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CHAPTER 1. INTRODUCTION

1.1 PREFACE

The adoption of new state and federal regulations has caused jurisdictions like Columbia County to develop new approaches for managing solid waste. These regulations resulted in consumers, service providers and local governments reacting responsibly to meet new standards and requirements. These requirements have placed additional financial burden on generators and local governments, to ensure waste reduction, recycling and solid waste services are provided, and to meet environmental compliance standards.

In preparing this Solid Waste Management Plan (SWMP), Columbia County has the opportunity to assess the current system and develop a comprehensive and integrated approach to meet future needs of the County. The plan recommends a direction for providing future services under a coordinated strategy in cooperation with cities, citizens, businesses and service providers.

1.2 PLAN PURPOSE AND GOALS

Solid waste management services and programs for Columbia County need to be consistent with overall policies and values for the community. During the process of developing the SWMP, the SWAC conducted a workshop to develop a set of principals for guiding future solid waste management decisions. Based on input from this work session, the SWAC formulated policies to shape the direction of services provided to citizens. These are the guiding principals that the committee felt to be most important.

- 1. The solid waste system should have flexibility to respond to changes in disposal alternatives, new technologies and new regulations.***
- 2. The system should provide uniform level of services to all constituents as long as it is cost effective to deliver such services, considering the diversity of the county.***
- 3. Rates should be established to encourage participation and utilization of services.***
- 4. Rates should be based on a cost of services and should minimize subsidies by any one user class.***

5. *The system needs to be responsive to illegal dumping and excessive accumulation of waste materials on private sites that might pose environmental or health impacts.*

In addition to these primary principals, the SWAC identified secondary factors that should be considered:

- ***The County should encourage waste reduction and recycling of materials to minimize the cost of disposal and the cost to users.***
- ***The County should utilize the private sector to operate facilities and provide services.***
- ***Funds generated from solid waste services should be dedicated to the greatest extent to administer and manage solid waste programs, including waste reduction/reuse/recycling programs.***
- ***The County should coordinate with local governments to standardize recycling programs and services and to streamline the rate review process.***

The SWMP is designed to set priorities and provide guidance for managing the County's solid waste through Year 2008. These guiding principles provide direction to decision makers for implementing the recommended programs and services. It should be recognized that solid waste practices, regulations and technologies are dynamic in nature and will result in a need to update and revise the SWMP routinely (about every five years).

1.3 COUNTY'S ROLE IN SOLID WASTE PLANNING

The Columbia County Administrator has primary responsibility to administer and enforce the County's solid waste ordinance under supervision of the Board of County Commissioners. Under the current organization, the Department of Land Development Services (DLD) is responsible for planning and managing the solid waste system. Day-to-day functions are carried out by the Administrator and other support staff within the Department. Currently, no dedicated staff are assigned to perform solid waste activities.

The Solid Waste Ordinance declares it to be public policy for the County to regulate solid waste management and to "*develop a regional long-range plan to provide adequate disposal sites and disposal facilities to meet future demand.*" It further stipulates the County to "*Provide a coordinated county-wide solid waste management plan in cooperation with federal, state and local agencies responsible for the prevention, control, or abatement of air, water and ground pollution and prevention of litter.*"

In 1991, to assure that local jurisdictions would manage solid waste in a coordinated manner, the County entered into interlocal agreements with each of the incorporated cities. The interlocal agreement stipulates the County shall have authority to plan for all types of solid waste management subject to certain review procedures. Under this same interlocal agreement the

County must establish a process for setting fee rates for transfer and disposal facilities. The interlocal agreement requires that cities representing at least two-third of the incorporated population shall approve of the SWMP. Each city council should act within 120 days of receipt of the Plan.

1.4 REGULATORY REVIEW

This section describes the federal, state, county and local laws and regulations that govern proper management of solid waste. These laws provide certain standards and guidelines for handling and disposal of waste. The discussion does not include descriptions of all existing laws, but rather provides an overview of relevant elements that affect solid waste management in Columbia County.

1.4.1 Federal Regulation

The Resource Conservation and Recovery Act (RCRA) was enacted by Congress in 1976 to address management of municipal, industrial and commercial waste in an environmentally acceptable manner. In 1984, RCRA was revised to address specific issues with solid and hazardous waste. The amendments broadened the requirements placed on generators and processors of hazardous waste.

On October 9, 1991, the United States Environmental Protection Agency (EPA) promulgated the Solid Waste Disposal Facility Criteria, Final Rule (40 CFR Parts 257 and 258), Subtitle D. Subtitle D is the section of RCRA that has had the greatest impact regarding management of solid waste. The primary goal of Subtitle D is to maximize reuse of recoverable materials, to encourage resource conservation and to require solid waste management practices that are environmentally sound. As such, this section sets forth certain criteria that prescribe the proper location for landfills. It also establishes minimum standards for solid waste landfills that include standards for design and operation, requirements for monitoring groundwater, corrective action procedures and closure and post-closure requirements.

Under this law, Congress assigned primary responsibility for regulating solid waste to state and local governments. In the state of Oregon, the Department of Environmental Quality (DEQ) is responsible for regulating solid waste. States are required to incorporate federal standards into their current state waste permitting programs. The regulations are provided for in subparts A through G. A brief summary of each subpart is provided below.

Subpart A—General: Sets the specific dates and deadlines when landfills must comply with new regulations. Landfills can ask for an exemption based on tonnage, interruption of service, and annual rainfall, if the landfill can meet all three criteria.

Subpart B—Locational Restrictions: Landfills are restricted from being located for the following reasons:

- distance to airports

- fault areas
- floodplains
- seismic impact zones
- wetlands
- unstable areas

Subpart C–Operating Criteria are established for:

- access control
- excluding hazardous waste
- cover material
- run on/run off control
- air criteria
- surface water
- liquid restrictions
- recordkeeping

Subpart D–Design Criteria: Landfills are required to have a composite bottom liner to protect groundwater and a leachate collection system.

Subpart E–Groundwater and Corrective Action: Groundwater monitoring is required during the active life of the landfill and for a period after the landfill closes. A corrective action program is established for landfills that do not comply with compliance standards.

Subpart F–Closure and Post Closure: Closure and post closure plans for landfills are required to specify minimum cover design and actions for post closure care. Landfills that were in operation after October 9, 1991 are required to meet the landfill closure requirements.

Subpart G–Financial Assurance: Owners and operators of landfills are required to prepare cost estimates for closure, post closure and corrective action, as needed. Once these financial requirements have been established, owners/operators must show they have a financial mechanism in place to fund these requirements. By establishing reserve funds, using a surety bond or letter of credit or an alternative financial mechanism, landfill owners/operators will have sufficient funds in place to pay the cost of post- closure maintenance and cleanups as needed.

EPA requires that states adopt appropriate regulations consistent with Subtitle D. Oregon is an approved state, which means it has adopted standards and regulations necessary to implement Subtitle D. Since there were no landfills operating in Columbia County after October 9, 1991, no local facilities are affected by these regulations. However, it is important that the County be satisfied that these standards are being met for any facility accepting waste from Columbia County. Most importantly, the County should be sure that funds are being collected to complete the closure and post-closure requirements of the site. This cost should be included in disposal rates.

1.4.2 State Regulations

The DEQ, pursuant to ORS 459.015, is responsible for assuring effective and environmentally sound solid waste programs are in place. This includes cooperation among local government units and coordination of solid waste programs. A large part of DEQ's role is to provide technical and planning advisory services to local governments. The types of technical assistance include informational materials, workshops and seminars. In addition the DEQ initiates, conducts and supports research, surveys and demonstration projects to encourage resource recovery (ORS 459.015(E)(f)).

DEQ also is responsible for regulatory oversight and enforcement. Numerous regulations dictate the proper management of solid and hazardous waste under ORS Chapter 459. The regulatory authority includes permitting and enforcing rules for disposal and waste handling facilities.

Two Oregon Administrative Rules (OAR) make the permitting of solid waste facilities contingent upon completion of solid waste management plans. The first, OAR 340-60-026, does not allow DEQ to issue a new solid waste permit unless the proposed facility is compatible with the adopted plan. A second rule, OAR 340-91-020, adopted in 1992, states that a waste reduction program approved by DEQ must be in place before a disposal facility is permitted.

The Oregon Revised Statutes (ORS) 459 gives counties the authority to establish a coordinated solid waste program. ORS also gives counties and cities the authority to grant franchises for solid waste collection. Specifically, counties have the authority to:

- Prescribe the quality and character of the solid waste collection service in unincorporated areas.
- Set rates for solid waste collection services.
- Divide the unincorporated portions of the county into service areas, grant franchises for solid waste collection and collect fees from the franchise.
- Prescribe procedures for issuance, renewal, or denial of a solid waste collection franchise.
- Establish an agency to be responsible for investigation and inspections of a solid waste collection franchise.
- License disposal sites as an alternative of service.

The regulations also establish a priority in the methods for managing solid waste. The regulations state the priority management strategy should be:

1. To reduce the amount of waste generated;
2. To reuse material for the purpose for which it was originally intended;
3. To recycle material that cannot be reused;

4. To recover energy from solid waste that cannot be reused or recycled, so long as the energy recovery facility preserves the quality of the air, waste and land resources;
5. To dispose of solid waste that cannot be recovered by landfilling or other method approved by the department.

Columbia County needs to address these basic priorities in its SWMP.

1.4.2.1 The 1991 Recycling Act (SB66)

Oregon's 1991 Recycling Act set a goal for Columbia County to recycle 25% of all waste generated in the County by 1995. The recovery rate is calculated by dividing the total weight of materials recovered and marketed or reused by the total generated (weight of the waste disposed *plus* the weight recovered) for each watershed. Recovery rates account for all source-separated materials, materials recovered from processing facilities, and materials separated and reused. Yard debris that is recovered and converted to mulch, soil additives or compost also is included. Vehicles, parts of vehicles, recovered industrial scrap, and some metals not typically collected at a recycling depot may not be included in these calculations. In 1995, Columbia County recorded a recycling rate of 27%. This rate fell to 22% in 1996, due in part to 5,000 tons of flood debris and in part to lower reported tonnage recovered.

SB66 expanded the Opportunity to Recycle Act of 1983, which required monthly residential curbside collection of recyclable materials in cities over 4,000 population. SB66 sets forth a statewide goal of 50% recovery of materials by the year 2000. To reach this goal, the Act identifies specific program choices to be implemented by each community. The program choices were provided so that each community can meet specific goals. Depending on their population, jurisdictions can develop their own programs as an alternative to selecting from DEQ's list of standard elements. Selected programs need to be coordinated and developed into a strategy to meet the goals.

SB66 requires local communities to implement a specified number of program elements listed in the rules. The list of program elements include:

- a. Curbside containers for all residential customers;
- b. Weekly collection of recyclables on the same day as garbage pickup;
- c. Expanded promotion and education program;
- d. Multifamily recycling service for all complexes of five or more units;
- e. Yard debris recycling program (home composting, monthly curbside collection or a collection depot for every 25,000 population);
- f. Commercial recycling program for businesses with ten or more employees;

- g. Expanded recycling depot opportunity;
- h. Rate incentives for residential recycling.

Communities with a population between 4,000 and 10,000 must implement items a, b, and c from the list or select any three program elements from this list; or an alternative method approved by DEQ. Communities with greater than 10,000 population must implement a, b and c from the list and one additional element, or implement five elements from the list, or an alternative method approved by DEQ.

In Columbia County, the cities of St. Helens and Scappoose have more than 4,000 residents. However, the City of St. Helens is growing rapidly and will be expected to increase the number of program elements when it exceeds 10,000 (estimated to occur before 2010). These requirements also apply to unincorporated areas around Scappoose and St. Helens. With the County's current recycling rate below the stated goal, this plan provides an opportunity to evaluate which new programs are needed and feasible. In addition, the SWMP provides an opportunity for Columbia County to set its own goals relevant to the solid waste management approach that is implemented.

1.4.2.2 HB3456

In 1997, the State Legislature enacted a new law that adds several requirements and modifications for waste reduction and recycling. This law and its expected impacts are described in detail in Chapter 4. It offers counties the opportunity to gain 2 percent recovery rate credit for each of three public education efforts, regarding waste prevention, reuse and composting. HB3456 also requires public contracts for demolition and landscape maintenance to include recovery where feasible and cost effective. Finally, HB3456 requires new multifamily and commercial buildings to provide space and access for recycling storage and collection.

1.4.2.3 Statewide Planning Goals

The state-wide planning goals includes conditions for integrating solid waste management with local land use plans. Two goals adopted by the Land Conservation and Development Commission (LCDL) specifically address solid waste issues. Goal 6 deals with the quality of air, water, and land resources. Goal 11 addresses public facilities and services.

The parts of these goals that mention solid waste issues are presented below.

Goal 6-Quality of Air, Water and Land Resources

"To maintain and improve the quality of the air, water and land resources of the state."

- All waste and process discharges (including solid waste) from existing and future developments shall not violate applicable state or federal environmental quality statutes, rules and standards.

- Local comprehensive plans should designate alternative areas suitable for use in controlling pollution, including but not limited to wastewater treatment plants, solid waste disposal sites and sludge disposal sites.
- A management program that details the respective implementation roles and responsibilities for carrying out this goal should be established in the comprehensive plan.

Goal 11-Public Facilities and Services

"To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."

- A provision for key facilities shall be included in each comprehensive plan. To meet current and long-range needs, a provision for solid waste disposal sites, including sites for inert waste, shall be included in each plan.
- Plan should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

1.4.2.4 State of Oregon Solid Waste Management Plan

As required by ORS 459A.020, DEQ is required to develop a statewide integrated solid waste management plan. In 1994, DEQ completed a SWMP to provide guidance for managing waste during the next ten years. This plan will be reviewed every two years and updated regularly to account for new information and management practices.

1.5 PLAN ORGANIZATION

This plan is organized to provide the reader with a background and information base prior to considering alternatives and making specific recommendations for solid waste management programs. It represents a progressive building-block approach for understanding issues and evaluating alternatives that meet established goals. This introductory chapter provides information as to the primary purpose of the SWMP. It presents overriding goals and policies that constitute the driving forces behind the management recommendations.

Chapter 2, Background and Waste Stream Analysis, describes characteristics of the county and its existing solid waste system. It includes detailed discussion of the composition of solid waste in Columbia County and other waste stream information.

The remaining chapters address various components of the solid waste system including: waste reduction and recycling; materials processing and recovery; collection, transfer and disposal; special waste management; and administration and enforcement. