

35729


#1424

Received too late  
to distribute @ 9:30  
faxed to Stu

9/23/98

To Mayor Vera Katz & City Council  
City of Portland

Fax c/o Kcay Kershner  
Council Clerk  
823-4571

From Marcele Daeges   
Chair, Legislative Committee, Recycling Advocates  
Portland, Oregon 297-4710

Re Plan for Achieving Recycling Goals

Thank you for the opportunity to comment on the City's plan for achieving its recycling goals. Recycling Advocates commends the Bureau of Environmental Services for its recommendation to mandate the separation and collection of food waste for businesses. We support this recommendation. We also support the recommendations of the Bureau of Environmental Services (BES) to emphasize waste prevention, and recycling for the multifamily and commercial sectors of the waste stream. We agree with the emphasis on waste composition -- what's left in the waste stream after recycling.

We support the plan overall, but have some recommendations. Recycling Advocates would like to see the Bureau "put more teeth" into its plan by defining specific programs and goals for achieving the recycling rates. We believe that without some specifics, the City may have difficulty achieving its recycling goals for the years 2000 and 2005.

Examples of some specifics

- >A set annual percentage of businesses and multifamily housing to be contacted one-on one by a Bureau staff member to address the issues of waste prevention and recycling. The goal would be to contact the majority of businesses by a set date. We believe one-on-one education and contact may be the only way to get the message of waste prevention and recycling out.
- >A waste composition study be completed for multifamily housing. Though this sector of the waste stream is showing 88% having recycling systems, we believe participation by tenants is low. A waste composition study could identify this. From there an aggressive education program would be required.
- >We'd like to see a residential pilot, if not during the process of commercial food waste collection, then after commercial collection is underway. We believe a lot can be learned from such a pilot, by both the city and community.

We offer our assistance and appreciate the chance to comment on the plan. Thank you.

cc Bureau of Environmental Services  
City of Portland

Several years ago a comedian said, "...three hundred tons of sugar are wasted every year in the bottom of cups. We hope this causes a stir." (retold by Herbert V. Prochnow)

The book Rubbish! The Archeology of Garbage states, "Between one-tenth and one-quarter of all edible food a family buys gets thrown away; this does not include food preparation debris, such as rinds, peels, skins, and so on." (Rathje and Murphy, 1992, p. 243.)

Consumer Research magazine in April found an "Analysis of household garbage waste shows that specialty products such as sour cream or hot dog buns, or food items bought on impulse, comprise a large portion of discarded foods. Large quantities of a single food, such as an entire head of lettuce, sprouted potatoes, or half-empty boxes of crackers account for the largest share of household food loss.

"In addition, foods may be forgotten or spoiled in the home refrigerator. Additional losses occur from overpreparation, cooking losses, spoiled leftovers, breakage, spillage, and package failures."(p.8)

Garbage or recycling avoidance is like preventative medicine to health--solving a problem before it occurs.


Portland's plan for reaching its recycling goals mentions that waste prevention is better than waste management or recycling or garbage collection but it also proposes an "analysis of the potential for residential food waste collection." (p 1)

If the Bureau carries out its waste prevention education campaign there should be no potential for food waste at the curb. People should be taught meal planning, food rotation and the use of residential compost and worm bins. And there must be a price signal in the garbage customer's bill for adopting best food management practices in the home and yard.


Athelstan Spilhaus believed, "Waste is simply some useful substance we do not have the wit to use."

It makes moral and economic sense not to waste. My excess tomatoes could have rotted on the vine but I took the time to share them. My fabric scraps could have landed in the trash but again I made the conscious choice to make them into lunch sacks.


I present them as a reminder "Waste not want not" is a proverb older than any recycling plan.


1.  **Portland's Plan for Achieving Recycling Goals**

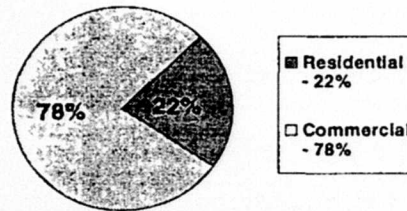
Bureau of Environmental Services  
Solid Waste and Recycling  
September 1998


2.  **Recycling Status & Goals**

- ◆ Reached 49% in '97
- ◆ 54% in 2000
- ◆ 60% in 2005
- ◆ Very challenging
- ◆ But reachable


3.  ◆ Primary focus is on "commercial" business, industry & multifamily
- ◆ Over 3/4 of Portland's waste comes from businesses
- ◆ "Residential" includes single-family through four-plexes

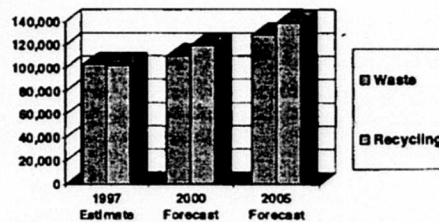
4.  **Source of Waste**



5.  **Residential Recycling**

- ◆ Needs to increase from
- ◆ 50% in 1997 to
- ◆ about 52% in 2000 and
- ◆ about 52% in 2005

6.  **Residential Tonnage 1997-2000-2005**



7.



### ***Residential Targets***

- ◆ Increasing recycling among users of 60- and 90-gallon garbage rollcarts
- ◆ Commingling likely to increase participation
- ◆ Evaluate including food waste, maybe with yard debris

8.



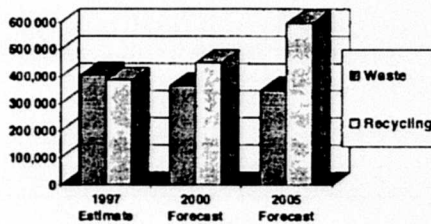
### ***Commercial Recycling***

- ◆ Needs to increase from
  - ◆ 49% in 1997 to
  - ◆ about 55% in 2000 and
  - ◆ about 63% in 2005

9.



### ***Commercial Tonnage: 1997-2000-2005***



10.



### ***Commercial Targets***

- ◆ Collecting paper from retail, wholesale, offices and institutional businesses
- ◆ Promote construction recycling
- ◆ Composting food waste from "large generators"

11.



### ***Strategies for Recycling Paper from Businesses***

- ◆ Increase promotion and education thru business groups
- ◆ Increase visits to targeted businesses
- ◆ Likely purchase of desk-side containers for businesses

12.



### ***Further Paper Strategies***

- ◆ Focus on institutions
- ◆ 1996 survey shows numerous institutions (15%) report NOT recycling ANY materials



13.

### Construction/Demolition

- ◆ Requirement affects all projects valued at \$50,000 or more
- ◆ Metro survey reveals many still unaware of requirement
- ◆ Maximize outreach through contractors' associations

14.

### Food Waste - Amounts

- ◆ about 27% of commercial wastestream (not including industrial or C&D)
- ◆ about 31% of residential waste
- ◆ Source Metro 1993-94 Waste Characterization Study

15.

### Food Waste Strategy (I)

- ◆ Council direct BES to prepare language mandating food waste separation by certain businesses as of July 1, 2001
- ◆ BES return to Council this winter to adopt this mandate

16.

### Food Waste Strategy (II)

- ◆ Focus on generators of large quantities of food waste
- ◆ Review including "postconsumer" (i.e., meats) or not
- ◆ Effect of mandate Put private sector on notice that food waste stream will be "guaranteed"

17.

### More on Food Waste

- ◆ Commercial Vs Residential
- ◆ Commercial likely to be collected separately from other materials and composted at facilities that don't yet exist
- ◆ Residential likely to be collected with yard debris, then composted where??

18.

### Waste Prevention - I

- ◆ Highest on waste hierarchy Reduce - Reuse - Recycle
- ◆ Very appealing to businesses, saves them money
- ◆ City operations should set an example

19.

**Waste Prevention - II**

- ◆ Difficult to measure
- ◆ Involves "upstream" behavior changes, before a waste or recyclable is created or even purchased
- ◆ Promote to residential & commercial

For more information, contact Anne McLaughlin, (503) 823-7061, FAX (503) 823-4562  
email [annem@bes.ci.portland.or.us](mailto:annem@bes.ci.portland.or.us)

US Mail: City of Portland, Bureau of Environmental Services,  
1211 SW 5th Avenue, Room 800, Portland, OR 97204-3713



CITY OF PORTLAND  
ENVIRONMENTAL SERVICES



1211 SW Fifth Avenue, Room 800, Portland, Oregon 97204-3713

(503) 823-7740, FAX (503) 823-6995

Dean Marriott, Director

CC 1424

September 21, 1998

35729

TO Mayor Vera Katz  
Commissioner James Francesconi  
Commissioner Charlie Hales  
Commissioner Gretchen Miller Kafoury  
Commissioner Erik Sten  
Cay Kershner, Council Clerk

FROM Anne McLaughlin, BES Solid Waste & Recycling *Amel*

SUBJ CC 1424, City's Plan for Achieving Recycling Goals in 2000 and 2005

This Wednesday, September 23, you will consider a resolution accepting BES' proposed Plan for achieving the recycling goals you adopted in April 1997 54% in 2000 and 60% in 2005

The attached document is a supplement to the material you have already received for this item. It is a summary of the public comments BES received in response to the Draft Plan we circulated last Winter. It also includes BES staff responses to each comment.

Please call me if you have any questions on this item. My number is 7061.

I am looking forward to your discussion on Wednesday morning.

s:\plangoal\council doc

## BES Responses to Comments Received on "The Plan"

### Comments were received from:

- June Boone, 2/5 email
- OSPIRG, 2/20 letter from Laura Culberson
- C Marcele Daeges, 2/19 letter
- Paulette Rossi, in minutes of 3/3 meeting of Portland Utilities Review Board, Solid Waste Subcommittee
- Jock Mills, in 3/3 PURB/SW minutes
- Jock Mills, written comments dated 2/9
- Metro, 2/20 letter from Jennifer Erickson
- DEQ, 2/17 letter from Paul Slyman
- Oregon Refuse and Recycling Assn , 2/20 letter from Dave White
- Jeanne Roy, 2/6 letter
- Steve Apotheker, 2/23 letter
- Petra Mattes, 2/25 email

*Note any page numbers mentioned in "Comments" generally refer to the January 29, 1998, draft, not the page numbers in the final draft*

#	From	Comment	BES Response
1	OSPIRG Roy	<p><b>Commercial Recycling -- Promotion</b></p> <p><b>OSPIRG</b> Consider a massive media campaign aimed not only at businesses, but at their employees who can become advocates</p> <p><b>Roy</b> Much more education is needed, the city's 1996 survey showed that 60% of businesses were not aware of the requirement City needs to foster the demand by increasing awareness on part of all employees, not just the one employee or manager that talks to the hauler To do this, allocate \$250,000 for a major media campaign using billboards, radio, and Oregonian inserts</p> <p><b>Keep the message simple</b> "You can recycle at work as you do at home In fact, the city wants all your paper, cans/bottles, and scrap metal to improve its recycling rate "</p>	<p>No massive campaign will be undertaken in FY 1998-99</p> <p>There will be several smaller, targeted campaigns</p>
2	OSPIRG Apotheker	<p><b>Commercial Recycling -- Business Visits</b></p> <p>Detail how BES will increase number of site visits How many visits by staff (in addn to PSU's visits)? How effective has PSU contract been? How could it be better utilized?</p>	<p>This document is to outline the programs that the City will be undertaking to reach the 54% and 60% goals It is not intended to include detailed information about programs</p>



#	From	Comment	BES Response
3	OSPIRG Rossi Roy Apotheker	<p><b>Commercial Recycling, enforcement timeline</b></p> <p><b>OSPIRG</b> Provide better timeline, benchmarks, and consequences if businesses do not meet goals Commercial is lagging behind residential sector and must catch up quickly in order to meet City's goals Do not wait till 12/99 to consider adding enforcement staff or increasing requirements on businesses If no significant improvements within next year, consider immediate implementation of penalties on businesses who don't recycle and/or landfill ban on the most recyclable materials</p> <p><b>Rossi:</b> Wants to see discussion of education, enforcement, other measures needed, dates for compliance, and "what-if" scenarios</p> <p><b>Roy</b> Include a timeline and backup plans if initial programs don't achieve desired results, e g , promise landfill bans if not enough material is captured</p> <p><b>Apotheker</b> How many businesses are actually complying with the commercial recycling requirements? Establish a timeline that clearly identifies a point, say the year 2000, when businesses will start to see meaningful fines for not recovering at least 50% of their waste As an alternative, landfill bans for various materials could be adopted and enforced</p>	<p>See response to previous comment The consequences for failure to comply with the ordinance are provided in our Administrative Rules</p> <p>The plan now addresses the difficulty of obtaining compliance data on Portland's 40,000+ businesses</p>
4	Apotheker	Page 9 mentions a telephone survey of 450 businesses but no results	These results have been added
5	OSPIRG	<b>Commercial Recycling</b> Consider an incentive program or peer counseling program BRAG is good start but needs to give more visibility and recognition and to encourage other businesses to follow Could be part of media campaign mentioned above (in #1)	Make better use of BRAG examples to raise consciousness, expectations and demand for recycling services

