

CITY OF BURNABY

ENVIRONMENT & WASTE MANAGEMENT COMMITTEE

HIS WORSHIP, THE MAYOR  
AND COUNCILLORS

RE: THE STATE OF SOLID WASTE MANAGEMENT IN BURNABY

RECOMMENDATION:

- 1, THAT Council receive this report for information.

R E P O R T

The Environment & Waste Management Committee, at its meeting held on 2002 February 12, received and adopted the attached report providing an overview of the state of the City's integrated waste management program and outlining the key elements and focus of the 2002 program.

The Committee advised that the residential garbage tonnage for Burnaby has been declining from 40,000 tonnes per year in 1989 (pre-recycling) to an all time record low of 22,140 tonnes in 2001, a reduction of approximately 45%.

The Committee concluded by advising that in 2002, the City will focus its effort in multi-family waste reduction and workers safety and continue seeking more effective means of diverting a further 5% of the waste stream to yard waste composting and recycling.

Respectfully submitted,

Councillor D. Johnston  
Chair

Councillor C. Redman  
Member

Councillor B. Der  
Member

CC: -CITY MANAGER -DIRECTOR ENGINEERING -CITY CLERK
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**TO:** CHAIRPERSON & MEMBERS  
ENVIRONMENT & WASTE  
MANAGEMENT COMMITTEE

**DATE:** 2002 01 29

**FROM:** DIRECTOR ENGINEERING

**FILE:** 65-05-01

**SUBJECT:** THE STATE OF SOLID WASTE MANAGEMENT IN BURNABY

**PURPOSE:** To provide the Committee and Council with an overview of the state of the City's integrated waste management program and to outline the key elements and focus of the 2002 program.

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**RECOMMENDATION:**

1. **THAT** the Environment and Waste Management Committee forward this report to Council for information.



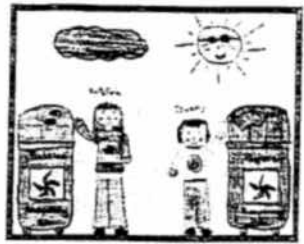

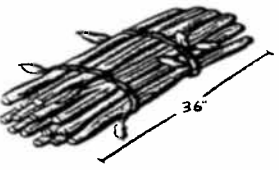
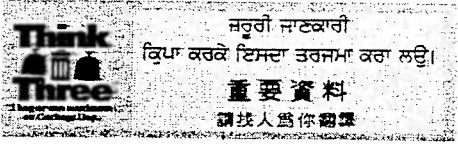



**R E P O R T**

**1. INTRODUCTION**

The City's solid waste and recycling programs represent significant investments by the City and their high level of service provided to the community at large also serve as a model of excellence in the region.

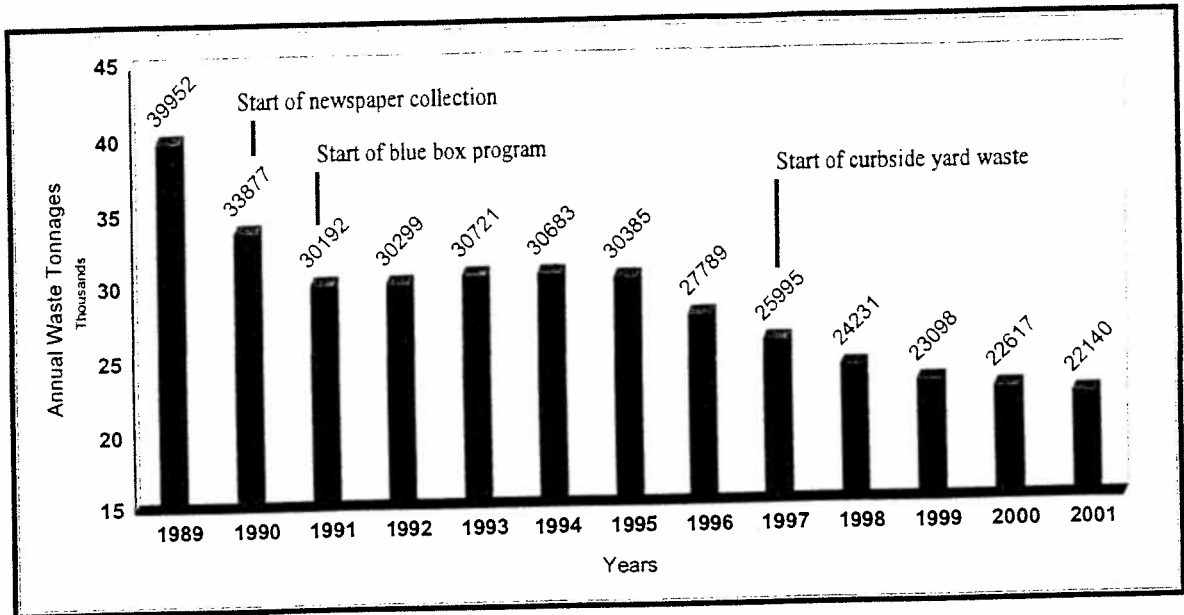
In 1990, Burnaby expanded beyond its traditional refuse collection service by launching the first phase of an integrated waste management program that started with the Recycling Depot on Still Creek Avenue. In 2001, after a decade of growth and community support, the Burnaby program has become one of the most effective and comprehensive waste management models in the region.

In 2001, the program has grown to a multi-sector based and integrated service delivery that includes the following components:

 <p><i>Single Family Blue Box</i></p>	 <p><i>Multi-Family &amp; Commercial Recycling</i></p>	 * <p><i>School Education Unit</i></p>
 <p><i>Curbside Yard Waste Collection</i></p>	 <p><i>Yard Waste Drop-off Centre</i></p>	 <p><i>Community Outreach Initiatives</i></p>
 <p><i>Post Consumer Product Recycling</i></p>	 <p><i>Recycling Depot</i></p>	 <p><i>Compost Demonstration Garden</i></p>

\* Drawing by Sunny and Kristina of Westridge Elementary School.

The 2001 City program continued to surpass earlier years' records in waste diversion and reduction. Prior to introducing the City's recycling program, the annual single family waste disposal was approximately 40,000 tonnes. In 2001, the residential waste disposal reached an all time low of 22,140 tonnes, a reduction of approximately 45% over an 11 year period while the City population has grown approximately 20% from 160,800 to 194,100 in the same time period. The historical trend of the City's waste disposal volumes is shown in Figure 1.



**Figure 1**  
 Annual Single Family Waste Stream Volumes  
 1989 - 2001

Although the success of a program can be measured by numbers, the real change in the community may be better measured by a change in public attitude toward recycling, composting and waste disposal. While recycling was once seen as one small element of an environmental program, blue boxes, recycling totes and clear bags now line curbs weekly on all City streets. Waste reduction practice has reached beyond the residential sector into the public schools, civic facilities and commercial sector.

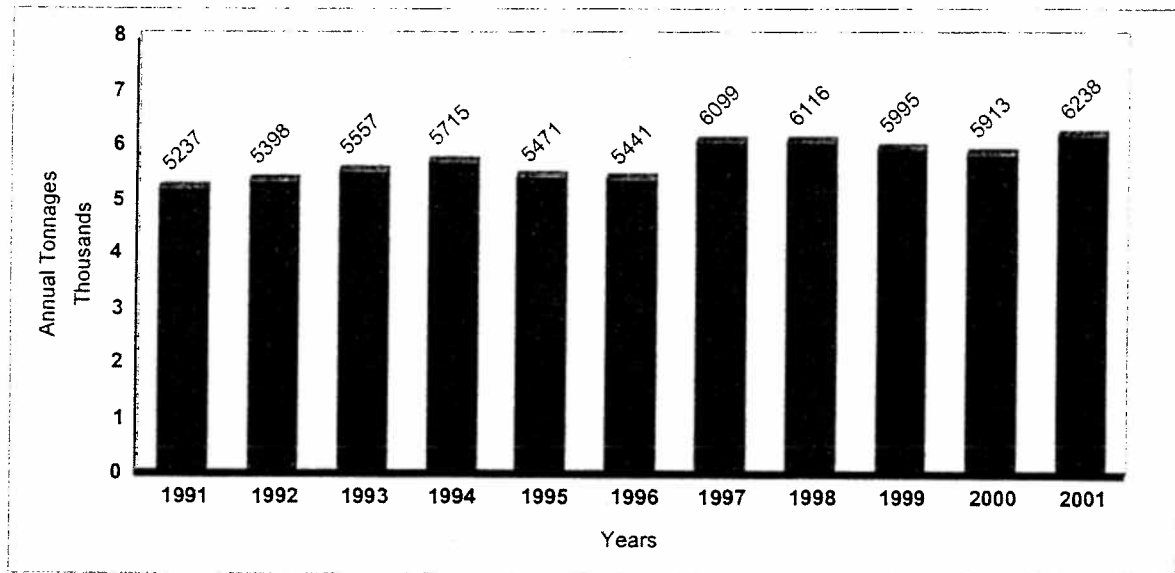
The purpose of this report is to outline the overall achievement and success of the Burnaby program in waste diversion and reduction and the challenges the City faces in 2002 to carry on the tradition of excellence.

