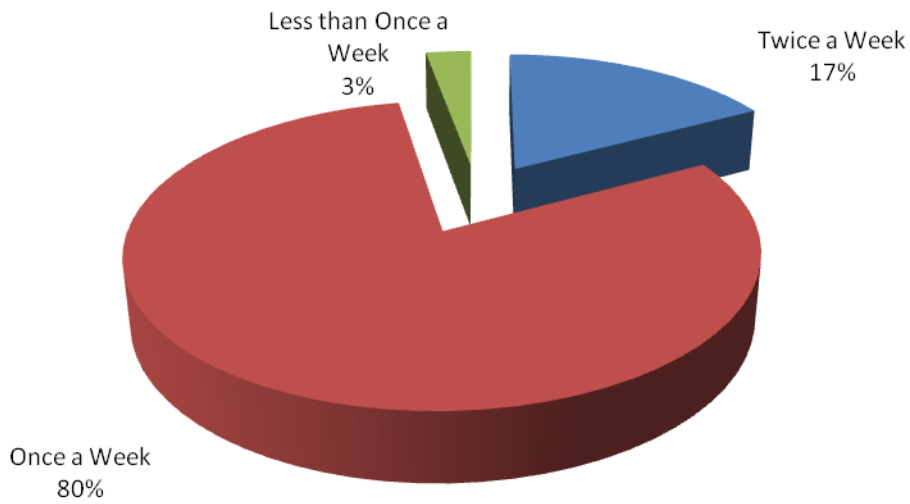
VIII. CUSTOMER QUESTIONNAIRE

In order to gain an understanding of customer satisfaction under the Pilot Programs, RSM McGladrey prepared a list of fourteen questions to ask five residents per pilot community. (Note: We were unable to interview residents at Nellis Air Force Base and therefore interviewed the eight other communities for a total of 35 respondents).

Once approved by Clark County, McGladrey employees administered the surveys door-to-door in each of the pilot neighborhoods. Once all questionnaires had been administered, the answers were compiled into an Excel document to display the results, by question, in a pie graph summary format. Based on the responses, more people prefer to have their trash collected once a week as opposed to twice a week. Also, more people favor having their recycling collected once a week in comparison to once every other week. The complete results are:

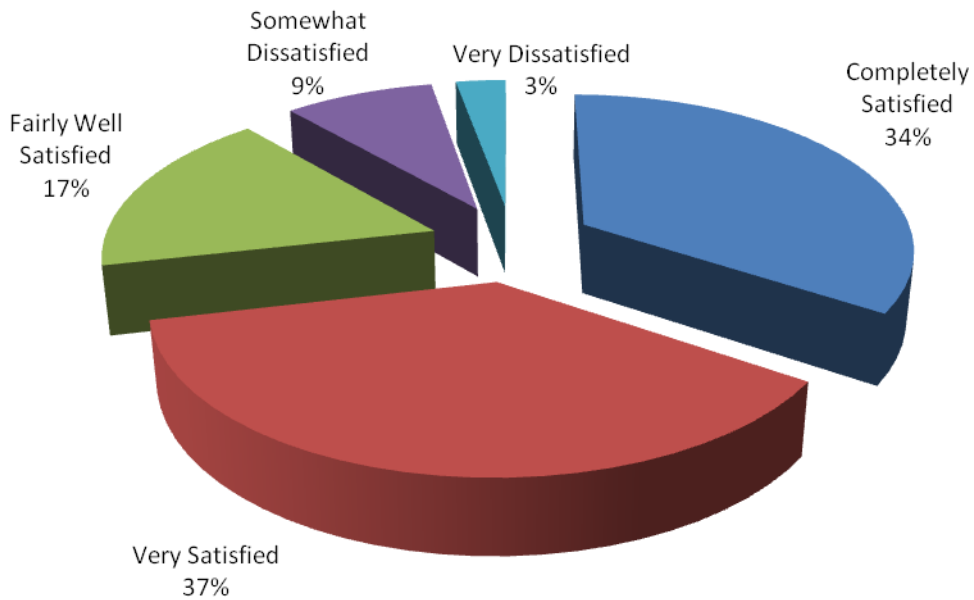


#2* How often do you currently set out garbage at the curb with the current pilot program?