#	From	Comment	BES Response
6	OSPIRG, Daeges Roy Apotheker	<p><b>Residential Recycling - Food Waste</b></p> <p><b>OSPIRG</b> Recommend immediate implementation of a pilot program similar to Seattle's Would demonstrate seriousness of City's commitment</p> <p><b>Daeges</b> Residential Recycling Include organics for residential too, incl specifics regarding timing</p> <p><b>Roy</b> Add a residential food waste program, schedule a pilot project and seek an experienced composter for processing Planning needs to begin early for a number of reasons</p> <p><b>Apotheker</b> Residential food scrap recovery needs to be part of the plan now, not later It is the largest part of the residential wastestream Planning and implementing will be slow for several reasons (public mistrust based on failure of MSW composter, haulers' and processors' needs to change equipment and technologies, and substantial public investment may be needed to acquire wheeled carts and distribute them to households)</p> <p><b>Apokether</b> Page 5, Main Components of The Plan This section ignores any increases in residential recycling, saying that any increase would be just a "drop in the bucket" However, page 8 states that food waste represents more than 30% of Portland's residential waste disposed, or more than 30,000 tons per year in 1996 At a 60% recovery rate, 18,000 tons of recovered food scraps would have increased our total recycling rate by two entire percentage points in 1996</p>	<p>Portland will examine collection of food waste from residential as well as commercial We do not know whether a pilot program will be a necessary step before undertaking a wider program This will depend on the findings of the City's research and analysis of the local situation and of options being used in other geographic areas</p>
7	Daeges Metro Mattes	<p><b>Waste Prevention</b></p> <p><b>Daeges</b> Include education for both residential &amp; commercial Delete discouraging example of reusable cloth bag</p> <p><b>Daeges</b> Set specific objectives for this education, including dates for implementation and number of residents, businesses reached, etc Perhaps publish a newsletter and/or use Internet</p> <p><b>Metro</b> Will the City also incorporate a strong waste prevention message in the new brochure being produced, in order to move towards the regional focus on prevention?</p> <p><b>Mattes</b> Would like to see more information on how City will deal with waste reduction vs recycling</p>	<p>The plan has been revised to place a stronger emphasis on waste prevention for both commercial and residential The City will also use the results of Metro's studies on waste prevention promotion, now underway</p>

#	From	Comment	BES Response
8	Daeges Apotheker	<p><b>Waste Prevention -- City should be an example</b></p> <p><b>Daeges</b> Discuss standards set by City offices themselves for waste prevention They should be exemplary, show leadership</p> <p><b>Apotheker</b> While not a part of the plan <i>per se</i>, the City of Portland itself needs to be a model for the rest of the commercial community in terms of waste prevention, recycling, composting and buying recycled As such, the City should prepare an annual report on its activities in this regard, and specifically, its own progress in meeting a 60% recycling goal</p> <p>This annual report should accompany an annual review of the Plan</p>	<p>We agree that the City, including BES, should show leadership on waste prevention and related activities This will be a focus of our efforts during the plan's timeframe</p> <p>We will give updates on this in our annual Management Reports</p>
9	Daeges Metro, Apotheker	<p><b>Residential Recycling, Add materials</b></p> <p><b>Daeges</b> Add tubs to plastics being collected Do not measure importance of collecting a material simply by anticipated tonnages to be collected</p> <p>Portlanders want to recycle tubs, Garten can do it nearby Emphasize service (responding to this customer demand), as well as resource management, in adding materials</p> <p><b>Metro</b> Has City decided against adding plastic tubs to residential collection?</p> <p><b>Apotheker</b> Smaller material diversions from residential waste should also be identified and evaluated, such as textiles, commingled rigid plastic containers, film plastic, bulky materials, window glass</p>	<p>In the Spring of 1998 a subcommittee of the Residential Recycling Work Group considered and did not recommend the immediate addition of any materials At this time there do not appear to be market conditions that would justify adding more materials to the curbside program The subcommittee suggested future consideration of including rigid plastic containers, textiles, empty paint cans, residential food waste and bulky wastes</p> <p>The subcommittee also presented helpful recommendations of evaluative criteria for new materials</p>
10	Daeges, Metro	<p><b>Multifamily Diversion</b></p> <p><b>Daeges</b> Be more aggressive in getting message across to owners/managers that they're required to recycle Believes that 1996 generator survey showing 98% recycling rate is misleading, based on experience as apt resident and complex manager Actual participation is much lower</p> <p><b>Metro</b> Under "Multifamily Diversion" From the public's perspective, MF dwellers do not have the same opportunity to recycle as single family residents (fewer materials collected, reluctant landlords, lack of educational materials)</p>	<p>The plan has been revised to reflect increased promotion during FY 99 to raise renters' awareness and expectations, as well as increased promotion to owners/managers through MF organizations and newsletters</p> <p>We will increase field visits and enforcement as well</p>



#	From	Comment	BES Response
11	Daeges	<b>Multifamily Diversion</b> Add more materials, such as plastic bottles and mixed waste paper	The 1996 recycling mandate for multifamily requires that all complexes offer recycling of mixed waste paper. Haulers must offer plastic bottle recycling collection to every complex, but is not a material that the owner/manager must choose to recycle at every complex.
12	Daeges	<b>Commercial Diversion</b> Consider publishing a newsletter if there is not one already. Share ideas and recognize success.	The <i>BRAG About</i> Newsletter is distributed annually to every business customer. It covers business waste reduction and recycling, and lists all current BRAG award winners in the region.
13	Daeges	<b>Commercial Diversion</b> Get more recycling of white and computer paper by medical and MITU. Increase cardboard and newspaper recycling for all business types.	While the plan focuses on certain materials at certain business types, these other materials will be addressed as they are observed in field visits to other business types.
14	Mills, 2/9	<b>Commercial Diversion:</b> Data on p 10 appear to indicate low participation by institutions. What specific steps, other than providing brochures and containers, should be taken to address this sector?	This has now been addressed in the plan.
15	Mills, 2/9	What is the average cost per ton for residents to dispose and recycle materials vs the cost for commercial customers?	This information is not available to the City for commercial customers, whose rates are set by competition, not through a public process.



#	From	Comment	BES Response
16	Daeges, Metro, Apotheker, Boone	<p><b>Commercial Diversion -- Organics</b></p> <p><b>Daeges</b> Be more specific, too many qualifications If Honolulu can do it, Portland can, too</p> <p><b>Metro</b> Under "Main Components" Clarify Plan's approach to organics recovery Establishing a recycling requirement would not necessarily stimulate the private sector to develop processing capacity</p> <p>Plan is prematurely and unduly skeptical about the development of local processing capacity</p> <p>Under "Commercial Diversion Programs"</p> <p><b>Organics</b> Does the City have an idea of how much money they are willing to spend seeking proposals for the collection and/or processing of commercial waste?</p> <p><b>Apotheker</b> Advance the timeline for commercial organics by one year to July 1, 2000 There are plenty of small-scale in-vessel technologies that could allow this program to be implemented fairly easily</p> <p><b>Boone</b> What will the City and Metro do if instituting the future requirement does not stimulate the private sector to establish the needed food waste processing capacity?</p>	<p>If establishing a future requirement has not adequately stimulated the private sector by mid-2000, BES will take whatever steps are necessary to ensure adequate processing capacity will exist at July 1, 2001</p> <p>The plan has been revised to reflect the reasoning behind Portland's skepticism that local yard debris processors will be able to accept post-consumer food waste</p>
17	Daeges, Roy, Apotheker, Mills 2/9	<p><b>"Observations on the State 50% Goal," p. 19</b></p> <p><b>Daeges</b> This should be handled elsewhere and in a different manner Detracts from upbeat nature of plan</p> <p><b>Roy</b> Eliminate the "Observations on the State 50% Goal", whining tone and unproductive Better to say that if Portland achieves its 60% goal, it will be a model for the rest of the State</p> <p><b>Apotheker</b> Page 19 Likes the beginning of the discussion about Portland's obligation to comply with state goal, but most of the rest seems to have little relevance to what Portland must do This section should clearly state Portland's obligations under the state recycling law, and should be expanded to include Portland's requirements under Metro's solid waste and recycling plan Eliminate the depressing "we'll never make it" state analysis</p> <p><b>Mills:</b> How can market transformation efforts -- making more materials recyclable -- be used to address the problems discussed [in the observation section] on pp 18-19</p>	<p>We have dropped this section from the plan The City will choose another means to address the topic</p>

#	From	Comment	BES Response
18	Rossi	Wants Plan to include more about increasing residential recycling by encouraging more participation from current recyclers	Effective public outreach campaigns will continue to be part of Portland's strategy to achieve our recycling goals by reaching both residential and commercial customers
19	Mills, 3/3	Wants assurance there will be no cost shifting to residential [to cover commercial staff work, etc ]	BES' ongoing policy continues to be separating all its residential revenue and expenses from commercial
20	Mills, 3/3 and 2/9	Wants BES to pursue <b>waste composition</b> info, esp what recyclables are disposed correlated with <b>residential</b> can size	Increasing emphasis is being placed upon waste composition data BES has contributed \$26,000 to a DEQ waste composition study in order to determine what materials remain in the waste stream and to use this information to shape the City's waste reduction and recycling strategies for the future The waste composition data will come from commercial and residential sources We will review the feasibility and cost effectiveness of correlating the types of materials disposed from different residential can sizes
21	Mills, 3/3 and 2/9	Address current <b>rate system's</b> limits on BES' ability to develop <b>incentives for recycling</b>	This is addressed on an ongoing basis at the PURB Solid Waste monthly meetings
22	Mills, 2/9	Compare residential data on a neighborhood by neighborhood basis in order to track changes and compare neighborhoods when awarding franchise contracts and inducing competition	BES will review neighborhood recycling performance in order to conduct outreach programs in low recycling areas Because residents' recycling performance is tied to their education and income levels, not simply to hauler behavior, BES does not believe that low participation in a neighborhood should cause a hauler to lose that franchise

#	From	Comment	BES Response
23	Metro	Under "Residential Recycling Program" Does the City have any info on how many households have moved to a munican? Are there any plans to offer something smaller ("micro cans")?	We have added information to the plan concerning usage levels of various can sizes In the future, BES will consider offering even more reduced service levels, such as a "microcan", as more materials, such as food waste, are added to the program
24	Metro	Under "History of the Plan" Please correct paragraph 2, next to last sentence, to read "In addition, a privately owned and Metro franchised MSW (municipal solid waste) composting facility was about to open in NE Portland" Clarify that failure of the MSW facility was not the sole reason for the City not reaching recycling goals	We have modified the plan
25	Metro	Under "History of the Plan" Last paragraph, Develop a table summarizing how programs attack each portion of the wastestream	We have added such a table
26	Metro	Under "Current Collection" Clarify whether all Portland customers or all Portland businesses must recycle Hasn't the construction rule changed to a \$50,000 threshold?	This has been clarified
27	Metro, Boone	Metro Under "Residential Recycling Program", first paragraph Pages 3 and 4 appear to reflect a 37% rather than a 48% residential diversion rate Where does the additional 11% come from? Boone Inconsistent figures occur, e g , 1996 residential recycling rate is "50%" on pg 2, ¶7 and in Table 7, but it's "48%" on pg 8, ¶s 1 and 5	We have made changes and clarifications The 37% on pgs 3-4 reflects only curbside collections, no self-haul or bottle bill When those are included, the percentage rises
28	Metro	Under "Multifamily Diversion" Metro also contributed 50% of container costs and provided educational materials for this program	Has been clarified
29	Metro	Under "Multifamily Diversion" Metro's inventory figures, which are derived from actual site visits, show that Portland has reached an 87% completion level	Has been clarified
30	Metro	Under "Commercial Diversion What we learn from the data" The numbers and definitions for organic waste are confusing and source info is not given First, the report identifies organics as food waste, but the numbers quoted from the 1993-94 Metro Waste Characterization study (41%) are those for the entire organics stream (which includes yard debris, food, wood and lumber, textiles, disposable diapers and other organics ) Only 27% of the commercially-generated waste stream is food waste	These figures have been corrected



#	From	Comment	BES Response
31	Metro	Under "Commercial Diversion What we learn from the data" Please identify the source of this statement and how it was derived "commercially-generated organics comprised 32% of the total waste stream" The 1993-94 Waste Characterization Study identifies commercially-generated organics as 14% of the total solid waste stream Commercially generated food waste is 48% of the total food-waste-only stream	These figures have been corrected
32	Metro	Under "Commercial Diversion What we learn from the data" Table 2 should correlate with tonnages of material remaining in the waste stream It is a little confusing to see cardboard as a targeted material when 70% and 85% of the office and retail sectors, respectively, reported recycling this material	While most businesses report recycling cardboard, BES field visits have found cardboard and kraft paper in the garbage containers at these businesses
33	Metro, Mattes, DEQ	<b>Clarity and consistency of terminology</b> <b>Metro</b> Under "Commercial Diversion What we learn from the data" Please define the terms "mixed paper", "scrap paper", and "other paper" <b>Mattes</b> Define how "diversion" differs from "recycling" <b>DEQ</b> Add definitions of "recycling," "recovery" and "diversion" to the page 2 section on Terminology It appears that Portland counts as "recycling" both composting and energy recovery (as well as backyard composting) Also, descriptions of various categories of paper would be helpful All the following terms are used on page 11 mixed paper, white office, scrap paper, white ledger, office paper, other paper	The term "diversion" has been eliminated, and "recovery" is now used only in regard to MRFs, and to state goals which are expressed as "recovery rates" We have eliminated home composting quantities from recycling tonnages The document includes no references to counting energy recovery in any way References to paper types (scrap paper, mixed paper, mixed office paper, office paper) have been addressed in nearby text
34	Metro	Under "Commercial Diversion Programs" By the end of FY 97-98, what percent of businesses will have containers?	There is no way for the City to calculate this, since containers are distributed by haulers, not by the City Haulers distribute them to their customers, not to every business
35	Metro	Under "Commercial Diversion Programs, Office " Is there a distribution plan for the deskside containers? Is there an estimate of the number of containers purchased and how many will be distributed per office or per business?	We do not have a distribution plan at this time, but we will not purchase the containers without a plan We estimate being able to purchase about 100,000 deskside bins