**2. SUMMARY OF THE 2001 PROGRAM**

While the City garbage volumes decline, an increased participation level occurred in all waste reduction programs thus pushing the overall City waste reduction rate to a record high. A summary of the key waste reduction programs and their performance is given in the following.

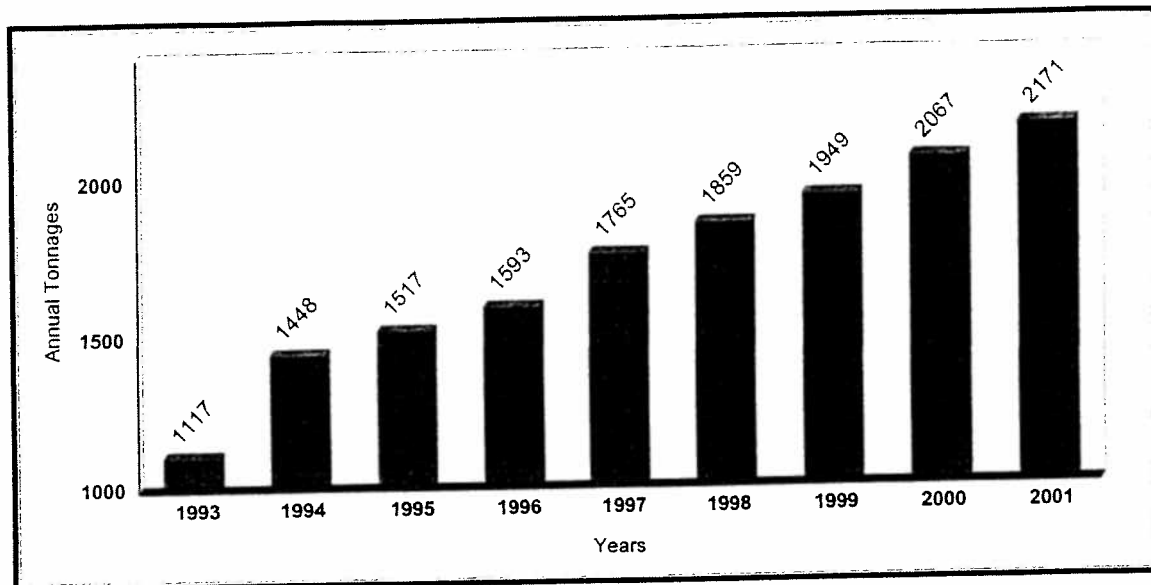
## 2.1 Curbside Blue Box (Single Family) and Toter (Multi-Family) Collection

The Blue Box program was introduced to the single family sector in 1991. While the number of single/two family dwellings have reduced approximately 5.5% from 36,000 in 1991 to 34,000 in 2001, the Blue Box volumes have increased 19% over the same time period. Figure 2 presents the historical trends of the Blue Box program. In late 1998, the Province introduced the expanded beverage container deposit legislation which resulted in a significant diversion of beverage container volume from the Blue Box. However, the diverted container volume was offset by an increase in mixed paper/old corrugated cardboard recycling which helps to maintain a strong overall program. It is interesting to note that in 2000 the beverage container industry through Encorp has recovered 591 million containers which is about 73% of all non-alcoholic containers in the deposit system. In addition, over 900 schools in B.C., including the ones in Burnaby, have started using the special recycling toters provided by Encorp to collect containers, especially polycoat drink boxes.



**Figure 2**  
Single Family Curbside Recycling Volumes - Blue Box  
1991 - 2001

The multi-family toter collection program started in 1993 and the program continues to see increases in recycling tonnages. A summary of the multi-family recycling volumes since the beginning of the program is shown in Figure 3. In 2001, approximately 22,800 units are using the Burnaby recycling program which represents approximately 91% of all multi-family units served by the City.

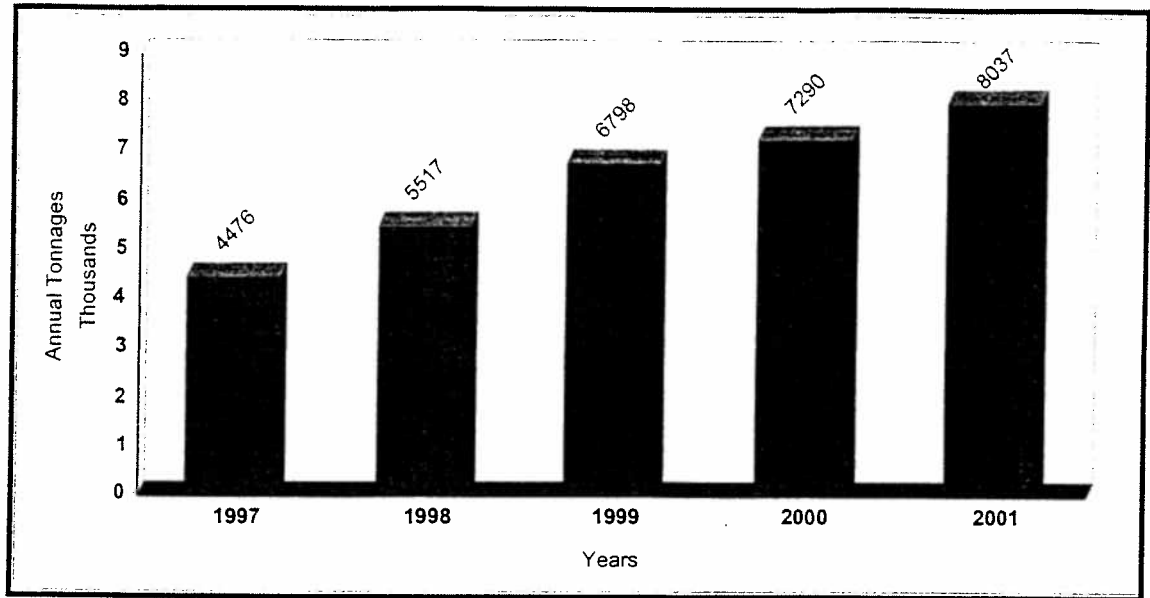


**Figure 3**  
Multi-Family Recycling Volumes  
1993 - 2001

## 2.2 Curbside Yard Waste Collection

The curbside yard waste collection program is available to single family and duplex residents in Burnaby during the growing season from March to November. The program collects all yard and garden wastes in clear plastic bags or in 77 litre containers labelled for yard waste and bundled brush in three-foot lengths. The materials collected are delivered to a composting facility in Richmond for processing and marketing.

The yard waste collection program continued to gain popularity in 2001. It offers Burnaby residents an alternative in recycling and further diverts waste from the incinerator. In 2001, approximately 8,037 tonnes of yard waste were collected at the curbside, an increase of 80% over a 5 year period. In 2001, as part of a work safe initiative, a can size (77 litre max.) and weigh (20 kg) limit was implemented for curbside pickup. An update on the status of the program is provided in Section 2.5 in this report.



