



*Consulting to Government & Utilities*

*Skumatz Economic Research Associates, Inc.*

*Boulder Office: 762 Eldorado Drive, Superior, CO 80027*

*Phone: 303/494-1178 FAX: 303/494-1177*

*Email: skumatz @ serainc.com web: www. serainc.com (or payt.org)*

# ***MODEL PAY AS YOU THROW (PAYT) / VARIABLE RATES (VR) LEGISLATION:***

## ***Elements, Options, And Considerations For State Or Local Level Legislation In Solid Waste***

Prepared by:

Lisa A. Skumatz, Ph.D., Principal

Skumatz Economic Research Associates, Inc. (SERA)

762 Eldorado Drive, Superior, CO 80027

Phone: 303/494-1178 FAX: 303/494-1177

Email: skumatz @ serainc.com web: www. serainc.com OR payt.org

© SERA 2008



*Skumatz Economic Research Associates, Inc.*

*762 Eldorado Drive, Superior, CO 80027*

*Phone: 303/494-1178 FAX: 303/494-1177*

*Email: skumatz @ serainc.com web: www. serainc.com OR payt.org*

*SKUMATZ: "MODEL VARIABLE RATES LEGIALSATION:..."*

0

**TABLE OF CONTENTS**

I. EXECUTIVE SUMMARY: STATE & LOCAL ADAPTATIONS OF PAYT.....2  
II. EXISTING STATE LEGISLATION AND IMPORTANT ELEMENTS .....5  
    A. State Legislation on PAYT / VR to Date .....5  
    B. Elements for Legislation .....6  
        1. Background elements (prior to elements regarding variable rates): .....6  
        2. PAYT / Variable rates elements .....6  
III. OPTIONS FOR LEGISLATIVE ELEMENTS ON PAYT / VARIABLE RATES.....8  
    A. Planning documents: .....8  
    B. PAYT / Volume based rate options:.....8  
    C. Information: .....9  
    D. Supplemental grant: .....9  
    E. Reporting: .....10  
IV. SUMMARY AND RECOMMENDATIONS .....11

Information in this report may be used with attribution.

For more information, contact:

Lisa A. Skumatz, Ph.D.

Principal, Skumatz Economic Research Associates, Inc. (SERA)  
762 Eldorado Drive, Superior, CO 80027

Phone: 303/494-1178 FAX: 303/494-1177

email: skumatz @ serainc.com Web: www. serainc.com OR payt.org



# Model Variable Rates / PAYT Legislation: Elements, Options, And Considerations For State Level Legislation In Solid Waste

By Lisa A. Skumatz, Ph.D., Principal  
Skumatz Economic Research Associates, Inc. (SERA)

The best PAYT legislation (state) or ordinances (local) include the following elements

- Recycling costs embedded in the garbage fees
- Smallest container no larger than 32 gallons (and preferably 19-21 gallons),
- Require significant rate differentials to provide an incentive – perhaps requiring 75% incremental rate increase for each level of service (i.e. 1 can, 2 can, 3 can levels of service), and
- Require hauler reporting of disposed and recycled tonnages.

## I. EXECUTIVE SUMMARY: STATE & LOCAL ADAPTATIONS OF PAYT

“Variable rates”, “Pay as you throw”, “volume based rates”, or “variable can rates” -- systems that require customers to pay more for throwing away more garbage -- are becoming more and more common. A survey by SERA has indicated that adoption of these programs has grown dramatically since the late 1980s, with 7,100 communities representing more than 25% of the population having access to these incentive-based rates.<sup>1</sup> Recent publications describing results and case studies from around the nation have made communities, recycling activists, and state employees and ultimately legislators familiar with variable rates as one possible tool for achieving waste management and diversion goals.

The available data indicates that these programs can be very effective. Some communities that implement variable rates in conjunction with recycling and/or green waste programs have reported between 25 percent and 45 percent reduction in tonnage going to disposal facilities, with some communities reporting reductions of over 60 percent; however, this overstates the changes due to PAYT.<sup>2</sup> Preliminary statistical analysis by SERA shows that recycling and

---

<sup>1</sup> Skumatz, Lisa A., Ph.D., and David J. Freeman, 2007. “PAYT: 2006 Update”, Prepared for SERA and EPA, Skumatz Economic Research Associates, Inc., Superior, CO., January. A very large surge in programs was realized between 1995 and 2000 when the count increased from 2800 to more than 5000 communities. Skumatz, Lisa A., Ph.D., “Continued Growth in Variable Rates”, Biocycle, November 1995, and Skumatz, Lisa A., and John Green, “PAYT / VR Update: SERA's 2000 Survey”, Skumatz Economic Research Associates, Inc., Superior, CO, 2001.

<sup>2</sup> Skumatz, Lisa A., Ph.D., “Variable Rates for Municipal Solid Waste: Implementation, Experience, Economics, and Legislation”, Reason Foundation Policy Study Number 160, Los Angeles, CA, June 1993, page 12-13.



diversion programs divert 8 to 13 percent<sup>3</sup> more material when variable rates programs are in place, even after controlling for mandatory programs and curbside convenience. Further, these figures do not count the influence on waste reduction behavior, which is notoriously difficult to measure. Finally, survey evidence suggests that variable rates programs have an impact on purchasing and waste reduction behavior by customers. Recent SERA research indicates that another 6% reduction is contributed through source reduction from PAYT/VR.<sup>4</sup> This means, in total, PAYT decreases residential landfilled tonnage by 6-18%. This is equivalent to an increase in recycled tons of between 50% and 100% - a larger increase than the effects of any other change a community might make to its curbside recycling program. Further, the same studies find that the impact of PAYT on drop-off recycling programs is comparable to the effect on curbside recycling – about 6 percentage points.

Many states and communities are considering options for addressing concerns regarding emissions / Greenhouse gas reductions, resource management, sustainability, and cost effective solid waste management. Variable rates do not require new trucks to come down the street, and have been reported to be "the most effective recycling program" by some communities. Certainly, PAYT rates may not be appropriate for all communities. However, given though range of communities with successful programs, many states are assessing options for increasing adoption of variable rates in communities within the state.

## SUMMARY OF RESULTS / RECOMMENDATIONS – AND ADAPTATION TO LOCAL LEVEL

Although most of this paper is written as if PAYT legislation being considered is at the state level, most of the recommendations are also well suited to local ordinances on PAYT. The local option is particularly well suited to the case in which communities that want PAYT have private (competitive) haulers that are responsible for providing service. In this case, communities need to pass an ordinance<sup>5</sup> that includes virtually the same elements as the state-level legislation discussed in this paper. Again, no rate-setting is established, only rate structures – an essential distinction! As a preview of the remaining sections in this report, the key elements recommended for the ordinance include:

- **Embedded fees:** Requiring that trash rates embed the cost of recycling service as well, and the legislation should defined the minimum requirements for recycling service to be delivered (e.g. minimum materials, service frequency, etc.).
- **PAYT and differentials:** Requiring that the rates for different service levels vary with the amount of service delivered – usually based on the volume of containers (or in some rarer cases, by weight of the service delivered). Our research indicates that, to be effective, non-trivial differentials are needed (or else the PAYT incentive is not worth the administrative hassle). Requiring that double the service costs anywhere from 60% to double the cost should be effective; however, we have found that 80% extra seems to provide both strong incentives while mitigating revenue risk.<sup>6</sup> As a note, separately line-

<sup>3</sup> Skumatz, Lisa A., Ph.D., "Econometric Findings in Solid Waste: Demand, Customer Choice, and Reactions to System Change", Draft Yale working Paper, December 1992; also reported in Skumatz, Lisa A., Ph.D., "Variable Rates for Municipal Solid Waste: Implementation, Experience, Economics, and Legislation", Reason Foundation Policy Study Number 160, Los Angeles, CA, June 1993, page 12.

<sup>4</sup> Skumatz, Lisa A., Ph.D., "Measuring Source Reduction: PAYT / VR as an Example", Skumatz Economic Research Associates, Inc., Superior, CO, 1999., and Skumatz, Lisa A., Ph.D., "Variable Rates for Municipal Solid Waste: Implementation, Experience, Economics, and Legislation", Reason Foundation Policy Study Number 160, Los Angeles, CA, June 1993, page 13-14.

<sup>5</sup> For those communities interested, we can provide copies of ordinances that have been implemented in other communities. Contact the authors at 303/494-1178.

<sup>6</sup> Skumatz Economic Research Associates research.



iteming the recycling service reduces use of the program.<sup>7</sup>

- **Small container sizes:** Requiring small containers be available is another important element. A program with a minimum can size of 90 gallons will not provide much incentive to reduce or recycle waste. A can no larger than 20 gallons or 32 gallons (presumably along with 64 gallons) should also be required to be available. Bag programs don't usually have this problem because bags larger than about 32 gallons are too heavy to work with.
- **Reporting and Other:** Information and monitoring is a key element of a successful PAYT program. Hauler reporting on recycled and disposed residential tonnages on a quarterly basis can provide important feedback on progress and help identify haulers with successful programs. In addition, the community may want to pave the way for periodic auditing to assure compliance, depending on local powers (requiring reporting of the rate levels charged may also be useful, if allowed). The ordinance may also want to require that haulers must provide education on the PAYT and recycling options to each household served on an annual basis to supplement information provided by the Community.

---

<sup>7</sup> Skumatz, Lisa A., Ph.D., "Nationwide Diversion Rate Study: Quantitative Effects of Program Choices on Recycling and Green Waste Diversion - Beyond Case Studies", SERA Research Paper, July 1996; also Skumatz, Lisa A., Ph.D., "Achieving 50% in California...", Prepared for California Chapters of SWANA, August 1999, and other.



## II. EXISTING STATE LEGISLATION AND IMPORTANT ELEMENTS

### A. State Legislation on PAYT / VR to Date

Over a quarter of state legislatures have already mandated, encouraged, or considered variable rates. Table 1 provides detailed information about these levels of incentive. Surveys by SERA in 1992, 1995, 2000, and 2006 found that for states currently mandate variable rates for some or all customers in the state (Washington, Iowa, Wisconsin, and Minnesota). A variety of other levels of assistance are provided in other states, as detailed in the Table.

**Table 1: Inventory of State VR/PAYT Policies by Level of “Aggressiveness”**

(Source: Lisa A. Skumatz, Skumatz Economic Research Associates, Inc. surveys)

Policy	Description of State VR/PAYT Incentive / policy	States
Mandatory -- with enforcement	All entities providing garbage service must implement variable rates (required for entities overseen by State regulatory agency; enforced through rate review process).	WA
Mandatory --without enforcement	All communities required to adopt variable rates	MN
Mandatory -- if goals aren't met	Communities not reaching 25% diversion goal must adopt variable rates	WI, IA
Menu selection	Community required to adopt subset of menu strategies, with VR/PAYT included on the list	OR
Financial incentives / grants	Some states provide grants specifically for or with preferences for community with or considering PAYT/VR	Multiple states
Active promotion/education about recommended strategies	Many states have funded workshops, manuals, newsletter, or case studies about PAYT/VR (examples include Illinois, Wyoming)	Multiple states
Voluntary recommendations	A number of states put PAYT/VR in the State Master Plan or Comprehensive Solid Waste Management Plan	Multiple states

Notes: Some states have multiple policies regarding PAYT.

## **B. Elements for Legislation**

The following information and analysis is provided as guidance or model legislation as states consider their options.

### **1. Background elements (prior to elements regarding variable rates):**

- Require a periodic planning documents from each agency responsible for solid waste (communities, counties, regional authorities, or whoever is the responsible entity).
- Categorized communities or responsible agencies by larger vs. smaller with greater responsibilities and detail required for larger entities.
- Require a planning documents to be submitted within a specific time frame and with clearly identified periodic updates requirements.
- If there are state goals (rates and dates for diversion or recycling), require clear measurement and reporting standards, including how it existing recycling will be treated and how tricky waste streams will be treated (for example CDL, car bodies, sludge, etc.). Provide a standard reporting form, if possible. Make it clear who is responsible for reporting and give the state authority or right to obtain the data, if possible. One state is establishing a task force to examine measurement and reporting standards.

### **2. PAYT / Variable rates elements**

The language below gives two alternatives. Both of these clauses or sections are from existing legislation from other states.<sup>8</sup> They are also described in the materials in Section III, "Options for Legislative Elements...".

#### ***a) PAYT / Variable Rates as an element of a menu of options of which a certain number must be incorporated with in a community's plan***

The attached legislation, as an example (Attachment A) is structured so that cities must adopt strategies from a list of eight menu items. The larger cities -- those above 10,000 in population - - must adopt more options than smaller communities. Larger cities must adopt four or five options compared to three options for smaller towns. One of the options available is "directly proportional" variable rates, where each can must cost the same or more than the first can.

