



# ANCHORAGE SCHOOL DISTRICT RECYCLING PROGRAM

## Operations Department

1201 Labar St  
Anchorage, AK 99515

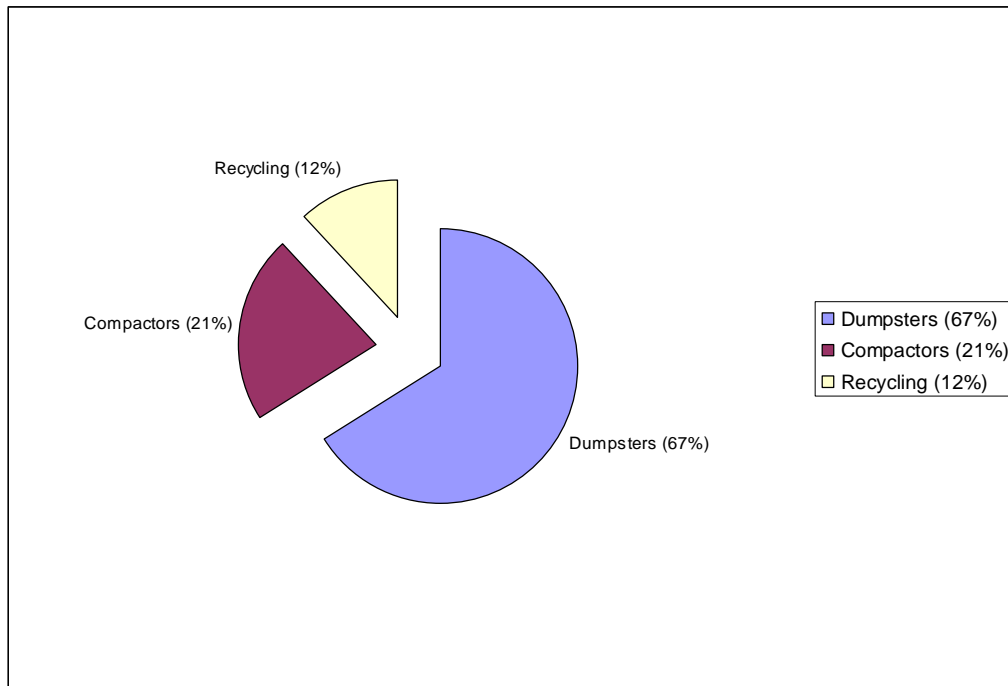
Please accept our sincere thanks for your grant support. The Anchorage School District's mixed paper recycling program is made possible through the support it's received from the Municipality of Anchorage Solid Waste Services. We look forward to a continued working relationship and grant funding to maintain and grow the districts program.

The 2009-2010 school year marks the second year of the district-wide mixed-paper recycling program for the Anchorage School District. The district-wide recycling program was implemented in August 2008, in partnership with the Municipality of Anchorage Solid Waste Services Department, Alaska Waste and Green Star. Now that the mixed-paper recycling program has been introduced to all the schools and facilities, the program focus has shifted from program implementation to increasing student/staff participation and decrease contamination. This outreach and education is critical to realizing the potential cost savings associated with recycling. Through ongoing education and outreach in the schools, the Anchorage School District's recycling program will continue to grow, offering students and staff the opportunity to "do the right thing" and contribute to the ecological and financial success of the program.

The goal of the program is multi-faceted:

- Divert mixed paper from our waste stream.
- Instill the ethic of good stewardship for the environment with our students and staff.
- Show financial benefits of an integrated waste management plan.

Expense breakdown of the school district's waste management plan



Program Summary:

The ASD mixed-paper program was initiated in August 2008 and follows the Fiscal Year from July 1 to June 30. Year One funds paid for recycling bins and carts, communications and outreach, a vehicle for program use, and staff salary. Subsequent years' funding will be used to pay for communications and outreach, vehicle maintenance costs, and staff salary. (see attachment 4 – Budget to Actual)

Staff (one full-time person)

- Defines program objectives
- Coordinates all bin and collection cart distribution
- Manages solid waste and recycling dumpster rental and pick-up services
- Works with on-site staff to develop/update individual site collection plans and implementation
- Works with Communications department to develop outreach material
- Implements district and community outreach plan
- Develops and manages collection routes for Life Skills Students providing pick-up services to schools that don't have on-site recycling dumpsters
- Conducts educational hands-on demonstrations and presentations at schools and facilities