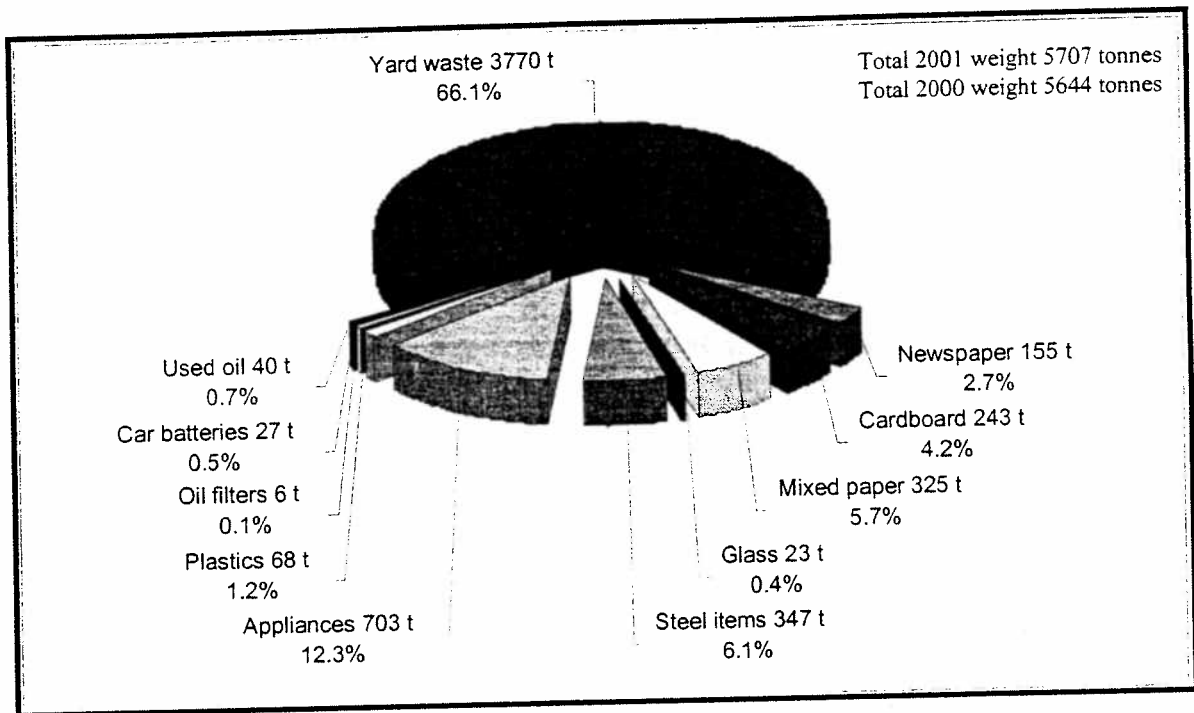
**Figure 4**  
Single Family Curbside Yard Waste Volumes  
1997 - 2001

Although a City composting facility feasibility study conducted in 2000 concluded that it is not economically feasible to start an in-house operation until a throughput processing volume of 30,000 to 35,000 tonnes/year is achieved, the City will continue to explore opportunities with neighbouring municipalities and the GVRD for potential partnership to achieve optimal operation efficiency.

### 2.3 Recycling Depot and Yard Waste Drop Off Centre

The City Recycling Depot remains a popular place for Burnaby residents and businesses who are committed to reduce waste disposal. Approximately 1,940 tonnes of materials were processed through the Recycling Depot in 2001 in addition to 130 cubic meters of leftover paints, solvents and flammable liquids collected and used clothing drop off for the Salvation Army. A wide variety of materials including soft plastics, scrap metal, used motor oil, car batteries and old appliances are accepted at the Depot. A detailed breakdown of the materials collected at the Depot in 2001 is given in Figure 5.

The Yard Waste Drop Off Centre received approximately 3,770 tonnes of yard waste in 2001. Backyard composters remain an item sought after by homeowners. In 2001, approximately 720 composters were sold through the Depot and one weekend special sale promotion at the Brentwood Mall during the Environment Week which brings the total number of composters sold to about 9,260 since the beginning of the City composter program. To complement the backyard composting initiative, the City took over the GVRD's compost demonstration garden on Still Creek Avenue at the end of 2000 and opened the garden to the public during the months from June to October. In 2001, the city conducted eight workshops at the facility and received approximately 820 visitors to the garden.

