EDINA SCHOOL DISTRICT (ISD 273)

SOURCE-SEPARATED ORGANICS RECYCLING PROGRAM 2009/2010 ANNUAL REPORT

DEFINING EXCELLENCE

Prepared For:

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I. INTRODUCTION

The Edina School District (ISD 273) expanded their source-separated organics (SSO) recycling program once again in the 2009/2010 school year with the help of a Hennepin County Waste Abatement Incentive grant. The expansion of this program allowed the district to reduce the amount of waste generated thereby reducing solid waste management costs and promoting environmental awareness among District students and staff.

The 2009/10 school year began with full participation by all six elementary schools, two middle schools and the big addition of Edina High School. Organics program education again took place in the summer of 2009. Parent volunteers met with the school principal, custodians, kitchen staff and student leaders to explain the program and help make any refinements to help the program run more smoothly. Project coordination included a number of groups including:

- Custodial Services;
- Food Services;
- School Administration;
- Student Leadership groups
- Parent Organizations.

In addition to the groups listed above it was important to implement an educational piece in the classrooms, at least initially, so that the students knew what to do, how to do it, and why they were being asked to do it. In the high school an instructional DVD was played in all the classrooms. This DVD was created with the assistance of parent volunteers and an environmental group from Edina High School. This same DVD was played in most classrooms throughout the District the first week of school.

In the elementary schools the organics training was given by parent volunteers mainly just to new incoming kindergartners before the first lunchroom experience. In addition, parent volunteers were in each lunchroom for the first few weeks to assist the students as they went to discard their lunch waste. After that time many schools used student monitors to assist their classmates when disposing of their waste. At the middle school level the assumption was that the students had already been exposed to the program for two years and therefore didn't need much re-training beyond the instructional DVD.

Edina's Food Service is outsourced to Sodexo. Sodexo began the 2008/09 school year with all the offerings in the cafeterias being compostable. This change made the program even easier for all the students as they knew that all items purchased in the cafeteria would be disposed of in the organics bin. Sodexo's willingness to change their purchasing, packaging and serving processes has been instrumental to Edina's program's success.

The purpose of this report is to provide an operational overview and cost-benefit analysis of the current program for the 2009/2010 school year. This analysis includes documenting the expenses associated with program operation and evaluating the cost effectiveness of the program.

II. DISTRICT AND PROGRAM DESCRIPTION

A. SCHOOLS AND ENROLLMENT

The Edina School District operates six elementary schools, two middle schools and one high school. The schools, grade levels, and 2009/2010 enrollment numbers are summarized in Table 2.1.

Table 2.1
Edina School District School Buildings

School Buildings	Grade Level	2009/2010 School Enrollment
Concord Elementary	K - 5	715
Cornelia Elementary	K - 5	551
Countryside Elementary	K - 5	570
Creek Valley Elementary	K - 5	585
Highlands Elementary	K - 5	549
Normandale Elementary	K - 5	635
South View Middle School	6 - 9	1222
Valley View Middle School	6 - 9	1302
Edina High School	10 - 12	1861
Total Enrollment		**7990**

B. ORGANICS COLLECTION PROGRAM

The individual buildings participating in the organics recycling program generally have the same setup although there may be minor differences between the different schools depending on the location and setup of the cafeterias and the handling of liquids (milk, soup, etc.) in the different locations.

Each have a set up where there are one or two sorting stations in the cafeterias with each station having one or two Brute containers on wheeled-dollies for organics, one or two Brute containers on wheeled-dollies for recycling of bottles/cans and one or two Brute containers on wheeled-dollies for trash. In some cases there may also be a separate container for students to dump liquids. A typical setup can be seen in Figure 2.1. Similar Brute containers can also be found in the kitchens for organic materials generated in food preparation.

Signage on the Brute containers as well as on nearby walls or hanging from stands show students and staff what types of materials go in the organics container, what goes in the recycling

container and what goes in the trash container. These signs offer this information in both words and pictures, and, in the French Immersion School, the signs are in French.

The Brute containers for organics are lined with biodegradable bags and when these bags are nearly full they are tied off and the Brute containers are wheeled out to the disposal area where the bags are placed in the 90-gallon organics collection carts. The 90-gallon carts for organics are serviced twice a week by a Minneapolis rear-load truck with the collected organics being delivered to the Brooklyn Park Transfer Station.

Examples of posters created for each Brute container to assist students in choosing the correct bin for disposal.

III. PROGRAM METRICS

A. TONS OF SOURCE-SEPARATED ORGANICS RECOVERED

Actual tons of SSO collected from each school or school district over the last several years has not been tracked. Because of the way the routes are structured and the fact that weights are not calculated until actually dumped on a tipping floor there is no direct method to obtain this information. However, by keeping track of the number of SSO carts each District (and each participating school in a District) has, and how often these are serviced, backing into an estimate of the tonnage coming from each District is possible. SSO carts, for purposes of this discussion, are the wheeled 90-gallon carts located outside near the solid waste and cardboard dumpsters, and the blue recycling carts. The bagged organics are placed in these containers, which are then serviced by City of Minneapolis trucks under a contract with Hennepin County.

The timeframe for servicing these carts are measured by school year (early September through early June).

Table 3.1
Number of Containers of SSO vs. Solid Waste
2008/2009 School Year

	Solid Waste Dumpsters			Source Separated Organics		
School/Building	Container Sizes	No. of Containers	Frequency of Service	Container Sizes	No. of Containers	Frequency of Service
Normandale Elem	6 yd	1	6/week	90 gal.	7	2/week
Concord Elem	6 yd	1	2/week	90 gal.	6	2/week
Highlands Elem	6 yd	1	2/week	90 gal.	6	2/week
Cornelia Elem	6 yd	1	2/week	90 gal.	6	2/week
Countryside Elem	6 yd	1	2/week	90 gal.	6	2/week
Creek Valley Elem	6 yd	1	2/week	90 gal.	6	2/week
SouthView Middle	6 yd	1	6/week	90 gal.	6	2/week
Valley View Middle	6 yd	1	5/week	90 gal.	8	2/week
Edina High School	6 yd	2	5/week	90 gal.	12	2/week

There is a higher frequency of trash pick ups at the Normandale building because the school is located within the Edina School District Offices. Given the average weight of a 90-gallon cart of organics ran about 82 pounds, the participating Edina schools collected approximately 104 tons of SSO. This is a significant increase from the 31 tons collected during the 2007/2008 school year and more than the 98 tons collected in 2008-2009.

B. CONTAMINATION ISSUES

For the Edina School District, the most notable contaminants have come from lunches brought from home. These contaminants include chip bags, plastic fruit cups, cutlery, and especially plastic sandwich bags. As stated earlier, Sodexo added more compostable products in the cafeterias and changed their purchasing habits to include bulk purchases whenever possible. These changes made it easier for the students to be successful participants in the Organics program. As a result, Edina has remained within the 10% contamination level throughout the school year.

C. COMPOSTABLE BAGS

Edina Schools use the BioTuf™ bags. The main issue with the compostable bags has been, and still is, the cost of the bags. The pricing on these bags is significantly higher than the cost of typical plastic bags and therefore represent the largest portion of the cost of the program.

D. FINANCIAL ANALYSIS

In order to determine the on-going cost-benefit analysis of the Edina School District's SSO recycling program, two components need to be examined. The first is the actual cost for SSO recycling program operations with the second being any savings that may accrue from a reduction in solid waste management services. These are discussed below.

1. SSO Program Costs

The cost components of the District's SSO recycling program for the last school year is broken out in Table 3.3.

As seen in Table 3.3, the cost of the program in 2008-2009 was significantly higher than the first year due to the expansion of the program. The majority of our expenditures were on compostable bags and wares. Collection costs were also significant with over $12,000 going to the City of Minneapolis for collection of the SSO.

In the 2009-10 school year the majority of the program expenditure again went to compostable bags and wares.

Table 3.3
Edina School District
Source-Separated Organics Program Costs

Program Component	2007-08	% of Program	2008-09	% of Program	2009-10	% of Program
Sorting Stations/Tables						
In-Door Carts & Containers	$1,832.00	12%	$3,235.00	3%	$1,420.00	7%
Compostable Bags/Can Liners	$3,637.00	23%	$13,310.00	45%	$19,126.00	29%
Compostable Service Ware						
Container Labels/Signage						
Misc. Supplies (gloves, grabbers, etc.)						
Education/Promotion Activites	$3,000.00	19%	$3,000.00	5%	$3,000.00	6%
Administrative Overhead/Salaries						
Collection Cost	$3,036.00	19%	$12,014.00	20%	$11,020.00	26%
Misc. Program Costs (Wares)	$4,412.00	27%	$15,000.00	27%	$15,000.00	32%
TOTALS	**$15,917.00**	100%	**$46,449.00**	100%	**$49,566.00**	100%

Table 3.4
Edina School District
Waste Disposal Costs

School/Building	Solid Waste Costs		Recycling Costs		Organics Costs	
	08-09	09-10	08-09	09-10	08-09	09-10
Normandale Elem	$6,518	$6,812	$1,285	$1,224	$1,659	$900
Concord Elem	$4,948	$2,302	$1,058	$816	$1,141	$1,038
Highlands Elem	$2,757	$2,302	$1,360	$816	$1,079	$842
Cornelia Elem	$2,757	$2,302	$1,422	$816	$1,484	$941
Countryside Elem	$3,048	$2,302	$1,211	$816	$1,318	$804
Creek Valley Elem	$2,757	$2,302	$1,360	$816	$1,444	$1,128
SouthView Middle	$4,948	$5,684	$2,242	$1,224	$1,552	$1,398
Valley View Middle	$6,463	$5,684	$2,318	$1,224	$2,337	$2,085
Edina High School	$12,896	$11,876	$2,190	$2,760	N/A	$1,884
TOTALS	**$47,092**	**$41,566**	**$14,446**	**$10,512**	**$12,014**	**$11,020**

2. Waste Collection and Disposal Costs

Table 3.4 shows the annual cost for solid waste and recycling collection services for each of the schools participating in the SSO recycling program. For comparison purposes the 2008/2009 fiscal years (July through June) are shown. As shown, the solid waste costs decreased by about 12%. The decrease is due to all the material diverted to the organics as well as some adjustments to container size and pick-up frequency. Realizing saving in solid waste hauling despite the addition of a very large school was very important for the District.

The cost for recycling disposal decreased by more than 27% in 2009/2010. Although there is greater participation in traditional recycling, especially at the High School, both the recycling charges to the District as well as the frequency of pick-ups were decreased.

The Organics costs decreased by about 8% in 2009/2010. Although the amount of material collected was greater in 09/10, the decrease in cost may be explained by greater efficiencies and collection at each school with more material collected per pick-up.

3. Cost-Benefit Analysis

The program costs are outlined in Table 3.3 above. The program costs this year were not much different from the year prior even with the addition of a large school. Edina was able to spend less on bags due to smarter use by the custodial staff.

The Edina School District was able to capture savings in the solid waste hauling costs. As solid waste hauling costs continue to decrease the program comes closer to the break-even point. There were adjustments in hauling frequency and container size made at most schools which directly affect hauling costs.

The recycling costs in the 2009-2010 school year decreased by about 27%. There is a greater overall awareness and participation in traditional recycling practices, especially at the High School and middle schools. However, the hauling rates to the District were reduced as well as the pick-up frequency.

The organics hauling costs decreased in 2009-2010. As compared to the just over $12,000.00 spent in 2008-2009, $11,000.00 was spent in 2009-2010. As all the schools in the District become more familiar with the program there are efficiencies realized by capturing more material each pick-up.

Table 3.5 shows the number of MSW dumpsters located at the participating schools, their size, and the frequency of servicing these dumpsters. For comparison, 2008-2009 data is also included. As more waste was diverted from the solid waste stream and into organics, Edina was able to capture savings in solid waste hauling costs as indicated below. Throughout the school year adjustments were made in container size and hauling frequency at most sites.

Table 3.5
Solid Waste Dumpster/Servicing
Data for Edina Schools

School/Building	No. of Dumpsters	Dumpster Size	Service Frequency[1]	No. of Dumpsters	Dumpster size	Service Frequency
		2008-09			**2009-10**	
Concord Elementary	1	6 yds^3	5/week	1	6 yds^3	6/week
Cornelia Elementary	1	6 yds^3	3/week	1	6 yds^3	2/week
Countryside Elementary	1	8 yds^3	2/week	1	6 yds^3	2/week
Creek Valley Elementary	1	6 yds^3	3/week	1	6 yds^3	2/week
Highlands Elementary	1	6 yds^3	3/week	1	6 yds^3	2/week
Normandale Elementary	1	6 yds^3	6/week	1	6 yds^3	2/week
SouthView Middle	1	6 yds^3	5/week	1	6 yds^3	6/week
Valley View Middle	1	8 yds^3	5/week	1	6 yds^3	5/week
Edina High School	2	8 yds^3	5/week	2	6 yds^3	5/week

IV. CONCLUSIONS

The Edina School District's SSO recycling program continues to offer students and staff the opportunity to recycle lunchroom organics generated at all of the District's nine schools. At the heart of the programs' success is the District's willingness to continue the program and the efforts of the parent volunteers, school principals, school custodians, Sodexo and other school building staff to maintain each site's day-to-day operations.

In 2009/2010, approximately 104 tons of SSO was collected District-wide. This is a 6% increase in collection over the 2008/2009 school year.

The SSO program costs were much the same as in the 2008-2009 school year due to start-up costs for the new school as well as a far greater number of students participating in the program. These costs were covered in large part by the WAIF grant from Hennepin County which allowed us to greatly expand the program.

Costs for solid waste hauling decreased about 12%. This cost decrease directly relates to the diversion of materials from the solid waste stream as well as decreased service levels from the hauler.

Recycling collection costs decreased dramatically. The fact that the District can capture cost savings while increasing collection amounts is of great benefit to the District. Overall, there is a greater awareness of waste and disposal issues District-wide.

Though the avoided disposal and collection cost does not yet offset the cost of the SSO recycling program, we are getting much closer. The SSO program has proven invaluable in terms of environmental awareness with students and staff working together at all the schools in the Edina School District.