Communications and Outreach

- Printing of brochures and flyers
- Creating "Wild About Recycling" campaign including a mascot, video and banner
- Developing materials for events and presentations

Vehicle

- Used for trips to schools for staff/student meetings, presentations and events
- Used for on-site dumpster checks to audit dumpster level data to help target educational outreach
- Used to participate in community events and monthly recycling advisory group meetings held throughout the district
- Used to remove and properly dispose of contamination found in recycling dumpsters district-wide

Currently, the Recycling Program includes mixed paper. ASD pays for the recycling dumpster rentals and pick-up/hauling of the mixed paper. Servicing is provided by Alaska Waste. Beyond the goal of instilling the ethic of recycling in our schools, running the program cost-effectively is critical to sustaining recycling efforts. Recycling diverts mixed paper from our waste stream, reduces the amount of trash being hauled, saving valuable landfill space and provides an offset to costs associated with program oversight (see attachments 1 – tonnage report and 3 – mixed-paper report).

By adjusting the trash-hauling schedules appropriately to account for this decrease in volume, cost neutrality has been realized. This reduction in the district's trash bill has off-set the cost of the recycling dumpster rentals and servicing.

**DUMPSTER ADJUSTMENTS TO OFFSET RECYCLING RENTAL & SERVICE FEES**

2,276.48	Phase I monthly savings adjustment
3,199.65	Phase II monthly savings adjustments
2,726.04	Phase III monthly savings adjustments
<b>\$8,202.17</b>	<b>MONTHLY DUMPSTER ADJUSTMENT SAVINGS</b>

**\$8,158.99** | **Average monthly recycling bill**

As adjustments continue, it is feasible to assume that the district can realize a savings in its trash bill rather than just 'breaking even' in this program.

**ADDITIONAL MONTHLY SAVINGS ADJUSTMENTS**

**\$6,807.87** | Proposed adjustments to dumpster service

Program Development:

In the program's first year, a Recycling Coordinator was hired and immediately began work arranging the delivery of on-site recycling dumpsters and grant-funded bins and carts. These were distributed in three phases in conjunction with outreach and education. Meetings were scheduled with the principals, building plant operators (BPO) and a staff/faculty member at each facility/school that the principal knew had an interest in recycling, or was already recycling. Working together, these players developed collection plans and implementation strategies, which continue to be refined. The principals and BPOs continue to be included in all correspondence to maintain program awareness.

During the program phase-in process, ten schools did not fit the norm; they were not large enough to justify the expense of a recycling dumpster on-site. In November 2009, recycling pick-up services were added to these locations at no additional cost. A collaborative effort created a WIN-WIN situation for nine of the smaller schools. They are now a part of the new recycling pick-up service created through the partnership between the ASD recycling program and the ASD secondary special education program – Community-Based Vocational Services (CBVS).

This partnership provides vocational skills training for students in the Life Skills programs and recycling pick-up services to the schools not serviced by an on-site mixed-paper dumpster. This partnership saves the district roughly \$300-\$400 in monthly collection fees. A creative solution was developed for Girdwood, which didn't fit the norm due to its location. Girdwood's school now has its mixed paper back-hauled through the student nutrition truck that makes weekly deliveries. The alternative, a recycling dumpster service for Girdwood, was estimated to cost approximately \$1400 a year.

With all of the ASD schools and facilities involved in the district's mixed-paper program, more focus is now spent on bringing about program awareness and support at all levels in each location. Efforts such as site visits with staff, classroom and/or school presentations will continue to play an important educational role to decrease contamination and increase participation.

Collaborative networking has been established with Alaska Waste's and Solid Waste Services' Recycling Coordinators, the staff at Green Star, Alpar and Smurfit Stone (Anchorage Recycling Center). Their support and expertise has proved invaluable to the program and will continue to do so. Through their guidance, empirical data collection methods have been established to gauge program effectiveness. Spreadsheets to track dumpster level reports provide a quick reference as to which schools are reporting back and which ones have successfully implemented recycling. Also, schools in need of assistance can easily be identified. It is important to audit reported data through site visits. Additional qualitative data is collected from Alaska Waste, wherein a total weight from all ASD mixed paper dumpsters is obtained. Better tracking methods are being explored to avoid the data gaps that occurred during the first two years.

### Outreach

At the beginning of the 2008-2009 school year, outreach materials were created and distributed including a poster and brochure outlining what is and is not recyclable as mixed paper. From there, articles were included in the ASD Insider and the Zone highlighting the program, as well as in Green Star and Solid Waste Services publications. Communications staff worked to develop recycling web pages. Program information was presented at General Leadership meetings, Student Advisory Board meetings and school assemblies. Recycling Forums and monthly Advisory Group meetings provide opportunities to share information and collaborate on program ideas. The Recycling Advisory Group consists of teachers, students, parents and representatives from Smurfit-Stone, Alaska Waste and Solid Waste Services. The Advisory Group is instrumental in refining objectives for better outreach.

An art contest with a “Wild About Recycling” theme was held in the first year and the artwork submitted will be incorporated into future outreach. Working with the Communications staff, a “Let’s Get Wild About Recycling” campaign is in the works. This will include:

- Video production on ‘here’s how we recycle in our school.’ The video will air on Channel 14, ASD Tube, and a condensed clip will be on the recycling web pages. Two versions will be developed for younger and older audiences.
- Insider and Zone articles.
- Logo wear.
- Banner for events.
- Posters and print material geared toward varying grade levels.
- Mascot to be created for ubiquitous appearance in all materials. Considering a “name the mascot” contest.
- Events to promote the district’s recycling efforts.

### What Is Working

Overall, the program has had a wonderful reception, and the amount recycled within the district has progressively increased. Program successes include the following:

- Student involvement with the mixed paper recycling is a big benefit and will be carried through their years with ASD.
- Building awareness through a multitude of outreach methods is important. Everyone has a different learning style, and combining print, personal visits, presentations, web presence and meeting formats, such as the forums, has created a broad platform from which the information is being disseminated.
- Support from the executive level. Continued discussion or mention of the need (i.e., requirement) to support the program at every appropriate opportunity will be key to increasing participation within the schools.
- Creating networks both within ASD departments and with businesses and organizations external to ASD is imperative to learning what opportunities exist to expand the program, as well as building beneficial relationships; it’s good to know who to turn to for collaborative problem solving and troubleshooting.

### What Needs Improving

Since the program is still relatively young, opportunities exist to fine tune and improve.

- Current data collection methods are mostly qualitative and can lead to gaps. Evaluate systems for better alternatives.

- Stressing that recycling is a whole school effort is necessary to avoid having the burden rest on one or two individuals in the schools. Getting the adults involved is as important to program sustainability as keeping the students involved, if not more so.
- Although many staff and faculty members have stepped up, increasing the awareness and support from Principals to instruct their faculty and staff to assist and join the students in getting recyclables from the buildings into their dumpsters needs to be increased. Again, creating a mantra that recycling is a whole school effort (and in a soft way it isn't voluntary).
- Many schools are individually getting certification from Green Star. ASD needs to support their efforts by maintaining our Green Star membership. Strong consideration should be given to obtaining certification for the Education Center.
- Outreach should be expanded. A campaign is being developed with the Communications Department, and outreach will be ever evolving.
- As the mixed-paper program becomes institutionalized and remains either cost neutral or even money-saving for the district, additional steps need to be considered, which may include looking at ways to effectively and efficiently collect other materials generated by students and staff, such as cans and bottles.
- In addition to focusing on the common recyclables, long-term recycling plans should include developing recycling programs for several behind-the-scenes materials that are often difficult to recycle, such as fluorescent lamps and other potentially hazardous wastes.

#### Program Vision

While much has been accomplished, there remains tremendous opportunity for growth. Although program coordination has changed hands, the vision remains: The Anchorage School District cultivates and sustains the awareness to seek opportunities to reduce, reuse and recycle throughout the district. To achieve this, the Recycling Coordinator, with direct support from the Superintendent's Office, works with all departments and campuses to ensure systems are in place to effectively and efficiently recycle materials, reduce consumption and waste, and reuse whenever possible in a manner that is sensitive to environmental concerns and cost effective to the district.

ASD Recycling Program – Make it a habit - it not only makes fiscal sense, but exemplifies our commitment to be good stewards of our environment.

Thank you for your continued support and participation in the ASD Recycling Program.

## ATTACHMENTS

**Attachment 1: Trash Compactor Tonnage Report.** Critical data such as tonnage and number of hauls are available through billing invoices for each of the district's 37 trash compactors, making them the ideal component to determine the impact of the mixed-paper recycling program. To assess the program, a baseline was created using data from three non-recycling years.

Why can't dumpsters (the largest component) be used? Unlike compactor service where fees are determined by the number of hauls and weight, dumpster service fees are determined by dumpster size and weekly pick-up schedule.

- Compactors are called in to get emptied, and a tipping fee is charged at the landfill.
- Dumpster fees are based on a set weekly pick-up schedule and dumpster size determines the disposal cost. We pay the same whether a trash dumpster is full or empty. Dumpsters are NOT weighed before being emptied into the trash trucks.

**Attachment 2: Tipping & Hauling Fee Report.** The first three charts of the Tipping & Hauling Fee Report are the three non-recycling school years ('05-'06, '06-'07 & '07-'08) used to create the baseline. Those tipping and haul fees were adjusted to today's costs (what it would cost us to dispose of that same waste today). This adjusted data was compared to trash compactor costs of the years with recycling to determine a cost trend.

**Attachment 3: ASD Mixed-Paper Recycling Report.** This report shows the mixed-paper tonnage raw data as well as the cost savings associated with the recycling program in dollars and in terms of water, trees, landfill space, oil and electricity.

**Attachment 4: Budget to Actual.** This shows how grant dollars were expended in accordance to the Memorandum of Understanding between MOA Solid Waste Services and the Anchorage School District.



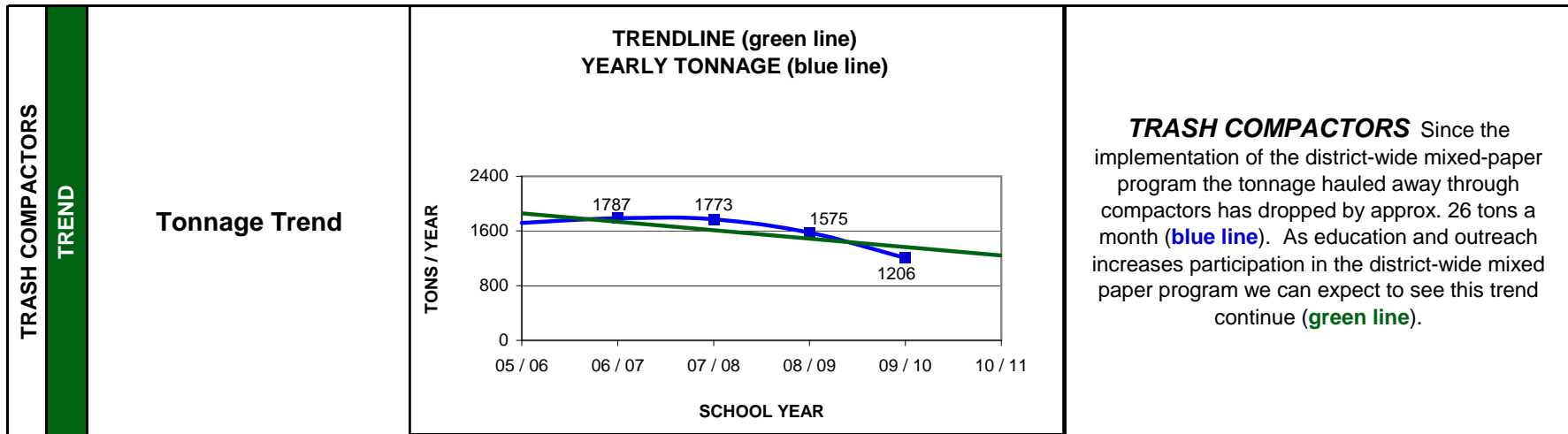
ASD TRASH COMPACTORS

Tonnage Report 2005 - 2010



TRASH COMPACTORS NO RECYCLING	<b>05 - 06 Tonnage</b>	<b>TONS</b> 	<b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) Average tonnage (red line) <b>143 TONS</b> Baseline (gray bars)
	<b>06 - 07 Tonnage</b>	<b>TONS</b> 	<b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) Average tonnage (red line) <b>149 TONS</b> Baseline (gray bars)
	<b>07 - 08 Tonnage</b>	<b>TONS</b> 	<b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) Average tonnage (red line) <b>148 TONS</b> Baseline (gray bars)

TRASH COMPACTORS WITH RECYCLING	BASELINE	<p><b>05 - 08 AVERAGE COMPACTOR TONNAGE</b></p>	<p><b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) <b>3yr average tonnage (red line) 147 TONS</b> Baseline (gray bars)</p>
	TRASH COMPACTORS WITH RECYCLING	<p><b>08 - 09 Tonnage</b></p>	<p><b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) <b>Average tonnage (green line) 131 TONS</b> Baseline (gray bars)</p>
	TRASH COMPACTORS WITH RECYCLING	<p><b>09 - 10 Tonnage</b></p>	<p><b>TRASH COMPACTORS</b> Actual monthly tonnage (blue line) <b>Average tonnage (green line) 121 TONS</b> Baseline (gray bars)</p>
	COMPARISON	<p><b>Tonnage Comparison</b></p>	<p><b>TRASH COMPACTORS</b> <b>2005 - 2008 NO RECYCLING</b> <b>147 TONS - monthly average</b> <b>2009 - 2010 RECYCLING</b> <b>121 TONS - monthly average</b> Baseline (gray bars)</p>



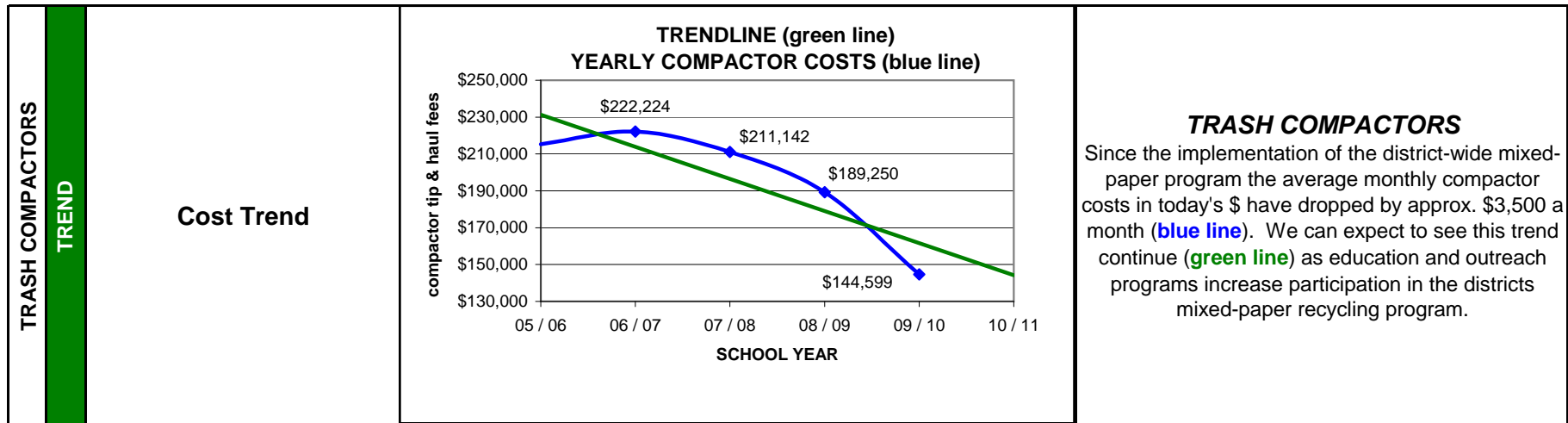


**ASD TRASH COMPACTORS**  
**Tipping & Hauling Fee Report 2005 - 2010**



TRASH COMPACTORS NO RECYCLING	<b>05 - 06 Tipping &amp; Haul Fee</b>		<b>TRASH COMPACTORS</b> Adjusted monthly costs in today's \$ (blue line) Average costs in today's \$ (red line) <b>\$17,936</b>
	<b>06 - 07 Tipping &amp; Haul Fee</b>		<b>TRASH COMPACTORS</b> Adjusted monthly costs in today's \$ (blue line) Average costs in today's \$ (red line) <b>\$18,519</b>
	<b>07 - 08 Tipping &amp; Haul Fee</b>		<b>TRASH COMPACTORS</b> Adjusted monthly costs in today's \$ (blue line) Average costs in today's \$ (red line) <b>\$17,595</b>