**Author comments:** This legislation requires a very aggressive rate schedule, which provides incentives. It does not match well with the structure of costs and can be very difficult to get past because it is a very big change from traditional fixed rates. The legislation may require fees that increase proportionally based on the average weight of various-sized containers. This turns out, in practice, to be less than "can is a can" because of the different compaction ratios of various sized cans. Another option is to require a ratio other than 100% for additional containers (e.g., 80% so if 1 can is \$10, 2

---

<sup>8</sup> These were described to some degree in and Skumatz, Lisa A., Ph.D., "Variable Rates for Municipal Solid Waste: Implementation, Experience, Economics, and Legislation", Reason Foundation Policy Study Number 160, Los Angeles, CA, June 1993.

cans is \$18, not \$20).<sup>9</sup> Another alternative, is to require that the rates, if implemented under the menu, be structured similar to the three clauses from Minnesota listed on pp. 21 to 22 of the Reason Foundation paper previously cited:

*The Minnesota statutes states that a licensing authority or billing entity "... shall require licenses to impose charges for collection of mixed municipal and solid waste that increase with the volume or weight of the waste collected."*

*In addition, licensing authorities or billing entities that implement a volume based rates system must: "... determine a base unit size for an average small quantity generator and establish, or require the licensee to establish, a multiple unit pricing system that ensures that amount of waste generated in excess of the base unit amounts are priced higher than the base unit price."*

*Weighted solid waste collection costs are presented as a separate and visible billing item, the generator is given feedback on the savings impacts of waste reduction efforts. Minnesota has mandated this type of feedback by requiring that "... any political subdivision that provides or pays for the costs of collection or disposal of solid waste shall, through a billing or other system, make the prorated share of those costs for each solid waste generator visible and obvious to the generator."*

**b) Preference for state grant funds or communities with variable rates**

Attached is language adapted from another state that addresses this issue. It is also included in Section III.

*"Beginning with brands for the year 199\_\_\_, the department shall annually allocate X% of the funds approved under statute \_\_\_\_\_ for supplemental grants under this subsection.*

*A responsible unit is eligible for any supplemental grant if, in at least part of the region, it imposes fees for residential solid waste collection on the basis of the volume of solid waste generated. The department shall base the amount of the supplemental grant on the number of persons within the responsible unit's region who pay volume based these for residential solid waste collection."*

---

<sup>9</sup> A recent study by the author demonstrated that 80% differentials provided very strong additions to recycling – that 100% rate differentials are not essential to provide high levels of additional recycling. See Skumatz, Lisa A., Ph.D., and John Green, "Rate Incentives for Solid Waste: An Analysis of Impacts", Skumatz Economic Research Associates, Inc., (SERA), Superior, CO, 2000.

### III. OPTIONS FOR LEGISLATIVE ELEMENTS ON PAYT / VARIABLE RATES

A review of state legislation on PAYT / VR provides a variety of options for the key elements of legislation covering PAYT. The following provide selections from state legislation across the U.S.

#### A. *Planning documents:*

- As part of the preparation of required program planning documents... in order to meet state recycling goals of X% by year 199\_\_.
- Require small vs. large committees (categorize communities by small/large; also urban/rural) to incorporate different minimum numbers of recommended program elements in their comprehensive plans and implement within a time limit. For example if the community needs of goal by year X, then no additional activities are required.
- Customer notice of opportunities to recycle; provide containers; collection of recyclables or depots; yard waste collection or depots; education and promotion program; multifamily program; volume or weight based rates as below...

#### B. *PAYT / Volume based rate options:*

- Nonaggressive -- planning documents: <Various planning documents> shall evaluate and identify rate structures and needs to reduce the amount of waste that generators produced, and other source reduction strategies, including, but not limited to, programs and economic incentives to reduce the use of non-recyclable materials, replace disposal materials and products with reusable materials and products, reduced packaging, and increase the efficiency of the use of paper, cardboard, glass, metals, and other materials. <The document> shall include a program and implementation schedule, which shows the methods by which the city will comply with the diversion requirements of section \_\_\_\_\_.

**Author comments:** this type of language can be very useful.

- Nonaggressive: beginning in 199\_\_ a system of volume-based solid waste fees to generate revenue equal to the responsible unit's costs for solid waste management other than those reimbursed by the state. The department of \_\_\_\_\_ shall study and develop recommendations for systems of volume based or weight based post consumer waste user fees do the following: 1) encourages a reduction in the amount of post consumer waste generated and encourages the reuse, recovery, or recycling of post consumer waste; 2) where feasible, requires each person, household, or facility that generates post consumer waste to pay a weight based or volume based user fee for a reasonable portion of the costs of collecting and disposing of the post consumer waste that is generated by the person, household, or facility and is not reused, recovered, or recycled.