#	From	Comment	BES Response
36	Metro, DEQ	<p><b>“Commercial Diversion Programs”</b></p> <p><b>Metro</b> What are the potential recovery rates for the materials shown in Table 6?</p> <p><b>DEQ</b> The proposed programs are listed by sector. Add estimates of “potential” (tonnages disposed) for each sector, to provide a basis for assessing the magnitude or reasonableness of any individual proposed action. For example, what annual composting capacity is anticipated to be needed to meet the commercial organics diversion goals?</p> <p>Table 6 suggests questions concerning the composition of the additional tonnages need to reach goals. Total commercial waste generation will grow over time as the report states (est. 14% by 2000 and 32% by 2005, over 1996 levels). It would be illustrative to see the assumed “materials” breakdown (as in Table 6) for commercial disposal (and recycling) for the years 2000 and 2005 using forecast tonnages in Tables 7 and 8.</p>	<p>The potential recovery depends on both the proportion of the material in the wastestream, and the recyclability of the material. The DEQ waste sort (currently being conducted) will tell us this. While the “potential” recovery is 100%, a realistic proportion is something below that.</p>
37	Metro	<p>Under “Paying for the Programs” Will the \$75,000 budgeted for commercial containers be used for blue bins or deskside containers?</p>	<p>The 1998-99 budgeted amount is \$250,000, no decision has been made on container types.</p>
38	Metro, DEQ, Apotheker	<p><b>Inconsistent numbers</b></p> <p><b>Metro</b> Under “Waste Generation and Recycling Forecasts, 1996 through 2005” The numbers in Table 7 (p. 20) do not seem to match those on page 1.</p> <p><b>DEQ</b> There are some discrepancies between numbers used in the body of the report, e.g., p. 1, and in Tables 7 and 8.</p> <p><b>Apotheker</b> Pages 8 and 17. There is a contradiction between various numbers representing residential recycling. Is it at 48% going to 50% by 2000, or at 50% and going to 52% by 2000?</p>	<p>We have attempted to eliminate these inconsistencies.</p>
39	Metro	<p>What role will the City of Portland play in market development? What happens if market reverses occur for particular materials?</p>	<p>The plan now addresses these issues.</p>

#	From	Comment	BES Response
40	Metro	<p>The Plan is very good at describing where Portland's program has been and at succinctly pointing to where they need to go -- commercial and organics. The Plan, however, does less well in breaking apart the wastestream and showing how program progress by sector will produce the "aggregate" result of 60% recycling. Metro is well aware of the difficulty of doing this and could work with the City on this task.</p>	<p>The City is happy to work with Metro on ways to break down the increase needed into its components.</p>
41	Metro, Apotheker, Boone	<p><b>Measurement Goals</b>  <b>Metro</b> Metro staff agrees that simply measuring how much is being recycled can reach a point of diminishing returns, and that additional information is needed to improve programs. However, the "what's left in the waste" approach (waste characterization studies) is also limited because it generally doesn't provide much information about the generators from which the waste originated. What is also needed to improve programs is info about why generators are, or are not, able to recycle more. Knowing that the City also supports this approach, we suggest describing the Plan's approach as a more balanced, broader and integrated effort as compared to the past -- rather than so strongly speaking about a switch in "emphasis" to waste characterization.  <b>Apotheker</b> Disagrees that data on what is being recycled is "not particularly useful in designing and modifying programs." These data are very important for market development and for setting residential rates.  <b>Boone</b> Change of focus from measuring what's recycled to looking at what could be recycled is excellent. Very logical, especially since measurements of many materials recycled are best guesses.</p>	<p>The City does not plan to unilaterally stop collecting data on materials recycled and go strictly to a system based on waste composition. We do plan to increase our reliance on waste composition data, as part of a balanced approach. We expect that the data forthcoming in Metro's commercial waste composition study (Environmental Practices, consultants) will include information on which generators are discarding which materials as garbage.</p> <p>Plan revisions address Mr Apotheker's comments.</p>
42	Metro	<p><b>Measurement Goals</b> The Plan should include a mention of the ongoing statewide dialog (The 3444 workgroup) about developing a recycling/recovery rate system that is meaningful and feasible.</p>	<p>Reference to Portland's participation in this workgroup has been added.</p>

#	From	Comment	BES Response
43	Metro	<p><b>Measurement Goals</b> Will the City be working with Metro, DEQ and other local governments to develop working criteria for waste reduction credits to the recovery rate available through HB3456?</p>	<p>Language has been added to the plan to reflect that the City will participate in Metro's process to establish these criteria</p>
44	DEQ	<p>Has substantial concerns about Portland's plans for residential commingling, including its effects on other localities in the state Recommends that Portland postpone any decision to implement commingling until questions with implications beyond the City itself can be addresses in a broad forum</p>	<p>Subsequent to Mr Slyman's letter, BES staff convened a 17-person workgroup to discuss these issues before the City makes a decision on commingling Mr Slyman has served as a member of this group</p>
45	DEQ	<p>It would be very useful to have a short summary of the proposed residential and commercial programs up front</p>	<p>A brief summary has been added</p>
46	DEQ, Apokether	<p><b>Measuring Waste Reduction</b>  <b>DEQ</b> Clarify apparent contradiction between page 6, "we found no reliable methodology for measuring waste reduction" and page 10, discussion of grant funding which will enable to project future waste generation modified by population and income, allowing for attribution of future reductions to the City's waste reduction efforts</p> <p><b>Apotheker</b> The Plan states that there is no reasonable method for measuring Waste Prevention and therefore dismisses the possibility of establishing a Waste Prevention Goal It is critical that the final report being prepared by BES' grant-funded Solid Waste intern include analysis of the California waste generation model which has been employed for more than six years</p> <p>Whether a goal is adopted or not, the City recycling staff should identify specific activities in the residential and commercial sectors whose waste prevention potential can be determined For example, every backyard home composting bin can achieve waste prevention of about 500 lb /year There are also examples on the commercial side</p>	<p>Our intern developed what we think is the "best" formula for measuring waste reduction We are certain that it is not perfect, but it's the best thing we've come up with so we will use it, We are aware that other formulas (given the same data) could be expected to come up with other answers The final report does include analysis of the California waste generation model</p>



#	From	Comment	BES Response
47	Oregon Refuse and Recycling Assn	Pleased that staff acknowledges the difficulty of developing a program for organics recovery, both in terms of economic collection and the siting of facilities Raised no issues for City's response	N/A
48	Roy	Supports BES' proposal requiring food waste separation by some businesses by July 1, 2001, agrees City could seek proposals for composting facilities if capacity still inadequate by 2000	N/A
49	Roy	Stuck to one method of measuring recycling rates On p 2, the figure of 50% residential "diversion" that includes home composting, differs from the 48% recycling rate on p 8 Home composting is generally considered to be waste prevention rather than recycling	Home composting has been deleted from amounts recycled Other discrepancies have been eliminated
50	Roy	Not tracking Construction & Demolition (C&D) material significantly hampers Portland's effort because it constitutes such a large portion of the waste stream (22%) and, according to a new Metro report, only 26% is being recycled Why can city require independent recyclers to report recycling tonnages, but not those who haul C&D material? If it's not possible to require ongoing and complete reporting, perhaps do some sampling?	The figure of 26% being recycled comes from Donovan Enterprises' Winter 1998 report for Metro <i>Evaluation of the Effect of Metro's New Disposal Rates on Recycling, Material Recovery and Waste Flows</i> Metro staff feels that this underestimates the actual C&D recycling level, their estimate is about 40% This is not to say that 40% represents the most that can be achieved, Portland is targeting C&D for attention As to tracking C&D material, the City will look into sampling methods, as it does not appear politically possible to require construction companies to report their recycling volumes
51	Roy	Alter the negative tone on p 15, first paragraph, (on pg 20, of final draft) concerning the potential for food waste processing sites that are convenient to this region According to Metro, there is potential for yard debris processors to accept food waste In addition, there are biofilters and partially enclosed systems that handle odors [in order to locate these processors near or in an urban area ]	We have revised the plan to explain our expectations on siting food waste processors



#	From	Comment	BES Response
52	Apotheker	Report is vague in terms of allocating staff and dollars to the various programs needed to achieve targeted recovery levels	The plan is not intended to reach this level of detail
53	Apotheker	No statement about how often the plan will be reviewed	Language has been added to reflect an annual review in conjunction with preparation of the yearly Management Report to Council
54	Apotheker	Plan overstates the scale of program changes necessary by stating that recyclable volumes must undergo significant increases of 27 percent and 65 percent for the years 2000 and 2005 Half of the increase is due solely to increased population, causing the wastestream to increase as noted in Tables 7 and 8 (p 20-21) We need to design new programs only to account for per-capita increases of 14% and 27%, respectively, for those years In light of the 93% increase in Portland's residential recycling and composting tonnage (per household) from 1991 to 1996, a 27% increase in the total wastestream over eight years should not be viewed as impossible	Needed increases have been reduced, in light of 1997 results
55	Apotheker, Mills, 2/9	Apotheker Draft mentions landfill bans, but does not discuss pros and cons Why should the City not consider banning old corrugated containers and yard debris from landfills? There is tremendous market capacity to absorb these materials Mills To what degree would bans affect participation and recovery rates? What materials should be considered? Organics?	If it appears that Portland is anticipated to fall short of its goals, we will consider selective landfill bans
56	Apotheker	Page 20 total material generated for 2000 forecast should be 1,048,000, not 1,048,500 tons	Has been corrected
57	Apotheker	Page 5, Main Components of The Plan This section ignores any increases in residential recycling, saying that any increase would be just a "drop in the bucket" A ban on residential yard debris disposal would more than halve the amount of this material still being disposed Why does the Plan not even address this as a policy option?	We have modified the plan language We will be considering landfill bans as a tool if we appear to be falling short of our goals

#	From	Comment	BES Response
58	Apotheker	<p>Increasing Residential Recovery The Plan focuses only on commingling as a potential means of increasing residential recovery An effective outreach campaign, similar to a kickoff effort, could gain the two (four?) percentage points needed to obtain a 52% recovery rate Three towns in one Ontario region have reduced their waste streams by 62% to 78%, by increasing the number of materials recycled, the use of backyard composting, and by a regular public education campaign</p>	<p>Effective public outreach campaigns will be part of Portland's strategy to achieve our recycling goals and will continue to be used to reach residential and commercial customers</p>
59	Apotheker	<p>Plan lacks current data on the residential wastestream, similar to what it provides for commercial waste in Table 6 on page 16 [That table applies Metro's 1993-94 regional waste characterization data to the 1997 Portland commercial wastestream ]</p>	<p>The most recent data on the residential wastestream is from Metro's same 1993-94 study While data of this age may be adequate to describe the 1997 commercial wastestream, they are probably not reliable for current residential waste Since 1993-94, there have been a number of improvements in Portland's residential recycling system</p>
60	Apotheker	<p>The plan should include a breakdown of the residential tonnages of recyclables and yard debris, by material, for the last five years</p>	<p>Complete data is not available We have added Appendix B to show per household collection of solid waste and recyclables, year by year, 1992-97</p>

#	From	Comment	BES Response
61	Apotheker	<p>Plan lacks any discussion of economics What are the impacts on residential or commercial rates for various options? What staffing and resources are needed for various programs? What important decision points might have important financial consequences? The Five-Year Financial Plan for this department includes depleting its existing large fund balances for both residential and commercial programs This would result in reducing fees charged to haulers, and will make the transition to commingling appear more attractive [in terms of residential rates] This decrease in reserves is extremely short-sighted A more detailed plan could provide some insight on this The City could use some of its fund balance resources to start new programs On the commercial side, the plan has not demonstrated that there are enough staff resources to contact all the businesses needed to achieve the 63% recycling projected for 2005 Funds could be used here, for example, to set up a "WasteCap"-type organization to assist businesses to share waste prevention and recycling information, as has been done in several other communities</p> <p>On the residential side, it is likely that the city will move to larger recycling containers, probably wheeled carts, in order to reduce collection costs Wheeled carts may also be useful for collecting residential food scraps Purchasing one (\$50-\$100) cart for each of Portland's 125,000 residential households would total more than \$6 million</p> <p>The most prudent financial course is to continue to collect fees and build reserves to fund the purchase of carts and other programs The recycling plan needs to justify these programs to prevent raiding for other city projects</p>	<p>There appears to be a misunderstanding of the use of the program's fund balance The Office of Finance and Administration has directed that the balance be reduced and the Portland Utilities Review Board has concurred Funds will be used to offset potential rate increases for customers and to fund new programs necessary to achieving our goals</p>
62	Apotheker	<p>Plan lacks discussion of environmental benefits, local or global Don't forget that most people have some environmental motivation for recycling</p>	<p>We have modified the plan language</p>
63	Apotheker	<p>No discussion of options to present scenarios for policymakers to evaluate For example, no analysis of yard debris ban or tackling residential food scrap collection</p>	<p>This Plan is a document to be presented to City Council for their consideration We have revised it to broaden the discussion of bans, food waste composting and other potential program elements</p>



#	From	Comment	BES Response
65	Apotheker	Page 9 Include commercial recycling data through the end of 1997 (not just 1996) to allow comparison over the two years of the commercial program	1997 data added
66	Apotheker	Page 9 Include past commercial hauler recycling tonnages even if they represent only one-third of commercial recycling volumes Provides insight into the changes that one part of the commercial recycling collection system has undergone	Accurate figures are not available
67	Apotheker	Pages 10-14 Analysis treats generation of waste and recyclables as even across all sectors The Plan should tackle first those sectors that have the greatest waste and the most recyclables left in their wastestream To reach 63% as projected, some sectors will need to do more Which ones? Offices, for example, could be identified as being expected to reach much higher levels, since their wastestream is so paper-rich	This data is not available through Metro's Waste Characterization Studies (from 1987, 1989-90, and 1993-94), which are Portland's source for waste generation data These studies do not break down commercial waste by generator sector
68	Apotheker	There is no discussion of the need to buy recycled, or what resources will be devoted to this activity	Recycled product purchasing is not within the scope of this plan, which deals with achieving the 54% and 60% recycling goals

s \plangoal\commnts2.doc

**CITY OF PORTLAND  
PLAN FOR ACHIEVING RECYCLING GOALS IN 2000 AND 2005**

**35729**

**Table of Contents**

<b>Page 1</b>	Benchmarks Programs to Meet These Goals Underlying This Plan
<b>2</b>	What This Plan Does Not Emphasize
<b>3</b>	The Current System and Terminology
<b>4</b>	Current Programs and Accomplishments <i>Chart 1, Lb. Recyclables per Residential Customer Household, 1991-96</i>
<b>5</b>	<i>Chart 2, Lb Yard Debris Recycled per Residential Customer Household, 1991-96</i> <i>Chart 3, Lb disposed per Residential Customer Household, 1992-96</i>
<b>6</b>	Main Components of the Plan
<b>7</b>	Waste Reduction/Prevention Goals and Efforts
<b>9</b>	History of the Plan
<b>10</b>	Current Collection System Residential Recycling Program
<b>12</b>	Multifamily Recycling Commercial Recycling
<b>13</b>	Data Sources
<b>14</b>	What We Learn From the Data
<b>15</b>	<i>Table 1, Number of Materials Recycled, 1996 Commercial Generator Survey</i> <i>Table 2, Materials being Recycled, 1996 Commercial Generator Survey</i>
<b>16</b>	Programs
<b>17</b>	Retail/Wholesale, including <i>Table 3 Retail/Wholesale: What are they recycling?</i> Office, including <i>Table 4, Offices: What are they recycling?</i>
<b>18</b>	Institutional, including <i>Table 5, Institutions. What are they recycling?</i>
<b>19</b>	Construction/Demolition Debris Food waste
<b>20</b>	The Numbers
<b>21</b>	<i>Table 6, Estimated Commercial Disposal in 1996</i> Potential for Recovery of C & D Materials
<b>22</b>	About Tables 7 and 8, Waste Generation and Recycling Rate Forecasts, 1996-2005 Next Steps Paying for the Program
<b>24</b>	Waste Generation and Reduction Rate Forecasts, 1996-2005 <i>Table 7, Waste Generation and Recycling Rate Forecasts, 1996-2000</i>
<b>25</b>	<i>Table 8, Waste Generation and Recycling Rate Forecasts, 2000-2005</i>
<b>26</b>	Appendix A What Counts as Recycling and Disposal?
<b>28</b>	Appendix B Portland Residential Discards Collected by Garbage Haulers, 1992-97

## CITY OF PORTLAND PLAN FOR ACHIEVING RECYCLING GOALS IN 2000 AND 2005

### BENCHMARKS

The City's recycling goals are 54% in the year 2000 and 60% in 2005. In addition, in 2002, Portland will reevaluate its longer range goals.

### PROGRAMS TO MEET THESE GOALS

- Mandated separation and collection of food waste at certain businesses
- Analysis of the potential for residential food waste collection
- Promotion and enforcement to capture more of the following materials from the commercial sector

Cardboard	Retail, office and institutional
Newsprint	Office and institutional
Office paper	Retail, office and institutional
Other paper	Retail, office and institutional
C & D debris	Construction/demolition projects

- Promotion and field visits to multifamily, to encourage greater participation by residents, and better recycling system management by apartment owners and managers
- Promotion of waste prevention both at work and at home
- Annual Reporting on progress toward meeting the goals

### UNDERLYING THIS PLAN

In Spring 1997, the Portland City Council passed an ordinance setting recycling rate goals of 54% in the year 2000, and 60% in 2005. At that time the Council also directed Bureau of Environmental Services (BES) staff to develop a plan -- this plan -- outlining the programs to achieve the goals and the methods for measuring them.

In developing this plan BES staff has projected the amount of waste that will be generated for the years 1997-2005. Based on those projections, staff estimates 571,000 tons as the amount of total recycling that must occur to reach 54% in 2000. This is a significant increase (82,300 tons, or 17%) over the estimated 488,700 tons recycled in Portland in 1997. After that, in order to reach our 60% recycling goal in 2005, Portlanders must recycle about 246,000 tons more in 2005 than we recycled in 1997. This 246,000 tons represents a 50% increase compared to 1997 volumes. No large US city has accomplished similarly high recycling levels without banning some materials from the landfill.

We expect most of this increased recycling to be accomplished in the commercial sector, rather than through the residential program by individuals at home. Over 80% of Portland households already recycle at curbside, and only a small portion -- less than a quarter -- of the waste that is still being generated comes from our homes. Instead, our increased recycling must occur where the greatest amount of waste is being generated -- at Portland businesses.



## **WHAT THIS PLAN DOES NOT EMPHASIZE**

There is an aspect of this plan which makes it different from most other jurisdictions' waste management planning documents, including earlier documents produced by Portland. The focus in Portland's ongoing efforts is shifting from measuring what is being accomplished in current programs, to looking at what is left in dumpsters and garbage cans and going to landfills. This plan does not include analysis of recycling and waste streams for which there is no fairly easily accessible data, for example, for self-hauled waste and recyclables, and for bottle bill recycling. There is no reliable data source for this information specific to Portland.

Portland has been participating in the 1997-98 statewide Recovery Rate Task Force discussing developing a recycling/recovery rate system that is meaningful and feasible. This group is a follow-up to HB 3444, which was introduced in the 1997 legislature.

To maximize our resources and better target our programs, we are shifting our reliance to waste characterization data being gathered by DEQ and Metro. Portland is supplementing Metro's budget for this data gathering in order to enlarge the samples representing Portland itself.

For a decade, Portland haulers and BES staff have spent a great of resources gathering, reporting and tabulating data on materials being recycled. While this data has helped us track and report on our progress, it is not particularly useful in designing and modifying programs. Knowing what materials are NOT being diverted, and who is generating them, tells us much more about what is left for us to do.

This type of cost/benefit critique is especially important in deciding when to gather new data that is peripheral to our program, such as Portland's share of bottle bill recycling or self-hauled materials, both garbage and recycling. For Portland to develop a tracking system for these materials would require a substantial allocation of resources, but would not provide very useful information for program design and other future allocation of City resources.

Note that in the Residential sector, there is an ongoing need to track the amounts of the recyclables collected by Franchisees. These data remains a necessary part of the residential ratemaking process, and City staff will continue to gather and tabulate them.

Some have requested additional detail in this plan, outlining specific dates and tonnage goals for the various programs. City staff views this plan as an evolving document. During the writing of this plan, changes in focus and direction have already occurred, and staff would like to maintain flexibility instead of tying the City to meeting specific detailed benchmarks which may become obsolete before they are reached.

This plan also does not address market development as a City-lead effort. Local market development efforts are appropriately led by Metro or DEQ, the City will continue to participate in these efforts. As to responding to market declines for particular materials, the City strives to maintain good working relationships with processors, and to keep informed about market conditions and potential alternative markets.

## THE CURRENT SYSTEM AND TERMINOLOGY

For purposes of regulation, planning, program design, and evaluation, we divide Portland's waste and recycling collection system into two segments, residential and commercial. "Residential" as used in this document, and in most Oregon solid waste and recycling contexts, includes single-family through four-plex homes, whether rental or owner occupied. Multifamily of five-plex and larger is considered a part of "commercial." "Commercial" includes all businesses, that is, everything that is not "residential."

(The inclusion of multifamily with commercial has historically been common in the waste collection industry. It occurs because collection arrangements for multifamily complexes have been made as part of a property owner's business operation, and because the garbage collection routes and equipment for multifamily are generally the same as for other businesses, and are not the same as are used for single-family through four-plex ("residential") homes.)

(The distinction may have been more clear in the past, when all materials were discarded as garbage, and the garbage service needs of multifamily were virtually the same as the garbage service needs of any other business. Currently, now that customers set out materials separately for recycling, the multifamily garbage system remains similar to that at other businesses, while the recyclables generated at multifamily are recognized as virtually the same as those at "residential" accounts. Still, at most multifamily buildings it is not efficient or practicable to use a "residential" recycling system where each unit sets out recycling on a weekly collection day. Because its collection system shares much more with the business collection system, multifamily collection continues to be operated and regulated as part of the commercial sector, not residential.)

What are the sources of Portland's discards? Who is throwing what away? The commercial wastestream is over three times the size of the residential. In 1997, the total wastestream -- including waste and recycling -- was just under 1,000,000 tons. Residential material is estimated at less than 22% of that, or 206,000 tons. 1997 generation from commercial is estimated to have been about 792,000 tons, over 78% of the material generated.

1997 residential recycling is estimated at approximately 103,000 tons, or 50% of the 206,000 tons generated by Portland residences. This includes hauler-reported curbside recycling as well as very rough estimates of self-haul yard debris, bottle bill recycling and recyclables self-hauled to depots. Almost 60% of the 103,000 residential tons recycled, approximately 61,000 tons, is estimated to come from hauler-reported curbside collection. The remainder is from the roughly-estimated sources.

1997 commercial recycling is estimated at approximately 386,000 tons, or almost 49% of the 792,000 tons of material generated by commercial sources. This includes quantities reported by haulers and by independent commercial recyclers, as well as very rough estimates of self-hauled recycling and of recovery by sorting mixed loads (of waste and recyclables) at four local facilities (Metro Central, Lakeside Reclamation, Wastech and East County Recycling). Most of the 386,000 commercial tons recycled, approximately 334,000 tons, or 86%, is estimated to come from hauler and independent recycler reported collections, the remaining 52,000 tons comes from the roughly-estimated sources.

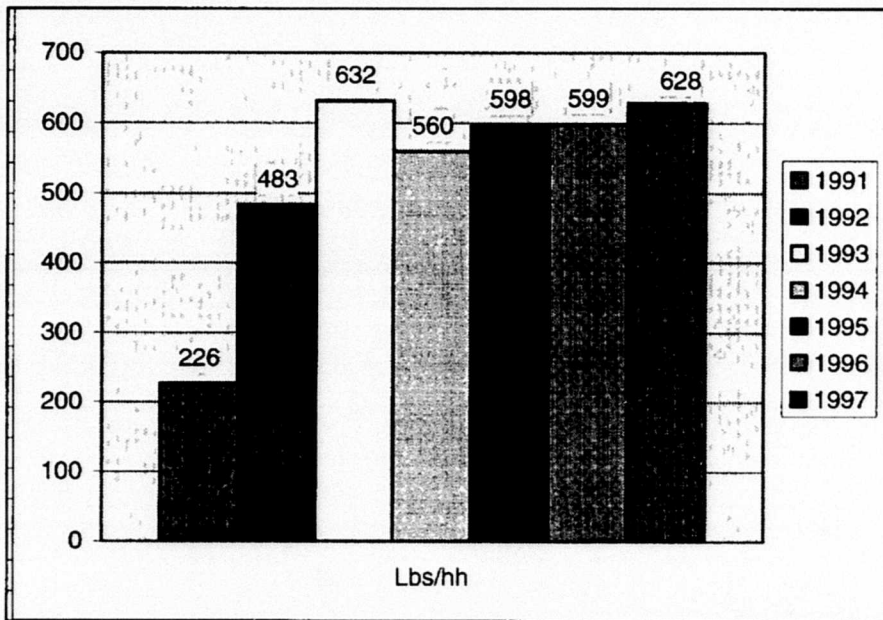
Portland's overall recycling for 1997 is estimated to have been about 489,000 tons, a recycling rate of just under 49% of total material generated.

## CURRENT PROGRAMS AND ACCOMPLISHMENTS

The programs that have brought us this far began in the late 1980's, when the City mandated that all haulers provide monthly curbside recycling service for a variety of source-sorted materials for all their residential customers. In February 1992, Portland took a great leap forward by mandating that haulers provide weekly curbside recycling using uniform yellow bins, always collected on the same day as garbage, the same day as most neighboring houses, with garbage-volume-based rates, for all residential customers. Monthly yard debris collection was added in the spring, and in 1993 was increased to every-other-week. Recycling participation rose from less than 40% of households before 1992 to over 80% in 1996. Charts 1 and 2 show the growth of residential curbside recycling volumes during the 1990's.

Note that Charts 1, 2 and 3 reflect only materials collected at curbside. They do not reflect recycling through the bottle bill or any self-hauled materials (recycling, yard debris, garbage), and thus they differ from the figures in Tables 7 and 8, which do include estimates of those materials. Most of the data from Charts 1, 2 and 3 is also summarized in a single Chart as Appendix B, Portland Residential Discards Collected by Garbage Haulers, 1992-97.

**Chart 1** Lb of Recyclables per Customer Household per Year, not including Yard Debris



**Chart 1** In 1991, the average Portland residential household recycled 226 lb through the monthly curbside program. In 1992 the amount rose to 483 lb, and by 1997, it was 628 lb per household.



Chart 2

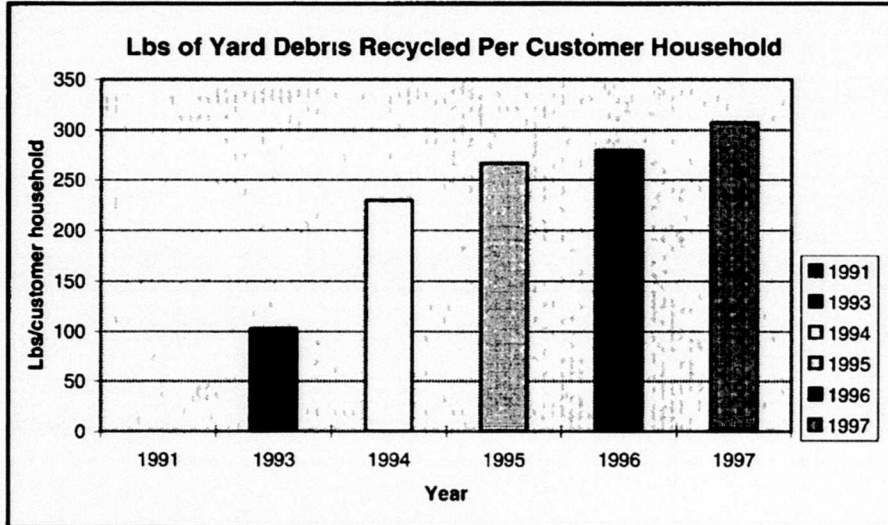


Chart 2 Before 1992, Portland had no citywide curbside yard debris recycling collection program, although a few waste haulers offered this service to their customers. In spring 1992, monthly collection was initiated. In July 1993 collection frequency was increased to every-other-week. (For many customers, yard debris collection day is not the same as garbage/recycling day. Yard debris collection scheduling is by hauler preference.) In 1994, the first full year of Portland's every-other-week program, the average Portland household recycled 230 lb. By 1997, the amount had grown to 307 lb of yard debris recycled per household over the year. A 1996 regional study found that in the five Metro-area communities where yard debris collection is weekly, the amount of yard debris being set out as garbage was not statistically different from the amount disposed as garbage in Portland's bi-weekly collection system.

Chart 3

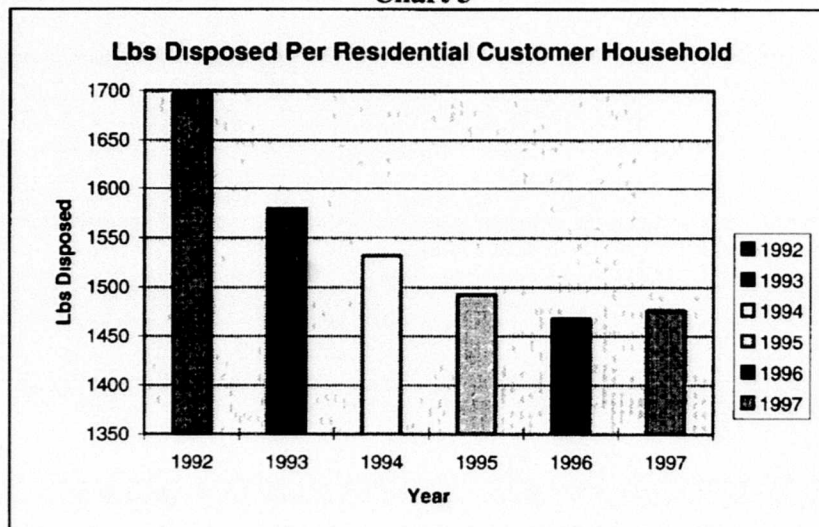


Chart 3 shows how the quantities of residential waste disposed per household have dropped by over 13%, from 1697 lb per household in 1992, the beginning of the weekly recycling program, to 1476 lb per

household in 1997. Figures before 1992 are not available, since neither haulers nor the City then kept separate track of residential waste as distinct from waste generated at commercial sources.

On the commercial side, it is unfortunately not possible to compare current recycling with any pre-1996 figures because Portland's independent commercial recyclers did not begin to report their recycling volumes to the City until January 1996. Since that group of 100+ recyclers is known to collect a substantial portion of all commercial materials recycled through all means -- about 60% in 1997 -- no realistic comparison can be drawn without their figures. Therefore we are unable yet to plot a trend in commercial recycling based only on 1996-7 data. In the foreseeable future, we expect to calculate trends based on some reported data, and some estimated data (See Appendix for more information on data sources).

However, it is clear that Portlanders have made great achievements in recycling and reducing amounts of waste going to landfills. While the City's new goals are formidable, they are not impossible to achieve.

## MAIN COMPONENTS OF THE PLAN

- Mandated separation and collection of food waste at certain businesses
- Analysis of residential food waste collection
- Promotion and enforcement to capture more of the following materials from the commercial sector

Cardboard	Retail, office and institutional
Newsprint	Office and institutional
Office paper	Retail, office and institutional
Other paper	Retail, office and institutional
C & D debris	Construction/demolition projects

- Promotion and field visits to multifamily, to encourage greater participation by residents, and better recycling system management by owners and managers
- Promotion of waste prevention both at work and at home

**Food Waste** The single material with the greatest potential for increased recycling is commercial food waste, both food trimmings and plate scrapings, generated at Portland's food processing facilities, grocery stores, and restaurants -- staff estimates that about 50,000 tons per year is generated. Within the next ten years, BES anticipates that there will be a local recycling system to capture much of this material.

The City is currently examining the possibility of food scrap collection from commercial and residential generators. Building on experience in other communities and the availability of processors to handle food waste being generated, we hope to design a program that will be able to handle a significant portion of our food scraps.

In order to stimulate the private sector to establish the needed food waste processing capacity, staff recommends that the Council take action in 1998 to require segregated food waste to be recycled by certain Portland food processors, restaurants and grocery stores, effective July 1, 2001.

**Business Recycling** Other major businesses and materials targeted for increased BES efforts include retail/wholesale businesses (corrugated cardboard and scrap paper), offices (corrugated cardboard,

newsprint, scrap paper), institutions/hotels (corrugated cardboard, newsprint and scrap paper), and construction projects (wood, rubble, metals, cardboard and land clearing debris)

**Multifamily Recycling** In multifamily, we will increase our promotional efforts to raise renters' awareness and expectations, as well as increasing promotion to owners and managers through multifamily organizations and newsletters. We will also increase our field activities.

In the residential sector, we do not anticipate a comparably substantial increase in recycling until food waste collection can be added. During 1998-2000, the City will be examining options for food waste collection, residential and commercial. We do anticipate that our residential collection system will inevitably become more commingled in the next few years. Haulers have already begun to take advantage of the opportunity for on-route collection cost savings by commingling materials on their trucks and taking them to newly-opened local materials recovery facilities (MRFs).

City staff is working to manage this change carefully, so that the commingling system that is created will be fairly standardized citywide, and coordinated regionwide as much as possible. This will enable us to describe it simply in our educational and promotional materials, such as the *Curbsider*, maximizing customer understanding and convenience. Based on our past experience, we expect this simpler system to result in some increase in the number of households participating, and recycling of more material at most participating households. Still, the recycling increases at homes, other than through a food waste collection program, cannot be expected to be much more than a "drop in the bucket" of the large increases we must see across the board.

**Waste Prevention** The City's promotion campaigns for both residential and commercial, including business assistance visits, will emphasize waste prevention.

**Promotion Tools** The City will continue to use its *Curbsider* and other seasonal flyers distributed by haulers to residential customers, as tools to promote waste prevention and recycling. In the commercial sector, promotion is accomplished through paid advertisements in local print media, through brochures distributed by haulers and by City staff and PSU as contractors, through the *BRAG About* newsletter, through field visits to businesses and multifamily, and through articles provided to trade publications and organizations.

No massive media campaign is planned for FY 1998-99, media promotion will be through a number of smaller pieces.

## **WASTE REDUCTION/PREVENTION GOALS AND EFFORTS**

Part of Portland's strategy is waste prevention. Between 1992 and 1997 Portland's City Code contained a goal of reducing the amount of solid waste generated, as measured on a per capita basis, by 10% before 1997. In April 1997, at the recommendation of BES staff, the Portland City Council eliminated this waste reduction goal, since no reasonably accurate method had been found to measure waste reduction at that time.

During FY 1997-98, BES staff continued to explore various methodologies to analyze waste prevention. Again, we found no single formula that proves to be the answer for measuring this complex phenomenon -- material that is no longer being generated, material that might have been generated but for our efforts.



We have found that the margin of error for any method we have tested is greater than the total amount of any waste prevention target. BES staff will continue to research and work to develop methods to measure the effectiveness of waste prevention efforts. We will also work with Metro, DEQ and other local governments to develop working criteria for waste reduction credits to the recovery rate, as provided in HB 3456.

We are moving from using the term "waste reduction" to "waste prevention," which seems to represent a more universally recognizable phrase, and one that is consistent with usage on the state level. Let us also define the term: waste prevention means reducing Portlanders' discards -- the material that must be handled through Portland's collection system for garbage and recycling. This may include reduced consumption, but does not emphasize it.

It is clear that some waste prevention at businesses is already happening, whether or not the City promotes it. Businesses are very interested in finding more ways to buy less, to reduce their costs, where this can be done without sacrificing sales revenue. Company policies supporting double-sided copying and reducing transport packaging are just two examples. City promotion of business waste prevention will help share innovative ideas. In June and July 1998, the City placed a business waste prevention ad in the daily and Sunday *Oregonian* (five placements over four weeks) and the weekly *Business Journal* (four placements).

The City is continuing to participate in and promote the regional BRAG - Business Recycling Awards Group -- program. This recognition program gives equal weight to waste prevention, buying recycled, and recycling activities at businesses. The annual *BRAG About* newsletter is distributed to all Portland business garbage customers, and emphasizes waste prevention.

The City will also continue promoting residential waste prevention, using the *Curbsider* as well as other means suggested by Metro's 1998 consultant study.

We agree that the City, including BES, should show leadership on waste prevention and related activities. This will be another focus of our efforts during the plan's timeframe. We will give updates on this in our annual Management Reports.

**Measuring Waste Prevention** Another aspect of waste prevention is how to measure it. Last April, Council agreed to eliminate the City's goal of "10% waste reduction in 1997" because of a lack of reliable measurement tools. At this time, over 15 months later, we have yet found no methods to measure waste prevention accurately. BES can collect and tabulate the (relatively) simple measurements of the amount of discards -- materials picked up and carried away by haulers and recyclers, whether as garbage or as recycling. More difficult would be developing a system to collect data on materials that are recycled or discarded by other means, such as self-haul. However the amount discarded is strongly affected by economic trends, far less material is discarded in times of recession, and vice versa.

During the summer of 1997, BES developed and tested several formulas and methods for calculating waste reduction/prevention. Factors such as population growth, retail sales and per capita income were analyzed, hoping to find a measurable correlation between exogenous economic factors and waste generation. Applying three different methods for calculating the possible waste prevention from 1986 to 1995 resulted in answers ranging from a 25% reduction to a 10% increase for that period. Therefore, BES is not comfortable with setting a numeric waste prevention goal at this time. However, rather than

completely abandon this process, we will be using the formula devised by our intern as a rough measure of our progress in our waste prevention efforts

With or without measurement tools, we reaffirm the City's commitment to encouraging waste prevention. This includes efforts by the City's Energy Office and Pollution Prevention program, as well as by Solid Waste and Recycling staff

## **HISTORY OF THE PLAN**

In Spring 1997, the Portland City Council passed an ordinance calling for recycling rates of 54% by the year 2000, and 60% by 2005

These goals take the place of previous goals of 60% recycling and 10% waste reduction by the end of 1997. Those original goals had been set in 1991 as the City was about to institute a weekly residential curbside recycling program as part of implementing its new residential franchise collection system. In addition, a privately-owned and Metro-franchised MSW (municipal solid waste) composting facility was about to open in NE Portland. Unfortunately for the City's "60% in 1997" recycling goal, that facility never operated according to design standards, and was closed after less than a year of operation. In 1997, Portland's recycling rate proved to be just under 50%.

In early 1997, BES staff reported to the City Council that, due to a lack of local collection and processing capability for recycling organic materials (other than yard debris), the 60% goal could not be met in 1997.

Prior to presenting the new recycling goals for 2000 and 2005 to Council, staff made a presentation to PURB, the Portland Utility Review Board. PURB is a committee of citizens appointed by the City Council to review issues related to rates charged for utility services that are provided by or regulated by the City. At that meeting, PURB voted to support the new goals and asked for staff to produce a document that would outline the programs aimed at reaching those goals and the rate impacts associated with those programs. In the council session on the goals, PURB testified in support, with the request that council have BES prepare the above mentioned report. Council agreed, both passing the goals as presented and calling for the document as PURB had requested.

This document, in response to PURB and council direction, sets forth the programs BES Solid Waste & Recycling staff will be pursuing in the coming years to reach the 54% and 60% goals. This document also discusses our emphasis on improving recycling at businesses more than at residences.

The following chart summarizes how programs attack each portion of the wastestream

<b>Targeted portion of wastestream</b>	<b>Programs</b>
Cardboard at retail, office and institutional	Promotion, education and enforcement
Newsprint at office and institutional	Promotion, education and enforcement
Office paper at retail, office and institutional	Promotion, education and enforcement
Other paper at retail, office and institutional	Promotion, education and enforcement
C & D debris at construction/demolition projects	Promotion, education and enforcement
Food waste at commercial	Require separation by certain businesses, 7/1/2001
Food waste at residential	Examine feasibility of collection
Increased participation and greater quantities of materials at multifamily	Promotion, education and enforcement
Waste prevention at home and work	Promotion and education

## **CURRENT COLLECTION SYSTEM**

Portland currently has a franchised system for residential (single family up to and including four-plex housing) solid waste and recycling collection. Service is provided to our 130,000 households by about 45 private haulers. Residential customers are provided with weekly collection of recyclables, same day as garbage, and with every-other-week collection of yard debris. Customers set out their recyclables source-separated from waste and, under the current program, further sorted into about 14 different types of materials.

The commercial sector (multifamily structures of 5 units or more, and all other generators -- including commercial, industrial and institutional) has an open and competitive garbage and recycling collection system. Commercial customers choose a hauler and negotiate rates for service. However, as of January 1996 all commercial businesses must recycle. This includes multifamily complexes, as well as construction projects with a value in excess of \$50,000.

In 1995 and 1996, an estimated 21-22% of Portland's waste originated in the residential sector, the remaining 78-79% came from commercial generators.

## **RESIDENTIAL RECYCLING PROGRAM**

It is generally acknowledged that Portland's residential curbside program has accomplished most of what is possible in capturing traditional recyclables, given current local markets. It is estimated that over 80% of Portland households regularly participate in the residential recycling program, and that the residential recycling rate in 1997 was about 50%. While some in the community have urged the City to add more plastics (tubs and perhaps bags) to the residential program, the potential recycling through this addition appears small (less than 250 tons/year, compared to current residential recycling estimated at nearly 103,000 tons/year).

Some modifications of the program are anticipated in the next few years, but no new materials are likely to be collected in sufficient quantities to significantly alter the residential recycling rate. As local processing and collection capability for organic waste is developed, the City will evaluate the feasibility



and costs of recycling food-related organics from the residential sector. In 1993-94, this material amounted to 27% of the residential wastestream (including materials collected by haulers and self hauled.)

As mentioned earlier, the City is also evaluating options for increased commingling of recyclables by households and on-route. Commingling has become a feasible option due to the recent opening of several Portland MRFs, and advances in collection technology. It also appears feasible to initiate a citywide commingled system which still uses the pair of yellow 14-gallon recycling bins that are the trademark of Portland's current residential system.

City staff anticipates that moving to a commingled system for residential will have the effect of increasing the number of households participating, and the amount recycled per household, since each past improvement in the residential system, such as adding scrap paper or plastic bottle collection, has had that effect. With each improvement, the households already participating have tended to set out greater quantities of other materials as well, in addition to setting out the new material.

The forecasts in the City's plan (as a result of commingling) do not assume going beyond 50% by 2000 but leveling off at that rate.

Other measures of residential program effectiveness are the annual changes in quantities recycled and disposed, and the trend toward smaller garbage cans. The amount of residential solid waste disposed per household dropped 13% from 1992 to 1997 -- from 1697 lb per year to 1476, despite a healthy local economy. The amount of material recycled (including yard debris) grew from 623 lb in 1993 to 935 lb in 1997. The percentage of households using a mini-can has grown fairly steadily since its introduction in 1992, and now stands at 18.4%. Monthly service (32-gallon can) customers comprise 6.6% of households, while 58.7% use the traditional size, a 32-35 gallon can or cart. Just under 13% of Portland households use a 60-gallon or 90-gallon rollcart. The remainder (less than 3.5%) include recycling-only customers, as well as users of one- to two-cubic yard dumpsters, which are usually at small multiplexes rather than single-family homes.

During the next two years, BES will be comparing recycling levels among geographic areas of the city, in order to conduct outreach programs in areas of low recycling participation or volumes areas. In upcoming years, as more materials are added to the residential curbside recycling program, BES will consider offering new service options, such as a "microcan", that will reward customers for further reducing their waste.

As we continue to assess our progress toward Portland's goals, if it appears that we are falling short, BES will consider banning selected materials from being collected as garbage, such as yard debris in residential.

Because the residential system is producing near optimum results, and because the commercial sector continues to generate the majority of waste and recyclables in the region, City programs are focused on the commercial sector (including construction/demolition) as having the most potential for improved recycling.

## **MULTIFAMILY RECYCLING**

As noted earlier, multifamily has traditionally been considered part of the commercial sector in the wastehauling and recycling industry. While the City's commercial mandate did not take effect until January 1996, BES had begun offering a multifamily recycling assistance program in 1989.

During the period from 1989 to 1996, the City spent some \$2.2 million to provide recycling shelters, containers and education to multifamily complexes -- including training sessions for owners and managers and printed informational materials for tenants. Metro contributed about \$1 million of this funding, along with regional coordination and development of educational materials. In 1990-91, Metro also funded research into the factors necessary to make recycling successful at apartments. This findings of this research were critical to further development of the program and to our understanding of the real barriers to multifamily recycling. (Specifically, that recycling system design and location, plus managerial support, are critical to success, whereas tenants' income or education levels are not.)

As a result of the City/Metro program, as well as through independent efforts by haulers and complex owners and managers, a 1996 generator survey found that 98% of all multifamily complexes reported they were recycling and that 88% reported recycling four or more materials. A Metro inventory, done in April 1997, found that 87% of Portland complexes had recycling for three or more materials.

During 1998 and 1999, staff will increase our promotional efforts to raise renters' awareness and expectations, as well as increasing promotion to owners and managers through multifamily organizations and newsletters. Ads will be placed in "Apartment for Rent"-type publications and classified advertising sections to inform renters that Portland apartments must offer recycling and recycling preparation information. We will also increase our field activities to spot check compliance and follow-up on complaints.

Having achieved substantial results at multifamily, staff will focus more strongly during the next few years on other sectors in the commercial wastestream.

## **COMMERCIAL RECYCLING**

With the passage of the commercial recycling requirement in the summer of 1995, staff had turned their attention to this sector as the largest generator of waste and recyclables. Data from the commercial generator survey comparing 1996 to 1995 and 1993, and recycling quantity data reports from the first two years of the program (January 1996 through December 1997) show significant improvement in commercial recycling. As was suggested by the business members of the Commercial Workgroup (1993-95), it does appear that most businesses will recycle simply because they've been told that it's a requirement. The approach now has been to examine the results of the first two years of the program and see what sectors or materials need further attention.

As in residential, if it appears that we are falling short of reaching Portland's goals, BES will consider banning selected materials from being collected as garbage, such as cardboard.

## COMMERCIAL RECYCLING: Data sources

BES has four types of information available to formulate and evaluate its programs

### 1 **Metro's 1993-94 regional waste characterization data, i.e., what materials were being disposed at transfer stations and landfills from local sources.**

Metro's most recent analysis of regional waste characterization was made in 1993-94. The City relies on this data as a snapshot of the waste at that time, and shortly thereafter, but cannot assume it reflects wastestream into the future, particularly following the effects of Portland's commercial recycling requirement.

### 2 **Quarterly/Monthly Reports on quantities of materials collected for recycling, submitted by Portland commercial haulers and independent recyclers after January 1996.**

Prior to 1996, these reports were submitted to the City only by commercial waste haulers, but not by the independent recyclers. Those independents collect about two-thirds of the commercial recyclables that are collected by companies that report to the City. (These entities that report to the City are responsible for about 84% of commercial recycling, the rest comes from self-haul and sorting-through selected commercial trash loads at certain facilities. See the Appendix for more information on data sources.) Because the City's pre-1996 data was from haulers only, not from the independents, or any other sources, it is not possible for the City to use those reports to measure the change in recycling of individual materials following the implementation of the City commercial recycling mandate. Along with estimates of materials recycled by other (non-reporting) means, this data is now being used to calculate recycling rates in both the residential and commercial sectors. BES estimates that the 1997 commercial recycling rate was about 49%.

### 3 **Three surveys of Portland businesses (referred to as "generator surveys"), in 1993, 1995 and 1996, concerning recycling at those businesses.**

This longitudinal survey was performed by consultants for the City and provides the most useful tool for Portland's program planning. In 1993, the consultant selected addresses and interviewed businesses at those addresses about their recycling and solid waste practices. The same addresses were revisited in 1995 and 1996, and asked again about recycling, including how many materials they were recycling and which ones. The 1996 interviews provide the City's best data on current practices, by business type and material, and on the effect of the 1996 recycling mandate on specific business types. (This survey will be done again in FY 1998-99).

In late 1996, the consultants also did a telephone survey of about 450 businesses to assess their understanding of the new requirements and ask for their suggestions on ways the City, haulers or property managers could help businesses to increase recycling or decrease waste.

At that time, slightly over 50% of the surveyed businesses were aware of the recycling requirement, but only 15% of those had a complete and correct understanding of the requirement. Of the three size categories, small businesses at 37% had the least awareness, while 64% of medium-sized businesses were aware, and 57% of large businesses. About 40% of all retail and office respondents were aware of the requirement. The understanding of most businesses, both by size and type, was both



incomplete and incorrect. Information on the suggestions provided by respondents is noted below under "Commercial Recycling Programs", on page 16

#### 4 **BES forecasts of total material generated through the year 2005, based on projected trends in population growth and per capita income.**

These forecasts were developed by BES through a grant awarded from the Municipal Solid Waste Management Association. The forecast is intended to project an amount of material that would be generated at today's generation rate, modified by population, and the economic factor of per capita income. BES intends to compare these forecasts with actual generation figures in future years, and then to look at the difference as a measure of effectiveness of the City's waste prevention efforts.

Interest has been expressed in the level of compliance with Portland's recycling mandate. It is not possible at this time for us to calculate a response. There are over 40,000 businesses in Portland. More than half of these businesses do not have a direct connection with a Portland garbage or recycling company because their landlord provides their garbage/recycling service. Thus, we cannot rely on data from garbage haulers or from independent recyclers to tell us what percentage are recycling. We would need to do a complete and independent survey to answer this question, but the costs are prohibitive. As a practical solution, the City does without actual compliance data, relying instead on the data sources described above to evaluate the effectiveness of its programs.

### **COMMERCIAL RECYCLING: What we learn from the data.**

The most recent regional waste composition data (1993-4, revised 6/95) found that the largest single unrecycled commodity left in the total wastestream was organic material -- food waste -- from the commercial sector. In 1993-4, commercially-generated food waste comprised 9% of the total wastestream and 27% of the commercial wastestream. If anything, this proportion has probably increased, since the intervening years have seen virtually no increase in recycling of commercially-generated food waste, but there have been new programs to increase recycling of other materials.

Next, the longitudinal generator surveys tell us which specific business sectors are still disposing of which specific recyclables. This first table shows the 1996 results by sector, for number of materials reported as being recycled.

**Table 1: Number of Materials, 1996 Commercial Generator Survey**

Sector	Number of Materials Reported Recycled			
	None	1-3	4 or more	Total
Office	2%	28%	70%	100%
Retail/Wholesale	8%	36%	56%	100%
Food/Restaurant	6%	41%	53%	100%
Medical	3%	47%	50%	100%
Mfg/Indus/Transp/Utilities (aka MITU)	3%	36%	61%	100%
Institution (incl hotel/motel)	15%	17%	68%	100%
Other	10%	22%	68%	100%
All Commercial (w/o multifamily)	7%	38%	55%	100%
Multifamily	2%	10%	88%	100%

The following table from this survey shows percentages of businesses that reported recycling certain common materials

Note The material types listed are those which were used on the survey instrument. Thus there is sure to be some overlap among several paper types, such as "white office paper" and "mixed high grade paper". For example, one respondent may have reported recycling only one materials, "scrap paper", where their recycling system included white office, mixed high grade, computer paper, and scrap paper in one "scrap paper" container (as it is collected at residential). Another respondent with the same type of mixed system might have reported recycling four materials and listed each paper type separately, even though they were mixed together, because they were all being collected. When this survey is redone in summer 1999, we will make an effort to clarify the survey questions and tabulation.

**Table 2: Materials Reported Recycled, 1996 Commercial Generator Survey**

	Business Type						
	Office	Retail	Food	Med.	MITU	Inst.	Other
<b>Cardboard</b>	70%	84%	93%	75%	80%	82%	67%
<b>White Office Paper</b>	52%	21%	6%	38%	22%	37%	19%
<b>Mixed High-Grade Paper</b>	23%	9%	4%	21%	12%	23%	3%
<b>Computer Paper</b>	23%	12%	2%	11%	11%	15%	8%
<b>Scrap Paper</b>	66%	44%	28%	63%	44%	67%	61%
<b>Newspaper</b>	49%	29%	35%	52%	28%	77%	53%
<b>Magazines</b>	28%	6%	4%	27%	9%	22%	17%

Based on the 1993-94 waste composition data, the above responses, the relative volumes of waste produced by various sectors, the major opportunity to recover construction materials offered by the current building boom, and on the need for recycling commercial food waste, BES is targeting the following materials and sectors for increased recycling

<b>Targeted Material</b>	<b>Sector</b>	<b>Time Frame</b>
Cardboard	Retail, office and institutional	Current through 2000
Newsprint	Office and institutional	Current through 2000
Office paper	Retail, office and institutional	Current through 2000
Other paper	Retail, office and institutional	Current through 2000
C & D debris	Construction/demolition projects	Current through 2000
Food waste	Processors, Groceries & Restaurants	2000-2005, in cooperation with Metro

### **COMMERCIAL RECYCLING: Programs**

From analysis of the generator survey data shown in Table 2 it appears that the retail, office, institutional, and construction sectors would benefit most from increased City efforts to improve their recycling programs. Retail was selected because only 56% report recycling four or more materials, Office because only 52% recycle white office paper, and Institutional because 15% (the highest of any group) report doing no recycling at all.

Information from the 1996 telephone survey of over 450 businesses has also served as a guide in the formulation of these new programs. When asked in the survey to suggest ways to help businesses recycle more and reduce waste, information and education topped the list followed by provision of containers for recycling. As a result, the City is incorporating more site visits and the creation of a new brochure, as well as broader distribution of existing brochures. Promotion of the BRAG program will also be increased, including provision of information about BRAG award winners to neighborhood newspapers, and trade-oriented and other specialized publications.

The survey respondents' suggestion that more containers be provided may be a response that is no longer so applicable. This phone survey was done in 1996 just as the initial order of the blue business bins, purchased by the City for about \$360,000, was being distributed by the haulers to their customers. Since that time, the city has spent close to \$75,000 on a second group of the bins, and has budgeted another \$250,000 for recycling containers for the current fiscal year. An assessment is being made on how best to use these container funds in FY 99.

BES staff has contracted with Portland State University to provide recycling program development assistance for up to 125 businesses between July 1998 and September 1999. This is the third year PSU has provided recycling assistance to specific businesses, after eight years of multifamily assistance. During the year ending June 1998, PSU assisted 24 businesses. PSU work under this contract is addressing some of the materials and sectors targeted by BES.

Following is a description of the programs that will be implemented to achieve recycling increases. Data from the 1996 generator survey is described under each business sector.



**Retail/Wholesale** (Includes wholesale and retail operations including grocery, hardware/lumber, auto parts, cleaners, florist, etc )

**Program Focus** Cardboard and scrap paper

**Time frame** Current through 2000

Data from the 1996 generator survey shows that at least 16% of retail/wholesale businesses are not recycling corrugated cardboard, although this materials is prevalent at all of these businesses. The survey also shows that many of these businesses are not recycling scrap paper, which exists at virtually every business. In many cases scrap paper can include the white paper generated at a retail/wholesale business.