<b>BASELINE</b>	<p><b>BASELINE</b> Average costs for non recycling years 2005 - 2008</p>	<p style="text-align: center;"><b>05 - 08 AVERAGE COMPACTOR FEES</b></p>	<p><b>TRASH COMPACTORS</b> Adjusted monthly costs in today's \$ (blue line) 3yr average costs in today's \$ (red line) <b>\$18,017</b></p>
<b>TRASH COMPACTORS WITH RECYCLING</b>	<p><b>08 - 09 Tipping &amp; Haul Fee</b></p>	<p style="text-align: center;"><b>COSTS</b></p>	<p><b>TRASH COMPACTORS</b> Actual monthly costs (blue line) Average costs (green line) <b>\$15,771</b></p>
	<p><b>09 - 10 Tipping &amp; Haul Fee</b></p>	<p style="text-align: center;"><b>COSTS</b></p>	<p><b>TRASH COMPACTORS</b> Actual monthly costs (blue line) Average costs (green line) <b>\$14,460</b></p>
<b>COMPARISON</b>	<p><b>Cost Comparison</b></p>	<p style="text-align: center;"><b>BASELINE COMPARISON TO FULL YR RECYCLING</b></p>	<p><b>TRASH COMPACTORS</b> 2005 - 2008 NO RECYCLING \$18,017 ave monthly tip/haul fees adjusted to today's \$</p> <p><b>2009 - 2010 RECYCLING</b> \$14,460 ave monthly tip/haul fees adjusted to today's \$</p>





**ASD mixed-paper tonnage data from Alaska Waste**

2008-2009 mixed-paper program was initiated in 3 phases, data gaps occurred as weight tracking methods were developed. Data missing for the 09 summer school session.

2009-2010 data does not include the 9 charter schools serviced through the partnership between ASD recycling & the Community Based Vocational Services (CBVS) or Girdwood which has material back-hauled by the Student Nutrition trucks.

SCHOOL YEAR	2008-2009	2009-2010
July		
<b>August</b>		72,704
<b>September</b>		50,451
<b>October</b>	11,380	99,189
<b>November</b>		69,359
<b>December</b>	7,680	60,517
<b>January</b>	11,800	61,192
<b>Feburary</b>	11,740	83,926
<b>March</b>		63,533
<b>April</b>	19,980	74,865
<b>May</b>	50,420	92,930
June		
LBS	113,000	728,669
TONS	57	364
(TIP FEE \$63 / TON)	<b>2008-2009</b>	<b>2009-2010</b>
TIP FEE \$ SAVED	\$3,560	\$22,953

notes  
 scale down two days  
 not a complete month of data

<b>ASD RECYCLING TOTALS (Aug 2008 - May 2010)</b>	
LBS	841,669
TONS	421

<b>TO-DATE THE ASD MIXED-PAPER RECYCLING HAS SAVED*</b>	
\$26,513	In landfill tipping fees
\$38,465	140 compactor pulls/hauls (\$274.75 per haul)
7,154	Mature Trees
2,945,840	Gallons of Water
1,263	Cubic Yards of Landfill Space
842	Barrels of Oil \$77.46 /barrel = <b>\$65,196</b>
	(ANS Crude as of 6/22/10)
1,725,421	Kilowatt-hours of Electricity
	Enough electricity to power 421 houses for six months
	At \$0.11 per kWh (ave \$ of electricity in 2004**) = <b>\$189,796</b>

\*According to the EPA, recycling one ton of mixed paper saves 17 mature trees, 7,000 gallons of water, 3 cubic yards of landfill space, 2 barrels of oil, and 4,100 kilowatt-hours of electricity (enough energy to power the average American home for six months).

\*\*ISER report R.S.No. 64 Dec 05 <http://www.iser.uaa.alaska.edu/Publications/MLPfinal.pdf>