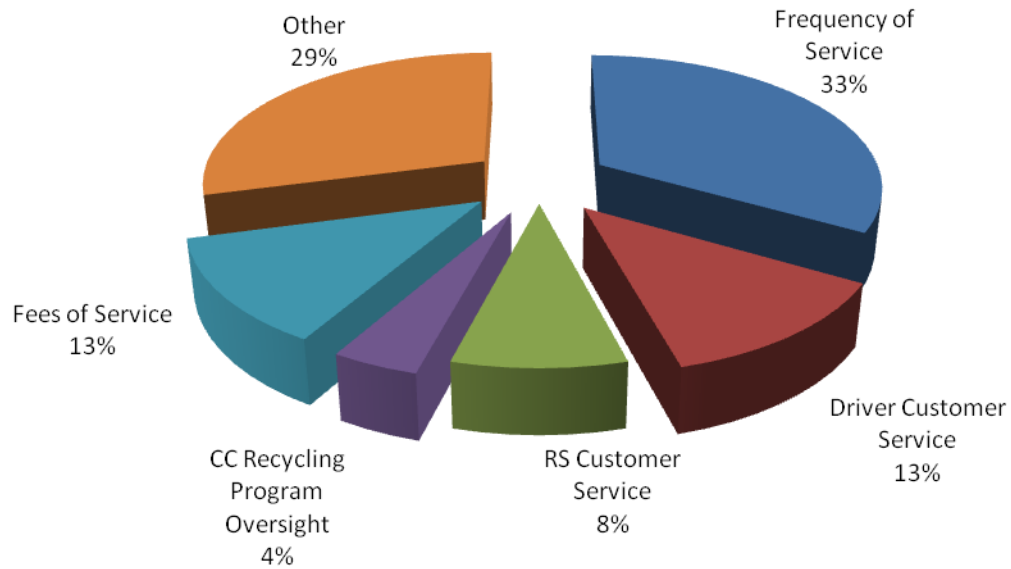


* 48% of the respondents have the option to set out their trash twice a week; however, the results above show not all choose to do so.

#3 How satisfied are you with your current garbage collection service?

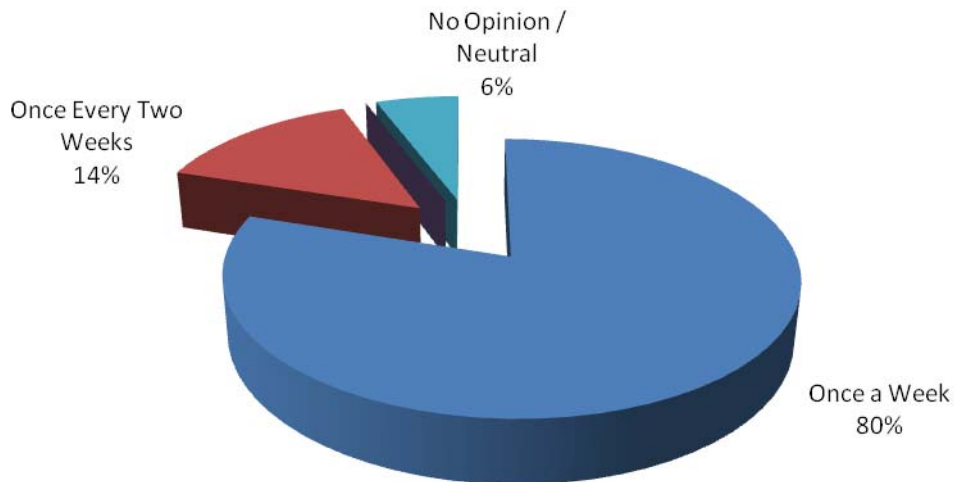


#4* If you are not satisfied, please select why.