**Table 3: Retail/Wholesale businesses: What are they recycling?**

<u>% of businesses</u>	<u>Recycling Reported</u> <u>By number of materials</u>	<u>% of businesses</u>	<u>Recycling Reported</u> <u>By type of material</u>
56%	Four or more materials	84%	Corrugated cardboard
36%	One, two or three materials	21%	White office paper
8%	Not recycling	12%	Computer paper
		9%	Mixed high-grade paper
		29%	Newspaper
		44%	Scrap paper

The focus will be on increasing the number of retail/wholesale sector members who recycle four or more materials from its current 56%. While we will not ignore the 8% who don't recycle any materials, we expect greater results from getting those who already recycle some to do more. This will be accomplished by increased visits to retail and wholesale establishments, distribution of a new *Barriers to Recycling* brochure, and contacting haulers for information on any of their retail or wholesale customers that may need recycling help. Staff will also seek to make presentations to various business groups representing this sector, and develop and promote use of informational pieces for association newsletters.

**Office** (finance, real estate, law firms, government)

**Program Focus** Cardboard, newsprint, office and other papers

**Time frame** Current through 2000

**Table 4: Offices: What are they recycling?**

<u>% of offices</u>	<u>Recycling Reported By number of materials</u>	<u>% of offices</u>	<u>Recycling Reported By type of material</u>
70%	Four or more materials	70%	Corrugated cardboard
17%	Two or three materials	52%	White office paper
11%	One material	23%	Computer or mixed high-grade paper
2%	Not recycling	28%	Magazines
		51%	Newspaper
		66%	Scrap paper

As a result, the focus here will be to concentrate on the 11% that report recycling only one material and to help those businesses improve their programs. Again, the *Barriers to Recycling* brochure and in-person visits (either from staff or PSU) will be employed to encourage offices to take advantage of opportunities that are readily available to recycle all paper types. Staff also plans on purchasing deskside boxes for recycled paper for offices with the \$75,000 budgeted this fiscal year for containers. Early estimates indicate that perhaps as many as 150,000 containers could be distributed to offices before the summer of 1998.

**Institutional** (Includes hotels/motels, churches, schools, museums, excludes medical facilities)

**Program Focus** Cardboard, newsprint, and scrap paper

**Time frame** Current through 2000

**Table 5: Institutions: What are they recycling?**

<u>% of institutions</u>	<u>Recycling Reported By number of materials</u>	<u>% of institutions</u>	<u>Recycling Reported By type of material</u>
68%	Four or more materials	82%	Corrugated cardboard
17%	One, two or three materials	37%	White office paper
15%	Not recycling	15%	Computer paper
		23%	Mixed high-grade paper
		77%	Newspaper
		67%	Scrap paper
		22%	Magazines

Of all the sectors, Institutions had the highest reported percentage of non-compliance -- 15% reporting no recycling -- although they have a reasonably high percent of respondents who recycle four or more materials (68%). Institutions also report fairly little recycling of their office papers. Only 23% report recycling mixed high-grade paper, 37% white office paper, and 15% recycle computer paper. Twenty-two percent report recycling magazines. On the other hand, 67% report recycling scrap paper and 77% recycle newspaper.

Because so many institutions appear not to recycle at all, City staff efforts will focus on this 15% who have yet to start recycling programs. In-person visits by staff or PSU (under their recycling assistance contract) will be necessary to get these establishments to set up viable programs. Staff is also contacting trade groups to assist in these efforts.

### **Construction /Demolition Debris**

**Program Focus** Wood, rubble, cardboard, metals, and land clearing debris

**Time frame** Current through 2000

See also discussion under Potential for Recycling of Construction and Demolition Materials (p 21)

Because a great deal of material from this sector is handled by companies and individuals "outside" the City's data reporting system, the City must rely on other information sources for an idea of the effectiveness of its construction recycling requirement. Metro is currently conducting a waste composition study in the construction sector. Information from that study, due for completion by mid-1998, will assist City staff in developing strategies for improving recycling in the construction industry. This plan will be modified to include decisions made, based on the study results.

Until such data is available and any subsequent program modifications are adopted, we will continue to send *Construction Site Recycling Plan Forms* to all contractors who have received a City of Portland building permit. That *Recycling Plan Form* identifies the materials that need to be recycled at the job site, and gives general guidance in establishing a recycling system at the site. BES also stocks the Bureau of Buildings Permit Center pamphlet rack with the flyer "Construction Recycling It's the law."

BES will also be making contacts with construction-related associations and trade groups, offering presentations or other assistance. We will produce a simple brochure for mailing to all licensed contractors in the City with information about the recycling requirement. As BES identifies particular contractors who don't do an effective job of recycling, staff will focus their efforts on those companies to assure that their job sites are in compliance. BES' contract with PSU provides for PSU to spend about 1000 hours educating and assisting small contractors.

For all four sectors targeted above staff will continually monitor the results of their increased efforts. Modifications to the program(s) will be ongoing based on analysis of the results, and on future waste composition analysis.

### **Organics: Food Waste**

**Program Focus** Food processors, restaurants and grocery stores

**Time frame** 2000-2005, in cooperation with Metro

BES will be monitoring the Metro commercial food waste pilot program closely to see what barriers may exist in the establishment of collection and processing. Staff understands that while it is not technically difficult to compost food waste, difficulties do arise in collecting the waste economically and siting a convenient processing facility without a drawn-out review process. Once these barriers are better analyzed and understood, staff will work on developing a program for the collection and composting of commercial food waste.



While it would be ideal if local yard debris processors could accept food waste, this does not seem possible on a scale adequate to meet the ambitious year 2005 goals. Most of these processors' sites do not have the space to accommodate the increased material. In addition, a comprehensive food waste program must include post-consumer food waste, which will include meat scraps. With or without meat scraps, the processing sites need to be located away from land uses incompatible with composting odors.

It does not appear that any of the region's current yard debris processing sites is located in a suitable setting. Before accepting food waste, any existing, new or relocated processing site would require approval by the local government for land use impacts, as well as approval by Metro and DEQ for adequacy of composting methods.

As a result, if the private sector does not respond adequately after Metro's current assistance programs, the city should be prepared to proceed toward implementing a commercial food waste recycling system on its own. BES proposes requiring food processors, and certain grocery stores and restaurants to separate food waste for recycling beginning July 1, 2001. If supported by Council, BES will formalize this requirement in an ordinance for Council adoption. Like Metro, we would then leave it to the private sector to develop the collection and processing systems to comply with the requirement.

As of January 1997, Honolulu, Hawaii, mandated food waste recycling for food-related businesses meeting minimum size criteria. Honolulu's private sector is providing the collection and processing system to carry out this mandate. Portland will keep in touch with this and other related efforts around the country.

If Council adopts this BES proposal, then early in 2000 BES staff will evaluate options developing in the private sector and, if necessary, return to Council to recommend any City intervention that appears required. If the private sector has not responded adequately, one option would be for the city to seek proposals for the collection and/or processing of commercial organic waste, in order to establish sufficient capacity to process the expected amounts of this material.

## **COMMERCIAL RECYCLING: THE NUMBERS**

### **Current Commercial Recycling and Disposal**

**Commercial Waste Composition:** What materials remain in the 1997 commercial wastestream? Because there is no more recent local waste composition data, City staff must currently rely on data from Metro's 1993-4 waste composition study. The total 1997 estimated commercial waste tonnage of 406,100 includes about 351,100 tons collected by permitted waste haulers, plus about 55,000 tons estimated to have been self-hauled to transfer stations by commercial generators (rather than by waste hauling companies).

**Table 6: 1997 Estimated Commercial Disposal  
(Portland)**

<i>Material</i>	<i>Measured percentage of regional commercial disposal in 1993-94*</i>	<i>Proportions as applied to 1997 estimate of commercial tonnage in/from Portland</i>
Cardboard	7%	28,500
Newsprint	3%	12,200
Office paper	4%	16,200
Other paper	17%	69,000
Organics	41%	166,500
C&D	<1%	4,000
Other	27%	109,700
<b>Total</b>	<b>100%</b>	<b>406,100</b>

\*Source for percentages Metro 1993-94 Waste Characterization, Commercial generators, 1995 revision (Table 4R on page 3 of June 5, 1995 revision memo)

Note This plan does not include a similar table for Residential disposal Since the most recent waste comp data is from 1993-94, and Portland's residential recycling has expanded considerably during the past five years, we are not comfortable assuming that the proportions of materials from 1993-4 reflect the proportions of 1997

In future program planning, Portland intends to rely more heavily on analysis of local waste composition data, rather than on reports from Portland's waste haulers on the estimated amounts of recyclables they have collected We will design programs based primarily on capturing the materials left in the wastestream The City is providing supplemental funding to DEQ to ensure that DEQ's 1998 waste composition study includes adequate samples from Portland Otherwise, we cannot know which programs are successful and which are less so, and what materials remain to be recovered

## **Potential for Recycling of Construction and Demolition Materials**

Since January 1996, Portland has required recycling of certain construction and demolition (C & D) waste at all construction projects meeting a size threshold The materials are land clearing debris, rubble (concrete/asphalt), wood, metals, and corrugated cardboard The size threshold is now \$50,000 total project cost, it was \$25,000 until January 1998

However, much more construction and demolition material is potentially recyclable than is trackable by Portland's system, as was mentioned earlier on page 19

In Portland, less than half of C & D waste is collected by commercial waste haulers, but theirs is the only data reported in our commercial tracking system Most C & D material is collected by companies other than permitted Portland waste haulers, for example, material hauled by any and all contractors The City does not, and does not plan to, require reporting by these other companies that collect C & D materials for recycling or disposal

In presenting the estimates in Table 6 we would like to include construction and demolition (C & D) waste as part of overall commercial waste. However, the sources of Portland's data make this impossible. As noted, our primary source is haulers' reports of Portland commercial waste disposed during 1997. Table 6 takes the sum of this waste, plus an estimate of self-hauled waste, and applies the percentages from Metro's 1993-94 waste composition study, for waste from "commercial" generators. Neither source includes more than a small percentage of the C & D waste.

Metro's waste composition study includes C & D, but it is separated into a different category from "commercial" before its composition is analyzed, and it also includes C & D waste from those collectors that are not in Portland's tracking system.

Although the City has only a very limited ability to track quantities recycled in compliance with its C & D recycling mandate, City staff is devoting substantial attention to this sector. Part of the City's 1997-98-99 contracts with PSU cover assistance to construction sites.

### **Tables 7 and 8, Waste Generation and Recycling Rate Forecasts, 1996-2005.**

Tables 7 and 8 are forecasts of generation, disposal and recycling by sector, 1996 through 2005. Given projected growth in population and per capita income (see page 8, paragraph beginning "During the summer of 1997"), BES forecasts that the total amount generated annually will grow by 12% from 1996 to 2000, i.e., from 937,000 tons in 1996 to 1,048,000 tons in 2000. BES subsequent forecast is for a 16% total increase from 2000 to 2005, i.e., from 1,048,000 tons in 2000 to 1,214,000 tons in 2005. We have assumed that 22% of this material will continue to be generated by the residential sector, and 78% from the commercial sector, as they are now.

We have then conservatively assumed that only a small increase in recycling will be seen in the residential sector, following implementation of a commingled system, as noted earlier. Thus, the residential recycling is assumed to remain fairly level at the 1997 rate of 50% through 2000 and beyond. For 1997 the estimated commercial and overall recycling rates are both at 49%.

### **NEXT STEPS**

In its annual Management Reports to the Council each Spring, BES will update the community on its progress toward these goals, on the City's own efforts to model waste prevention, and on proposed revisions to the plan. Staff also plans to conduct, either with Metro or, on its own, waste composition studies and generator surveys for information to supplement the regular recycling tonnage reports from haulers and independent recyclers.

### **PAYING FOR THE PROGRAMS: Impacts on BES Budgeting and on Rates Charged to Residential Ratepayers and Commercial Customers**

**RESIDENTIAL** The spring 1997 rate review found that increasing recycling collection costs, along with decreased revenue from the sale of collected recyclables, were the leading factors exerting upward pressure on the residential garbage rates charged to Portland customers. The costs for collecting garbage itself have gone down for most sizes of garbage can. Additionally, as noted below, an



anticipated decrease in the tipping fee will help to put further downward pressure on the portion of residential rates that are attributed to solid waste collection. Therefore, controlling rising costs for recycling collection provides BES the best opportunity to continue to keep residential rates as stable as possible.

A recycling collection system that allows for collection crews to serve more households per hour on route will help to control costs. BES is currently analyzing options to improve recycling collection productivity on route, with the aim of stabilizing costs over the next five to seven year period. The options being considered involve more commingling of recyclables by households and on the trucks to improve collection productivity and take better advantage of vehicle capacities. Such a system will also take advantage of recently opened local materials recovery (sorting) facilities. Aside from this possible change in recycling collection and the addition of plastic tubs, the residential program does not anticipate any significant changes (that would involve a negative rate impact) in the next few years.

**COMMERCIAL** In the commercial program, over \$300,000 has been budgeted the last two years for city purchase of Blue Business Bins. The current tonnage surcharge at \$2.80/ton should be able to cover any modest container purchases and some increase in promotion/education.

If we find that the current commercial program is not producing the results we expect in 1998 and 1999, it may be necessary to increase the requirements imposed on business customers or haulers. If that is the case, additional enforcement personnel may be needed. Staff anticipates that adding a field representative position would add in the neighborhood of \$55,000-\$62,000 per individual, plus the cost of an additional vehicle, for a total of about \$131,000. This could add about 40¢/ton to the current tonnage fee.

Expenses for increased promotion of the commercial program could amount to about \$40,000 per year. This works out to about 12¢/ton increase in the commercial tonnage fee.

As of June 1998, the rate charged by Metro for solid waste is \$63.50/ton, including a \$5/load transaction charge. As noted above, the City charges haulers \$2.80/ton on their commercial solid waste collected in Portland. The City also charges \$1.50/ton on all solid waste collected in Portland, both commercial and residential. This \$1.50 fee is applied to costs of remediation of a hazardous waste site for which the City is responsible.