**Author comments:** this type of language can be very useful.

- Licensing of solid waste collection: License required; licensing; license requirements; pricing based on volume or weight. A licensing authority shall require licensees to impose charges for collection of mixed municipal solid waste that increase with the weight or volume of about waste collected. < prohibit higher fee for recycling than non-recycling>. Volume requirements: a licensing authority that requires a pricing system based on volume or weight shall determine a base unit size for an average small quantity household generator and establish, or require the licensee to establish, a multiple unit pricing system that ensures that amount of waste generated in excess of the base unit amount are priced higher than the base unit price. <Required by a clear deadline, determine reporting data, and private/public status other data>.

**Author comments:** this can provide a "hammer" that can be very useful or enforcement.

- Alternative with strong incentives required: " solid waste residential collection rates of that encourage waste reduction, reuse, and recycling through reduced rates for smaller containers, including at least one rate for a container that is 21 gallons or less in size. Based on the average weight of solid waste disposed per container or containers of different sizes, the rates on a per pound disposed basis shall not decrease with increasing size of containers, nor shall the rates per container service be less than additional containers serviced."

**Author comments:** this tends to be too strong foremost, because it forces rates that are very aggressive (for example, " a can is a can"), and deviates significantly from the structure of " cost of service" (that is, the largest cost is getting that truck to the door, regardless of the amount of waste collected). However, specifying less size on the small container is a very useful clause, because variable rates programs that had 60 or 90 gallon containers as the smallest size provide very limited incentives, at best. In addition, many committees have noted that their citizens adapted to the new system quickly, and 60 gallon and larger containers were too large for many of their customers.

### **C. Information:**

- "Any political subdivision that provides or pays for the costs of collection or disposal of solid waste shall, through a billing or other system, make the prorated share of these costs for each solid waste generator visible and obvious to the generator."

### **D. Supplemental grant:**

- Beginning with grants for 199\_\_, the department shall annually allocate X% of the funds approved under statute \_\_\_\_\_ for supplemental grant under this subsection. A responsible unit is eligible for a supplemental grant if, in at least part of the region, it imposes fees or residential solid waste collection on the basis of the volume of solid waste generated. A department shall base the amount of the supplemental grant on the number of persons within the responsible unit's region who pay volume based fees for residential solid waste

collection.

### ***E. Reporting:***

- Legislation should include elements defining how "meeting the goals" shall be measured; what information will be reported to which agency (and how frequently); whether the information shall be public or private; what information should be reported to the customers; and other items.

**Author comment:** It is useful to provide reporting guidelines to monitor "success" and an essential part of any legislation that provides penalties (or rewards) for meeting "goals" – those goals must be clearly and unambiguously measured.



## IV. SUMMARY AND RECOMMENDATIONS

The legislation implemented and considered by states across the nation take a variety of approaches to variable rates and the role in reducing solid waste generation. Based on an analysis of successful and unsuccessful initiatives, the author suggests the most appropriate state level policy makes regarding variable rates for solid waste may be one that:

- Allows multiple options. Communities could either implement variable rates as a part of an approved menu of items, or elect to design a set of programs and initiatives to meet legislated goals. This allows for local flexibility, recognizes the importance of local conditions, and allows options to reduce regulatory burdens on large and small communities.<sup>10</sup>
- Encourages study of variable rate pricing usability and promotes or mandates implementation of variable rate systems if waste diversion goals are not met. This allows initial flexibility in trying to meet goals, but then stipulates that if “other” solutions aren’t successful, the variable rates strategy will be implemented as a policy / program.
- Makes funds or incentives available for the study or implementation of variable rate pricing.
- Includes small size, lower-cost container (or bag) requirements in the definition of variable rate options. Variable rate programs in which the smallest containers are 60 or 90 gallons undermine many of the inherent benefits from variable rates pricing programs.
- Require clear variable rate signals to be reflected to the customers, both (a) by providing nontrivial differentials in price levels between service levels; (b) by making sure that the billing, price increments, and links to service choices are made clear to customers, and (c) by requiring relatively frequent billing -- monthly or every other month.

In addition, states should recognize that:

- Options provide essential flexibility -- mandating one set of options may be less beneficial and flexible than allowing compliance through either meeting reduction or other goals, or alternatively, by implementing a prescribed menu of activities. This allows creativity for communities that believe they have effective local methods of meeting the ultimate reduction goals, but provides a method for communities that have neither the manpower nor interest in extensive studies to meet the mandates by adopting a prescribed list of options.
- Incentives may be useful in speeding implementation.
- Measurement and data are critical in providing ultimate verification of the approaches and

---

<sup>10</sup> A model for this type of flexibility is provided by the Northwest’s model conservation standards / energy legislation. Buildings can meet the standards either by (1) including a prescribed list of conservation measures and building design standards (a “checklist”) or (2) demonstrating by accepted energy models that the building, as designed, will meet the energy per square foot guidelines required by the legislation. Thus, buildings can use the standard checklist and spend minimal time and money meeting the standards, or alternatively, the standards allow for creativity and flexibility as long as the building meets the conservation goals of the legislation.



validation of the choices.

Ultimately, mandating PAYT / VR may not be the best fit for states – even though it may seem the most progressive. Instead, the methods recommended in this document recognize that one size doesn't necessarily fit all. We recommend a set of policies that allow for local flexibility in meeting goals, and provide incentives for continuing to develop more effective and creative methods for improving the effectiveness and efficiency of the solid waste system.

For more information, contact:

Lisa A. Skumatz, Ph.D.

Principal, Skumatz Economic Research Associates, Inc. (SERA)  
762 Eldorado Drive, Superior, CO 80027

Phone: 303/494-1178 FAX: 303/494-1177

email: skumatz @ serainc.com Web: www. serainc.com OR payt.org

---

***About the Author:** Dr. Skumatz, an economist, is Principal of Skumatz Economic Research Associates, Inc. (SERA). She is especially known for her work in PAYT / VR and in the evaluation of recycling and diversion programs and cost-effectiveness. Dr. Skumatz has helped scores of communities design and implement effective variable rates systems, conduct rate studies, and worked for three years as a rates analyst with the Seattle Solid Waste Utility's variable can program. She has written numerous manuals and articles, and has given workshops across North America on these topics. SERA specializes in the economics of solid waste management, including incentives, revenue options, program evaluation, alternatives to flow control, program and collection "benchmarking", and integrated planning. SERA helps communities design and implement weight- and volume-based rate systems. For more information, contact SERA at 762 Eldorado Drive, Superior, CO, 80027, by phone at 303/494-1178, by fax at 303/494-1177, or by email at skumatz @ serainc.com.*

---

Information in this report may be used with attribution.



## **Attachment A: Oregon State Legislation**

1993-36-501  
Recycling: 459A.010

### **SOLID WASTE RECOVERY GENERALLY (Recycling)**

#### **Excerpts...**

459A.005 opportunity to recycle (1) as used in ORS 459.015, 459.005 to 459A.665 the "opportunity to recycle" means at least that the city, county, or metropolitan service district responsible for solid waste management:

- (a)(A) provides a place for collecting source separated recycled material located either add a disposal site or at another location more convenient to the population being served and, if a city has a population of 4,000 or more, collection at least once a month of source separated recycled material from collection service customers within the city's urban growth boundary or, where applicable, within the urban growth boundary established by a metropolitan service district; or
- (B) provides an alternative method which complies with rules on the commission; and
- (b) complies with the rates and program elements required under ORS 459A.010.

(2) the "opportunity to recycle" defined in subsection (1) of this section also includes a public education and promotion program that:

- (a) gives notice to each person of the opportunity to recycle; and
- (b) encourages source separation of recyclable material (formerly 459.165)

459(A).010 statewide goal; opportunity to recycle program elements; recovery rates. (1) it is the goal of the state of Oregon that by January 1st, 2000, the amount of recovery from the general solid waste stream shall be at least 50 percent.

(2) in addition to the requirements of ORS 459A.005, the "opportunity to recycle" shall include the requirements of subsection (3) of this section using the following program elements:

- (a) provision of at least one durable recycling container to each residential service customer.
- (b) on Route collection at least once each week of source separated recycled material to residential customers, provided on the same daybed solid waste is collected from

each customer.

(c) an expanded education and promotion program conducted to inform citizens all of the manner and benefits of reducing, reusing, and recycling material. The program shall include:

- (A) provision of recycling notification and education packets to all-new residential, commercial, and institutional collection service customers that includes add a minimum the materials collected, but schedule for collection, the way to prepare materials for collection, and the reasons persons should separate their material for recycling;
- (B) provision of quarterly recycling information to residential, commercial, and institutional collection service customers that includes add a minimum the materials collected, but schedule for collection, and at least annually includes additional information including the procedure for preparing materials for collection, and;
- (C) targeting of community and media events to promote recycling.

(d) collection of at least or principal recyclable materials or the number of materials required to be collected under the residential on Route collection program, whichever is less, from each multifamily dwellings complex adding five or more units. The multifamily collection program shall include promotion and education directed to the residents of the multifamily units.

(e) and effective residential yard debris collection and composting program that includes the promotion of home composting of yard debris, and that includes either:

- (A) monthly or more frequent on Route collection of yard debris from residences or production of compost or other marketable products; or
- (B) a system of yard debris collection depots conveniently located and open to the public at least once a week.

(f) regular on site collection of source separated principal recyclable materials from commercial solid waste generators employing 10 or more persons and occupying 1,000 square feet or more in a single location.

(g) expanded depots for recycling of at least all principal recyclable materials and provisions for promotion and education to maximize the use of the depots. The depots shall have regular and convenient hours and shall be open on the weekend days and, when feasible, shall collect additional recycled materials.

(h) solid waste residential collection rates that encourage waste reduction, reuse and recycling through reduced rates for smaller containers, including at least one rate for in container that is 21 gallons or less in size. Based on the average weight of solid waste disposed her container for



containers of different sizes, the rates on a per pound disposed basis shall not decrease with increasing size of containers, nor shall about rates per containers service be less with additional containers serviced.

(3)(a) each city with a population off at least 4000 but not more than 10,000 that is not within a metropolitan service district and any county responsible for the area between us city limits and the urban growth boundary of such city shall implement one of the following:

(A) the program elements set forth in subsection (2) (a), (b), and (c) of this section;

(B) a program that includes at least three elements set forth in subsection (2) of this section; or

(C) an alternative method of achieving recycling rates that complies with rules of the Environmental Quality Commission.

(b) each city that is within a metropolitan service district or that has a population of more than 10,000 and any county responsible for the area within a metropolitan service district or the area between the city limits and the urban growth boundary of such city shall implement one of the following:

(A) program elements set forth under subsection (2) (a), (b), and (c) of this section and one additional elements set forth under subsection (2) of this section;

(B) a program that includes at least five elements set forth under subsection (2) this section; or

(C) an alternative method of achieving recycling rates that complies with the rules on the Environmental Quality Commission.

(4Xa) recovery rates shall be determined by dividing the total weight of the material recovered by the sum of the total weight of the material recovered plus the total weight of solid waste disposed that was generated in each waste shed. It is the policy of the state of origin that recovery of material shall be consistent with a rarity of solid waste management in ORS455.015 (2). Therefore, except as provided in subsection (5) of this section, recovery rates shall include all material collected for recycling, both source separated or sorted from solid waste, including yard debris.

(b) if there is not a viable market for recycling a material under paragraph (a) of this subsection, not composting or burning of the material for energy recovery may be included in the recovery rate for the waste shed. Mixtures of materials that are composting or burned for energy recovery shall not be included in the recovery rate is more than half of the materials by waste could have been recycled if properly source separated. In its annual report to the department, the county or metropolitan service district shall state how much composting or energy recovery under this paragraph is included as recovery and state the basis for the determination that there was not a viable market for recycling the material. As used in this paragraph, "viable market" means a place within a waste shed that will pay for the material or accept the material

free of charge or a place outside a waste shed that will pay a price for the material that, at minimum, covers the cost of transportation of the material.

(c) recovery rates shall not include:

(A) industrial and manufacturing wastes such as box board clippings and metal trim that are recycled before becoming a part of a product that has entered the wholesale or retail market.

(B) metal demolition debris in which arrangements are made to sell or give the material to processors before demolition such that it does not enter the solid waste stream.

(C) discarded vehicles or parts of vehicles that do not routinely enter the solid waste stream.

(D) material recovered for composting or energy recovery from mixed solid waste, except as provided in paragraph (b) all of this subsection and in subsection (5Xa) of this section.

(E) mixed solid waste burned for energy recovery.

(d) " solid waste disposed" shall mean that total weight of solid waste disposed other than the following:

(A) sewage sludge or septic tank and cesspool pumpings;

(B) waste disposed at an industrial waste disposal site;

(C) industrial waste, ash, inner rock, dirt, plaster, asphalt, and similar material if delivered to a municipal solid waste disposal site or demolition disposal site and if a record is capped of such deliveries and submitted as part of the annual report submitted under ORS 459A.050;

(D) waste received at an ash monofill from an energy recovery facility; and

(E) solid waste not generated within this state.

(5Xa) each local government that franchises or licenses the collection of solid waste and establishes low rates to be charged for collection service shall either:

(A) include in those rates all net costs incurred by the franchisee or licensee for providing the " opportunity to recycle" under ORS459A.050 and for implementing the requirements of subsection (3) on this section or

(B) bond implementation of the " opportunity to recycle" under ORS 459A.005 or the requirements of subsection (3) of this section through an alternative source of funding including but not limited to disposal fees.

(b) as used in this subsection, "net costs" includes but is not limited to the reasonable costs for collecting, handling, processing, storing, transporting and delivering recyclable material to market and for providing any required education and promotion or data collection services adjusted by a factor to account for proceeds from the sale of recyclable material.

(6)(a) Clackamas, Multnomah, and Washington Counties, in aggregate, shall achieve a recovery rate of 45 percent for the calendar year 1995. No more than five percent of the recovery level may be achieved by the processing of mixed solid waste compost. If the metropolitan services district does not develop a mixed solid waste composting

process, the recovery rate for Clackamas, Multnomah, and Washington Counties, in aggregate, shall be 40 percent for the calendar year 1995.

(b) the following waste shed shall achieve a recovery rate of 30 percent for the calendar year 1995:

- (A) Benton County;
- (B) Lane County;
- (C) Linn County;
- (D) Marion County;
- (E) Polk County; and
- (F) Yamhill County.

(c) the waste shed's shall achieve a recovery rate of 25 percent for the calendar year 1995:

- (A) Clatsop County;
- (B) Columbia County;
- (C) Deschutes County;
- (D) Douglas County;
- (E) Hood River County;
- (F) Jackson County;
- (G) Josephine County; and
- (H) Wasco County.

(d) the following waste shed's shall achieve a recovery rate of 15 percent for the calendar year 1995:

- (A) Baker County;
- (B) Coos County;
- (C) Creek County;
- (D) Curry County;
- (E) Klamath County;
- (F) Lincoln County;
- (G) Malheur County;
- (H) Tillamook County;
- (I) Umatilla County;
- (J) Union County; and
- (K) The City of Milton-Freewater.

(e) the pollen waste shed's shall achieve a recovery rate of 7 percent for the calendar year 1995:

- (A) Gilliam County;
- (B) Grant County;
- (C) Harney County;
- (D) Jefferson County;
- (E) Lake County;

- (F) Morrow County;
- (G) Sherman County;
- (H) Wallowa County; and
- (I) Wheeler County.

(7) in any waste shed set forth in subsection (6Xb) on this section using, on or before July 1st 1991, and energy recovery facility to dispose of its solid waste, but recovery rates shall be 25 percent until bus solid waste disposed of from within the waste shed exceeds 180,000 times. Any solid waste disposed of by about waste shed in excess of 180,000 tons shall achieve a recovery rate of 30 percent.

(8) if a waste shed fails to achieve the recovery rate set forth in subsection (6) or (7) of this section, any city with a population of more than 4,000 or any County responsible for the area between the city limits and the urban growth boundary of such city shall Institute, not later than July 1st 1996, two additional program elements as set forth in subsection (2) of this section.

(9) in Getting the rates set forth in subsection (6) of this section, commercial, industrial, and demolition, scrap, metal, vehicles, major equipment and home or industrial appliances that are handled or processed or use in manufacturing new products and that do not routinely enter the solid waste stream through land disposal facilities, transfer stations, recycling depots or on Route collection programs shall not be counted as material recovery or recycling. The department shall annually conduct an industry surveyed to determine the confirmation of post consumer residential scrap metal, including home appliances, to recycling and recovery levels in a manner which prevents double counting of material recovered. Information collected under the provisions of this section, as it relates specifically to private sector customer lists or specific amounts and types of materials collected or marketed, shall be maintained as confidential by the department and exempt from disclosure under ORS 192.410 to 192.505. That inmate use and disclose such information in aggregate form. [1991 c335 Section 2 1993 c360 Section 74].