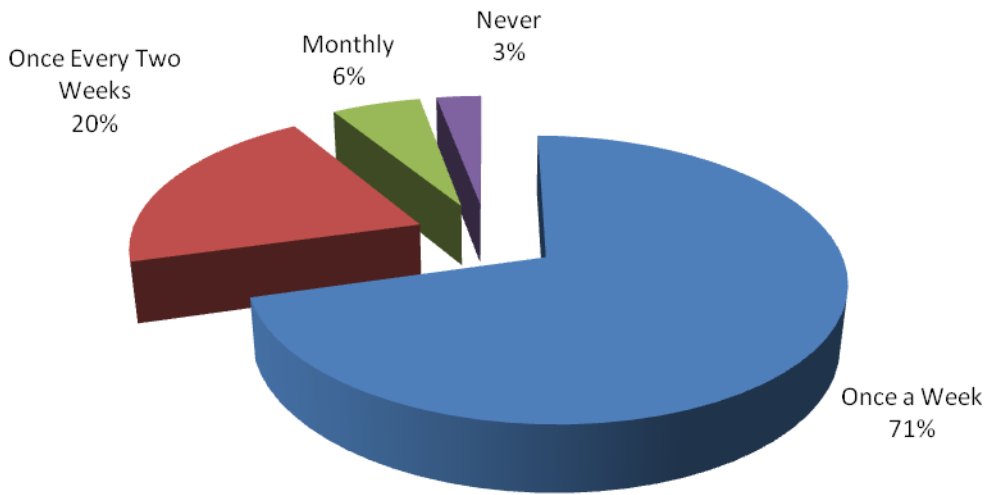


* The responses above are based on 12 respondents who had reasons for not being satisfied.

#5 How frequently would you like to have your recycling picked up?

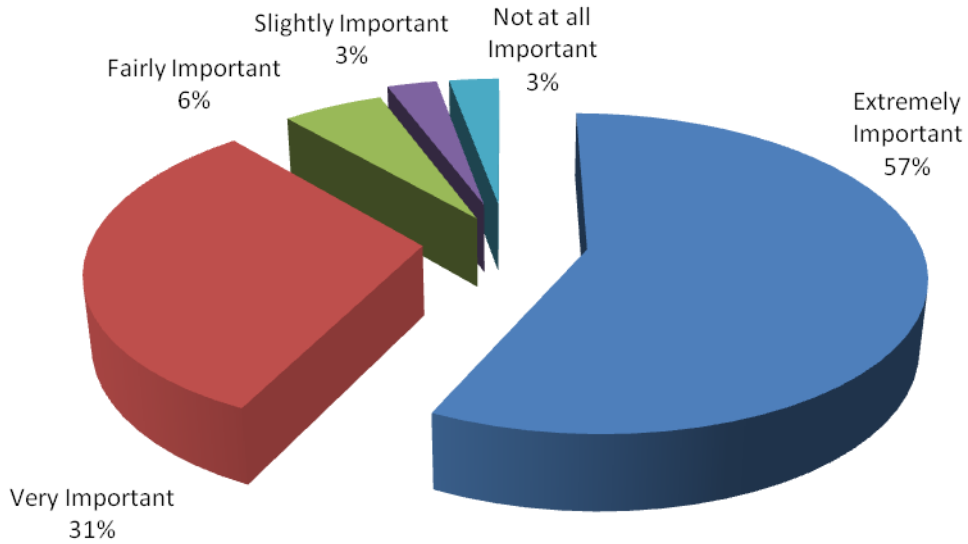


#6 How often do you set out recycling at the curb?

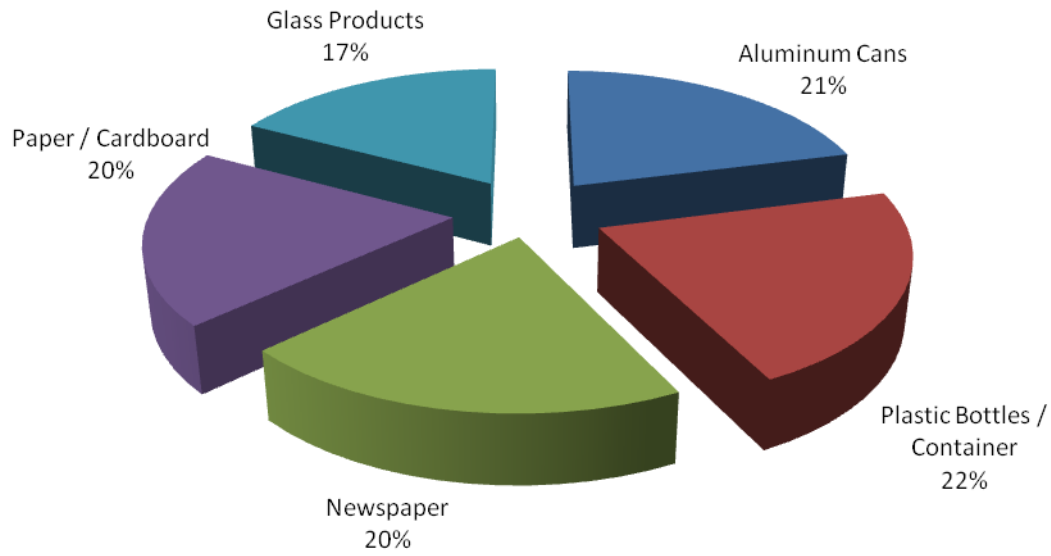


* 72% of the respondents have the option to set out their recycle once a week and the results show the majority of the respondents do so.

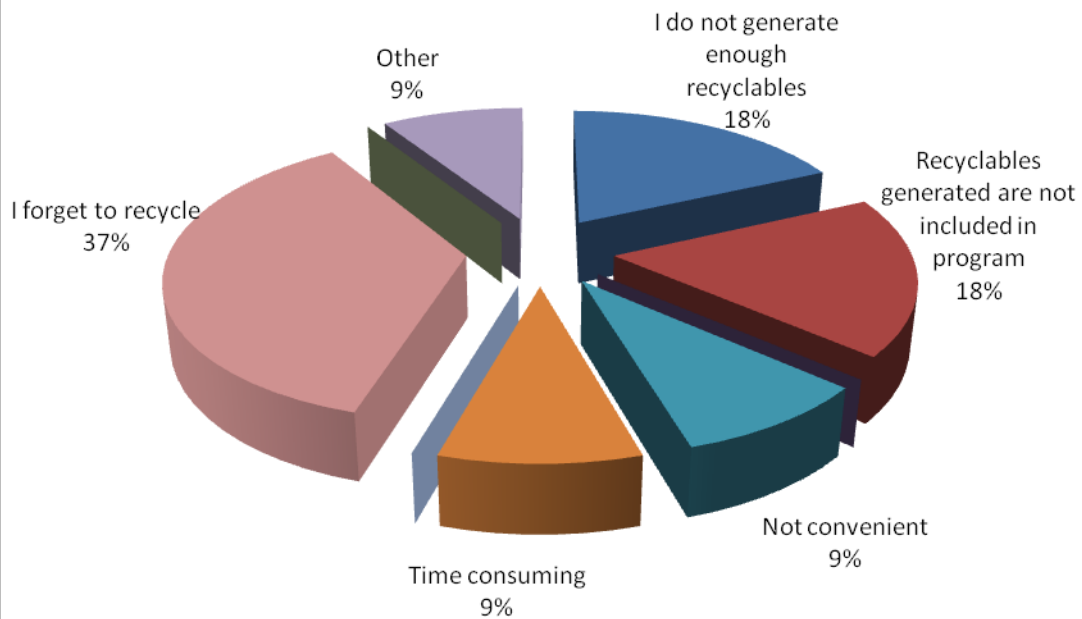
#7 How important do you think it is to have a countywide recycling program?



#8 What types of materials do you recycle?

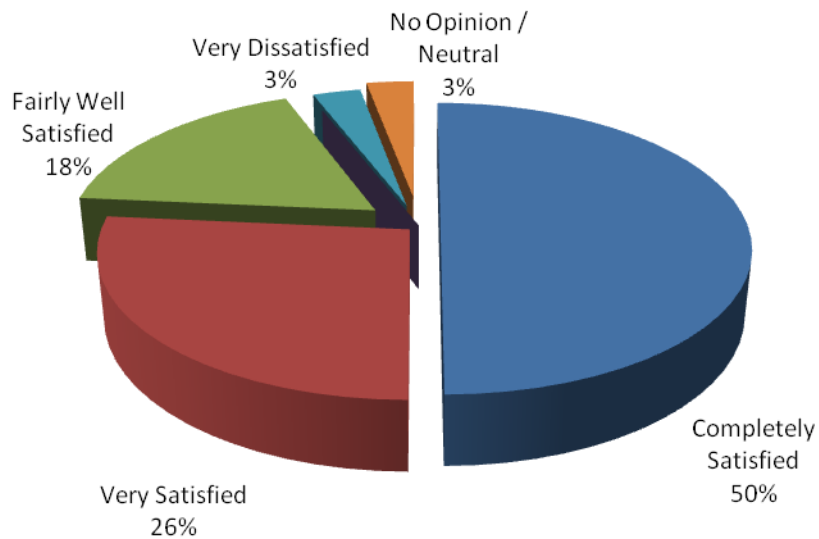


#9* If you are not recycling, what are the reasons you are not?

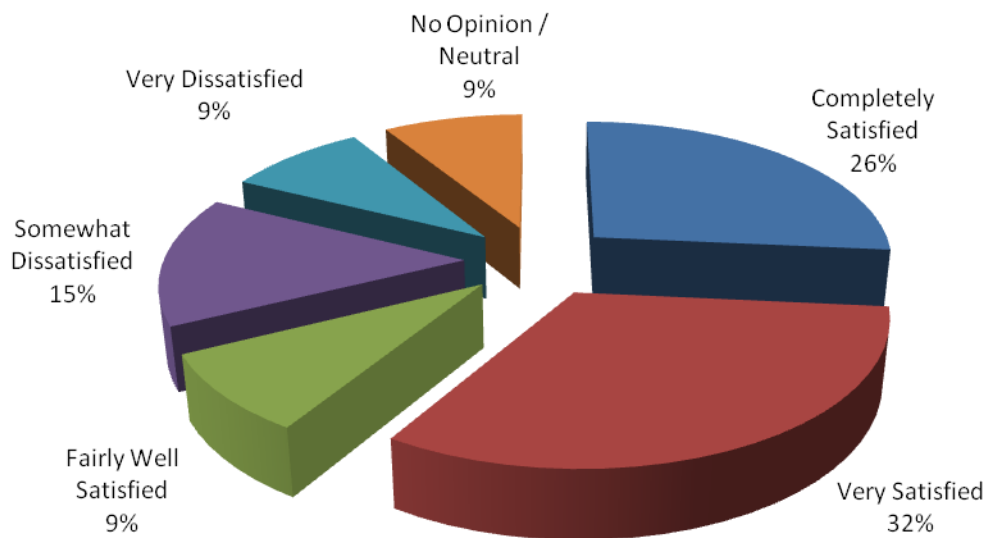


* The responses above are based on 8 respondents who had reasons for not recycling.

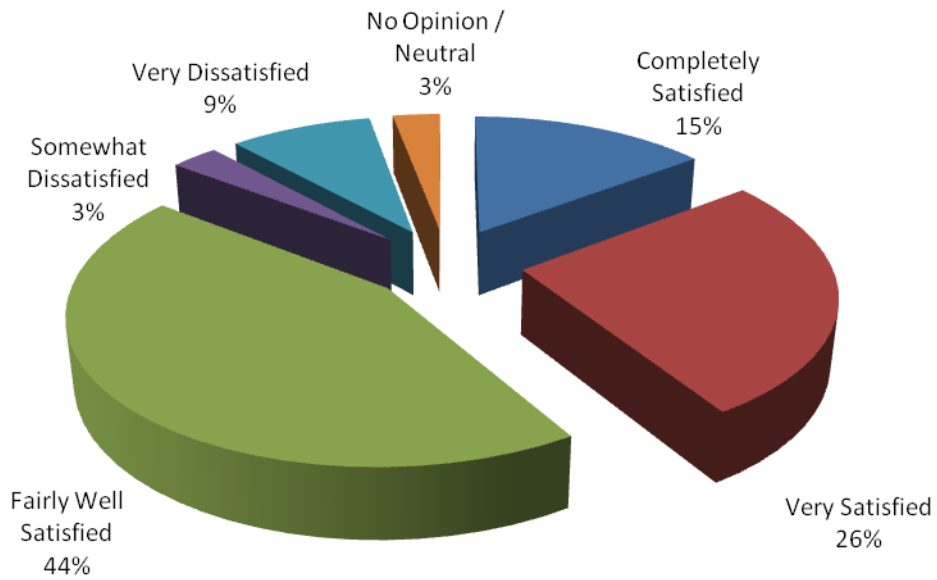
#10 How satisfied are you with the current Pilot Recycling Program?