Together, these three fees total \$67.80 per ton. An additional 53¢/ton would therefore represent an increase of only about 0.8% above the current fees. These tonnage fees represent only a part of the rates charged by commercial haulers to their customers. Given this, and the fact that Portland commercial haulers' rates charged to customers are set by competition, staff therefore concludes that the impacts on rates charged to customers would be minimal.

**OTHER COSTS** There may be additional costs paid by the community to recycle voluntarily (residents) or comply with city regulations (multifamily owners and other businesses). These costs arise from such factors as time spent to separate materials or otherwise prepare them for recycling collection. It is not within the City's capacity to project costs for these factors.

## Waste Generation and Recycling Rate Forecasts, 1996 through 2005

**Table 7:** In order to achieve a 54% recycling rate in 2000, the total amount recycled that year will need to reach approximately 571,000 tons. Commercial recycling will need to grow to about 450,750 tons by 2000. This is an increase of nearly 65,000 tons (about 17%) from the estimated 386,000 tons recycled in 1997 from commercial sources.

**Methodology:** To compose this table, we started with its bottom row, which is a forecast produced by BES for total material generated annually, given anticipated growth in population and per capita income. Next, we applied a split of 22%/78% between residential and commercial generation. Next, we applied anticipated increases in residential recycling from 50% in 1996 to 52% in 2000, with the change taking place in 1999 and 2000, following implementation of commingling. Then we looked at the annual recycling rates needed to achieve 54% overall in 2000. We then apportioned the necessary growth among the years 1997 through 2000 by calculating the likely growth in commercial recycling in each year.

**Table 7: Waste Generation and Recycling Rate Forecasts, 1996-2000**

	1996 Estimate		1997 Estimate		1998 Forecast		1999 Forecast		2000 Forecast	
	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%
<b>Residential Disposal</b>	103,600		103,500		109,000		110,000		110,640	
<b>Residential Recycling</b>	97,000	48%	102,780	50%	109,000	50%	114,500	51%	119,800	52%
<b>Commercial Disposal</b>	383,500		406,100		366,000		366,500		366,750	
<b>Commercial Recycling</b>	329,000	46%	385,900	49%	408,000	53%	430,000	54%	450,750	55%
<b>Total Material Disposed</b>	487,100		509,600		475,000		476,500		477,500	
<b>Total Material Recycled</b>	433,000	47%	488,680	49%	517,000	52%	536,500	53%	571,000	54%
<b>Residential Material Generated (~22%)</b>	200,600		206,280		218,000		224,500		230,500	
<b>Commercial Material Generated (~78%)</b>	712,500		792,000		774,000		796,500		817,500	
<b>Total Material Generated</b>	913,100		998,280		992,000		1,021,000		1,048,000	

Preliminary table file c:\Data\excel\Nheplan1.xls (Sheet 12)

35729

**Table 8:** In order to achieve a 60% recycling rate in 2005, the total amount recycled will need to grow to approximately 730,500 tons. Commercial recycling will need to grow to 597,600 tons. This is an increase of 211,600 tons (nearly 55%) from the estimated 386,000 tons recycled in 1997 from commercial sources. The methodology used to create this table is similar to that explained for Table 7.

**Table 8: Waste Generation and Recycling Rate Forecasts, 2000 through 2005**

	2000 Forecast		2001 Forecast		2002 Forecast		2003 Forecast		2004 Forecast		2005 Forecast	
	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%
<b>Residential Disposal</b>	110,640		115,000		118,500		122,000		125,000		128,500	
<b>Residential Recycling</b>	119,860	52%	150,000	52%	128,500	52%	132,000	52%	135,500	52%	139,000	52%
<b>Commercial Disposal</b>	366,750		373,500		358,700		360,000		351,000		350,000	
<b>Commercial Recycling</b>	450,750	55%	475,500	56%	516,300	59%	540,000	60%	573,000	62%	597,000	63%
<b>Total Material Disposed</b>	477,500		488,500		477,200		482,000		476,000		480,000	
<b>Total Material Recycled</b>	571,000	54%	600,500	55%	644,800	57%	672,000	58%	708,000	60%	734,500	60%
<b>Residential Material Generated (22%)</b>	230,500		240,000		247,000		254,000		260,500		267,000	
<b>Commercial Material Generated (78%)</b>	817,500		849,000		875,000		900,000		923,500		947,000	
<b>Total Material Generated</b>	1,048,000		1,089,000		1,122,000		1,154,000		1,184,000		1,214,000	

\*The largest growth spurt shown here is in 2002, when commercial recycling is forecast to grow from 56% to 59%. This growth is anticipated during the first year of widespread recycling of commercial food waste from food-related businesses, which should be 2002. In this plan, BES staff is proposing that Council adopt a requirement in 1998 that certain food-related businesses separate food waste for recycling as of July 1, 2001.

Preliminary table file c:\data\excel\Nheplan1.xls (sheet 2)

s:\plangoal\draft-8.doc



## Appendix A

### What will Portland count as recycled and disposed, and how are the quantities of these materials measured?

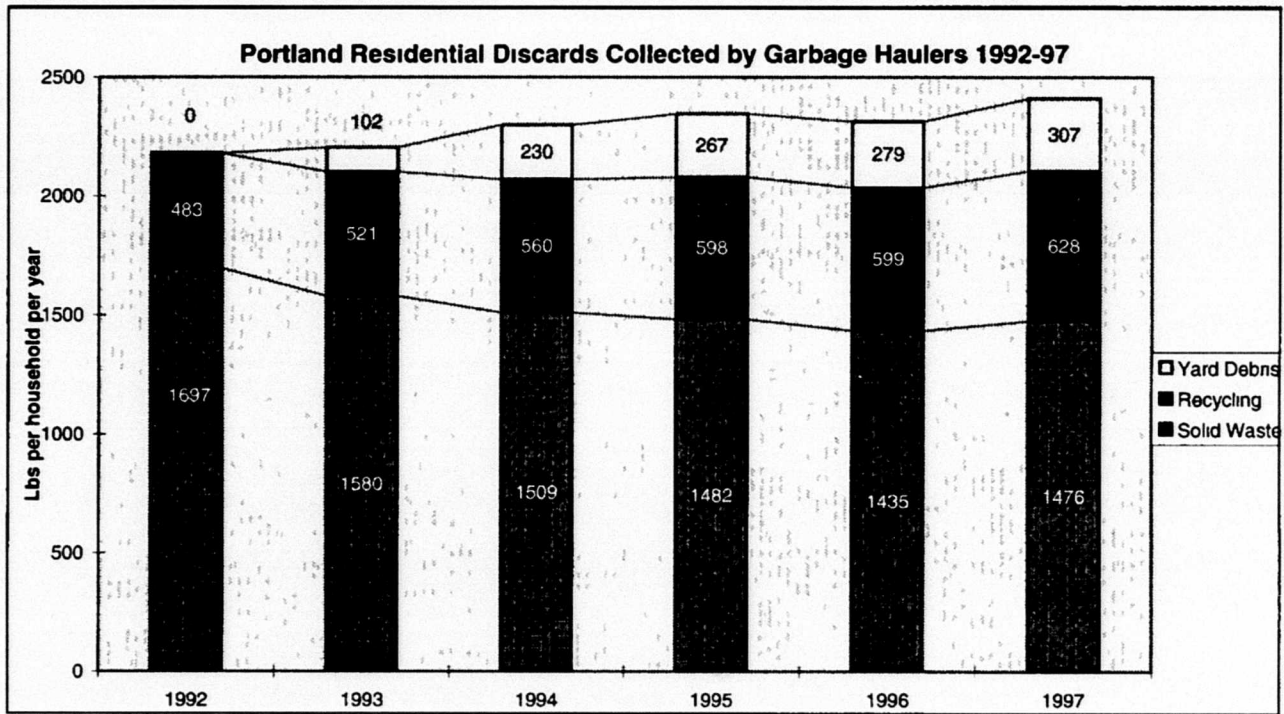
Due to several factors noted here, most of Portland's data is estimated rather than measured. Amounts of material collected are regularly reported to BES by franchised residential waste haulers, residential recycling districts, commercial waste hauling permittees, and independent commercial recyclers. Many of these collectors pick up materials from both residential and commercial accounts, both inside and outside Portland. For routing efficiency, most trucks collect materials from a variety of sources. This makes it difficult for haulers to know -- and to accurately report -- how much material can really be attributed to any particular source.

What counts? Material and source	Are amounts measured?	Or are they estimated?	City's method of measuring or estimating
<b>Residential Waste</b>			
• Collected by franchisees	X		Reports from 45+ franchisees, combined with measurements from BES' quarterly residential can weight studies plus 10% for extras set out
• Self-hauled to transfer stations		X	No measured data available. Rough estimates are used to approximate tonnage.
• Illegally dumped		X	No measured data available. Rough estimates are used to approximate tonnage.
<b>Residential Recycling</b>			
• Multi-material collection by 13 large franchisees and two recycling districts		X	Districts and franchisees estimate portions of total recyclables to be attributed to Portland residential accounts.
• Yard debris collected by franchisees		X	Franchisees estimate the residential portions of total collected yard debris.
• Self-hauled yard debris		X	No measured data available. Rough estimates are used to approximate tonnage.
• Home composting		X	No measured data available. Rough estimates are used to approximate tonnage.
• Self-hauled Recycling		X	No measured data available. Rough estimates are used to approximate tonnage.
• Bottle Bill Recycling		X	No measured data available. Rough estimates are used to approximate tonnage.

<b>What counts? Material and source</b>	<b>Are amounts measured?</b>	<b>Or are they estimated?</b>	<b>City's method of measuring or estimating</b>
<b>Commercial Waste</b>			
• Collected by permittees		X	70+ permittees report portions of total waste attributed to Portland commercial accounts
• Self-hauled to transfer stations		X	No measured data available Rough estimates are used to approximate tonnage
<b>Commercial Recycling</b>			
• Collected by permittees		X	Permittees estimate portions of total recyclables to be attributed to business and multifamily accounts
• Collected by independent recyclers	X	X	As many as 100 Independent Commercial Recyclers report portions of their collections attributed to Portland business accounts Depending on collection patterns, some are able to measure, but most are likely to make estimates
• Self-hauled		X	No measured data available Rough estimates are used to approximate tonnage
• MRF at Metro Central		X	Assumption 50% of material recovered comes from Portland
• MRF at Lakeside		X	Assumption 50% of material recovered comes from Portland
• MRF at Wastech		X	Assumption 50% of material recovered comes from Portland
• MRF at East County		X	Assumption 50% of material recovered comes from Portland
• Organics Composting		X	No measured data available Rough estimates are used to approximate tonnage

s \plangoal\draft-8 doc

Appendix B



This chart summarizes most of the data displayed in Charts 1, 2 and 3, on pages 4-5. It represents the total of all materials collected by Portland's franchised haulers from residential households, since the first year of the residential franchise system.



**RESOLUTION NO.**

**35729**

Accept the Bureau of Environmental Services Plan for Achieving Recycling Goals in 2000 and 2005, and direct the Bureau to develop and present language mandating the separation of food waste for recycling by certain businesses as of July 1, 2001 (Resolution)

WHEREAS, by Ordinance 171067, in April 1997, the Council set the City's recycling goals at 54% in 2000 and 60% in 2005,

WHEREAS, the Council at that time directed the Bureau of Environmental Services to return with a plan for achieving those goals, addressing the fiscal impacts as well,

WHEREAS, the Bureau has drafted such a plan, conducted a public review process, responded to public comments received, and prepared the attached revised version,

WHEREAS, in order to achieve these goals, it will be necessary to recycle a substantial portion of food waste, which constitutes over a quarter of the Portland's remaining garbage, and for which there is now no local recycling system,

WHEREAS, before food waste can be recycled, there must be a local system in place which includes both conveniently located processing facilities, and a collection system for transporting the food waste to the processors,

WHEREAS, the private sector, in order to develop these components of a food waste recycling system, needs assurance from the City that adequate recycling of food waste will be required at some particular time in the near future,

WHEREAS, it appears that food waste from certain food-related businesses, such as produce suppliers, grocery produce departments, some restaurants and cafeterias, will be the simplest and most efficient to collect and process,

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Portland, Oregon, that the Bureau of Environmental Services Plan for Achieving Recycling Goals in 2000 and 2005 is accepted, and that the Bureau is directed to develop and present language mandating the separation of food waste for recycling by certain businesses as of July 1, 2001

Adopted by the Council,

**SEP 23 1998**

Commissioner Erik Sten  
Anne McLaughlin (x7061)  
September 9, 1998

**Barbara Clark**

Auditor of the City of Portland

By

*Britta Olson*

Deputy

1424

Agenda No

RESOLUTION NO

35729

Title

Accept the Bureau of Environmental Services Plan for Achieving Recycling Goals in 2000 and 2005, and direct the Bureau to develop and present language mandating the separation of food waste for recycling by certain businesses as of July 1, 2001 (Resolution)

INTRODUCED BY	Filed	SEP 18 1998
Erik Sten	Barbara Clark Auditor of the City of Portland	
NOTED BY COMMISSIONER	By	_____
Affairs	Deputy	
Finance and Administration	For Meeting of	<i>Britta Olson</i>
Safety	ACTION TAKEN	
Utilities		
Works <i>eks/ker</i>		
BUREAU APPROVAL		
Bureau Environmental Services		
Prepared by	Date	
Anne McLaughlin <i>AM</i> (823-7061)	September 9, 1998	
Budget Impact Review		
___ Completed <i>em</i> ___ X ___ Not Required		
Bureau Head <i>Domano</i> Dean Marnotti, Director		

AGENDA	FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS		
			YEAS	NAYS
Consent	Regular x	Francesconi	Francesconi	✓
NOTED BY	Hales	Hales	_____	_____
City Attorney	Kafoury	Kafoury	✓	
City Auditor	Sten	Sten	✓	
City Engineer	Katz	Katz	✓	