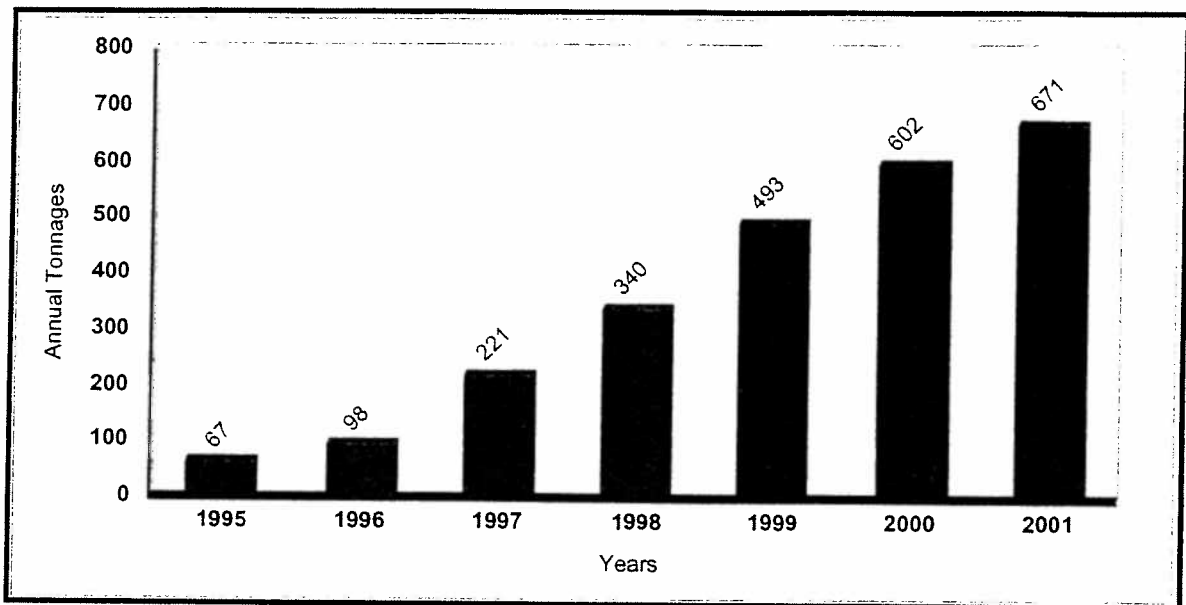


**Figure 5**  
 Materials Collected at the Recycling Depot and the Yard Waste Drop Off Centre  
 2001 (January - December)



## 2.4 Commercial Sector Recycling

Since approximately 1994, the City has provided recycling service to schools and civic buildings including recreation centres and arenas, and in 1999 the City expanded the recycling collection service to Burnaby businesses who are customers of the City's waste collection program. In 2001, the combined commercial and institution recycling volume including telephone directories was approximately 671 tonnes. A summary of the commercial/institution sector recycling is given in Figure 6.



**Figure 6**  
Commercial & Institution Recycling  
1995 - 2001

## 2.5 Single Family Refuse Collection

In early 2001, Council approved a change to the curbside refuse and yard waste collection service for the single family residential sector by introducing a weight limit (20 kg) and size limit (77 litre) for containers and bags. The purpose of the change is to reduce worker injuries in a physically demanding work environment and to meet the challenges of managing an aging workforce. The changes were implemented over a two month period through newspaper coverage, information pamphlets to all single family homes, advertisement and direct personal contact.

The program received many inquiries during the initial implementation phase. With the recognition of the worker injury rate and the need to maintain cost efficient service, the public has gradually accepted the changes and full compliance of the program was achieved in the Summer of 2001.

## **2.6 Communication and Education**

In 2001, several communication and education programs were delivered and they were:

### **2.6.1 News Articles, Pamphlets and Community Events**

- Four articles on waste reduction were published in InfoBurnaby.
- Twelve newspaper articles on waste reduction, composting, and recycling education were published in Burnaby NOW.
- Displays and Depot Open House in connection with community events such as Environment Week, Hats Off Parade, Rivers Day and Discovery Day.
- New pamphlets on Blue Box recycling, yard waste composting, multi-family recycling and the compost demonstration garden were developed and completed with Chinese language translation. The new pamphlets are to provide residents and newcomers to the City with information on waste reduction options available.
- An interactive display unit on waste reduction information was put together and used at community events.
- Information pamphlets were distributed to all single family residential homes and newspaper advertisements were published in connection with the new weight (20 kg) and size (77 litre) protocol for single family refuse and yard waste collection.

### **2.6.2 School Education Program**

In 2001, the City continued with the partnership with the School District Office in promoting the City's environmental learning unit "Cut the Garbage" in Burnaby's elementary schools. The unit includes a classroom kit on recycling facts that the teachers can use in the class and a student take-home survey of recycling habits. The program is well supported by the teachers and the School District. Thirteen elementary classes participated in the program and the classes that completed the survey and returned the results to the City received an ice cream party and a recognition certificate signed by the Mayor and the School Board Chairperson. The purpose of the learning unit is to bring waste reduction messages directly to the classrooms and to heighten awareness of the environmental value of recycling.

Through the student survey work, the City was able to obtain more information on home recycling habits and in return, the students had great fun in participating in the program.

## 2.7 Recycling Survey

In a six-week period in 2001 May and June, a curbside survey of garbage, Blue Box and yard waste set out was conducted in two single family areas with a total of approximately 240 households. The purpose of the survey was to determine the frequency of residents using the curbside services and to identify changes in the recycling stream. Key findings of the survey are summarized as follows:

- Approximately 84% of households set out garbage
- Approximately 8% of households set out more than 3 cans/bags of garbage per week
- Approximately 53% of households set out the Blue Box per week
- Approximately 45% of households set out yard waste per week

A comparison of the 2000 and 2001 survey results indicated that the garbage set out rates are similar for both years while the Blue Box and yard waste participation rates have increased by more than 5% in 2001. Based on the small sample survey, a conclusion can be drawn that a majority (more than 90%) of households is in conformance with the "Think 3" program and the acceptance and popularity of the yard waste and Blue Box programs have also increased.

A summary of the average garbage set out rate observed during the survey period is shown in Figure 7.

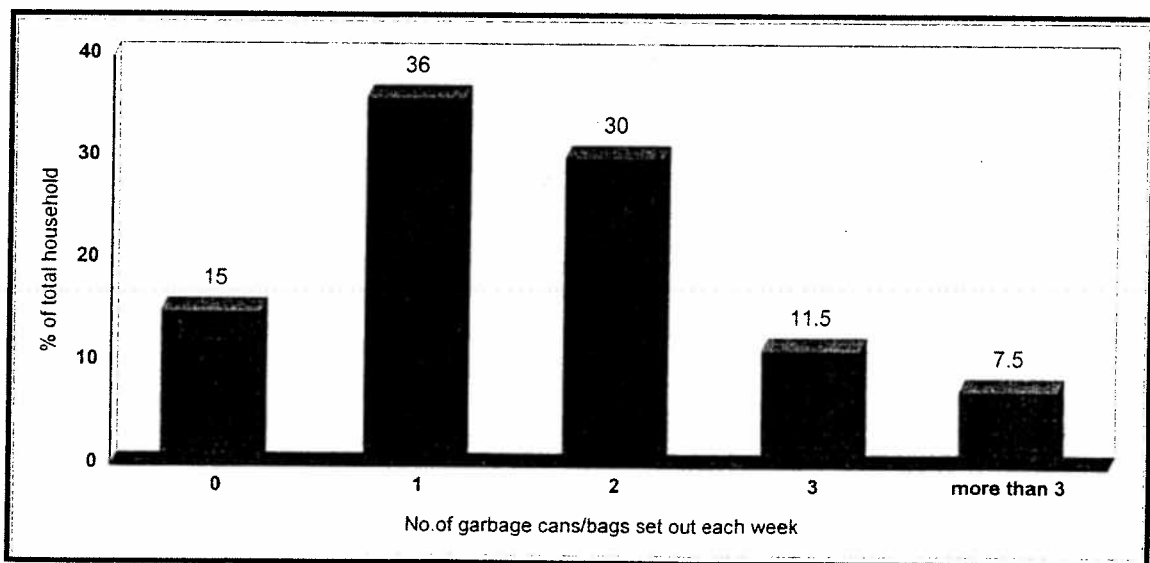


Figure 7  
Survey on Garbage Set Out

Burnaby's integrated waste management system provides one of the best service delivery models in the region. Its comprehensive in-house collection service and "one-stop" recycling drop off centre provide Burnaby's residents and businesses with the best possible service. Although Burnaby has chosen the voluntary "Think 3" approach while the rest of the municipalities in the region have adopted a mandatory can limit approach, Burnaby still enjoys a highly successful program built on community pride and public acceptance. The GVRD published a report that provides a summary of solid waste and recycling statistics in the region for 2000. The report indicated that the average residential waste diversion in the region was approximately 38% and the net residential waste disposal was 0.19 t/capita/year which are marginally below the Burnaby diversion rates. With the continued commitment to the solid waste management services as discussed in Section 3 in this report, it is expected that Burnaby will be able to continue with its tradition of excellence in solid waste management while maintaining a high service level to its citizens.

### 3.0 2002 WASTE MANAGEMENT PROGRAM

Enhanced effort in multi-family waste reduction public communication activities and workers safety will be the focus of the 2002 Waste Management Program. In 2002, a service plan that is built on past success which include all service programs delivered in 2001 plus the following initiatives will be implemented:

#### 3.1 Curbside Yard Waste Collection

In view of the increased participation in the yard waste collection program, the 2002 program commences on March 4 will continue to November 30. The volume of yard waste at the curbside will be monitored and if necessary, the curbside collection service will be advanced to capture early Spring yard waste clean up by residents.

Although Burnaby has seen significant increase in curbside yard waste collection in the last five years, more effort will be devoted in 2002 to develop an effective strategy to encourage and promote yard waste diversion in the multi-family sector. Burnaby's current yard waste diversion rate is approximately 60 kg/capita which is lower than the regional rate of 75 kg/capita estimated by the GVRD. Although the higher land use density in Burnaby may attribute to the lower diversion rate, it is the goal of the City's solid waste management plan to increase yard waste diversion rate in the multi-family sector.

For general yard waste promotion, a public advertising campaign utilizing signage on the yard waste collection trucks and advertisement will be implemented to increase participation. A 5% increase is targeted for the yard waste diversion in 2002.

### 3.2 Multi-Family Recycling

As Burnaby continues to grow and more multi-family developments occur, the demand on waste management service will also increase. In 2002, a complete review and survey of the multi-family customer base will be undertaken to identify areas of service improvement required and to further enhance recycling opportunities for multi-family residents. The newly updated English and Chinese multi-family recycling pamphlets will be used as the base for the communication campaign for 2002.

### 3.3 Community Outreach

Communication and education is an integral component of the City's solid waste management program. The purpose of the C & E program is to inform the citizens better about available services and to gain greater acceptance of the waste reduction initiatives as part of the community culture.

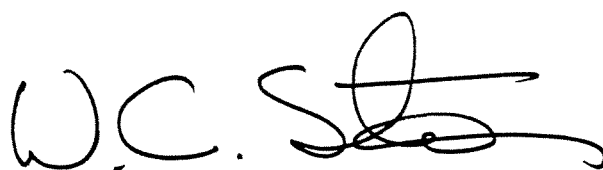
In 2002, the "Cut the Garbage" elementary school program will be reviewed and participating teachers will be interviewed. Input from the teachers will be used to update the program for more effective delivery of the waste reduction message in the classroom environment.

## 4.0 CONCLUSIONS

It has been over 10 years since the launching of the City waste reduction program. The residential garbage disposal tonnage for Burnaby has been declining from 40,000 tonnes per year in 1989 (pre-recycling) to an all time record low of 22,140 tonnes in 2001, a reduction of approximately 45%. The Blue Box program was first initiated to divert paper products and containers from the single family waste stream to recycling. In a decade of waste reduction service, the City has refined its waste reduction program and now provide Burnaby's residents and businesses with many waste reduction alternatives that include apartment totter system, depot operations, commercial recycling, central and curbside yard waste collection, household hazardous product recycling, compost garden, education and community outreach programs.

Burnaby's integrated waste management system provides one of the best service delivery models in the region. Its competitive in-house collection service and "one-stop" recycling/composting drop off centre provides Burnaby's residents and businesses with the best possible service. In 2002, the City will focus its effort in multi-family waste reduction and workers safety and continues to seek more effective means of diverting a further 5% of the waste stream to yard waste composting and recycling.

In conclusion, the City has enjoyed a considerable success in its delivery of the waste reduction program. The highly successful program may be attributed to the overall participation of the community in the broad range of services available under the program to reduce waste and to divert waste disposal to recycling. While the City will continue to build its program on past success, new initiatives will continue to be developed to shape the state and future of the integrated waste management service for improved customer service and system efficiency.



W.C. Sinclair, P. Eng.  
DIRECTOR ENGINEERING

LSC:dh

cc: City Manager