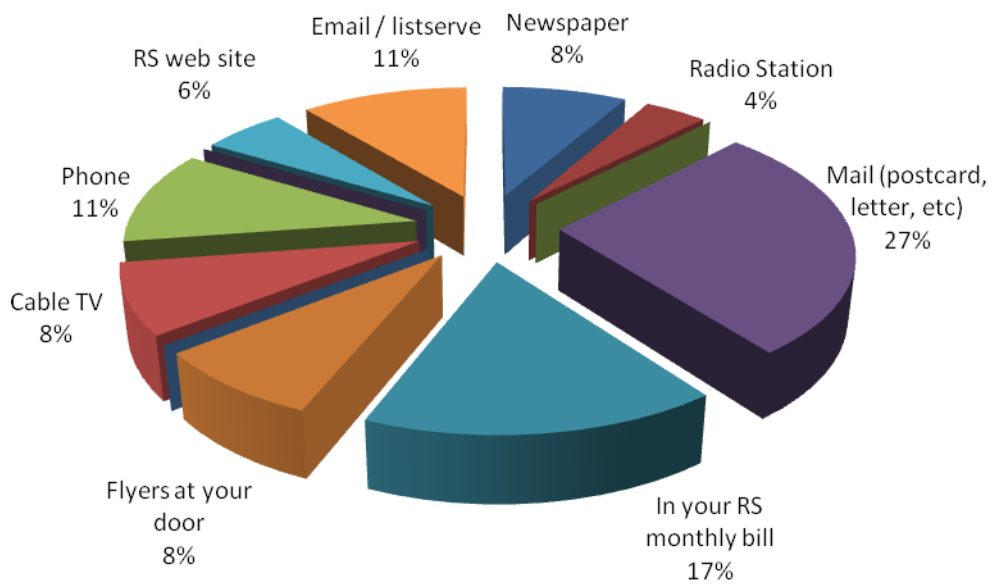
#11 How satisfied are you with the public awareness that provides info on the types of materials that can be recycled?



#12 How satisfied are you with the RS rates?



#13 What are the 3 best ways to inform you about garbage or recycling service changes?



XIV. ADDENDUM

In addition to the financial analysis, some variables were not tested in full and therefore are not included in the body of the report. However, in order to obtain a complete understanding of the financials, it is necessary to present them.

A. SG&A AND FACILITY COSTS

Within the total variable costs table, each product line also has a per unit SG&A cost as well as a per unit facility cost. These costs are not included in the total direct cost table but would affect the totals as follows:

TOTAL DIRECT COST FOR TRASH, BULK, & RECYCLING SERVICES PER UNIT BY PROGRAM (INCLUDING SG&A AND FACILITY COSTS)					
	REL	/ SL (Recycle)	ASL 1	ASL 2	ASL 3
Total Direct Costs / Hour	\$126.68	\$91.26	\$95.46	\$95.39	\$95.36
Total Per Unit Excluding Fixed Costs		\$14.24	\$16.34	\$15.07	\$14.66
SG&A Per Unit		\$2.42	\$2.42	\$2.42	\$2.42
Facility Costs Per Unit		\$0.32	\$0.32	\$0.32	\$0.32
Total Per Unit Including SG&A and Facility Costs		\$16.98	\$19.08	\$17.81	\$17.40

B. ALTERNATE RECYCLING CENTER FINANCIALS

The Recycling Center Financials mentioned in the report take into account revenues based on the outbound tons and costs based on the inbound tons. Since these are separate calculations, it is not essential they utilize the same base amount; however, the table below reflects the change if a common base (total inbound tons) was selected:

RECYCLING CENTER FINANCIALS BASED ON INBOUND TONS	
Account	Tons
Total Inbound Tons (less Non Sorted Tons)	66,816.38
Account	Amount
Revenue (less COGS Material Payments)	\$3,477,040.12
Cost	\$6,517,937.87
Net Revenue (Loss)	\$(3,040,897.75)
Gross Revenue Per Ton	\$52.04
Cost Per Ton	\$97.55
Net Revenue (Loss) Per Ton	\$(45.51)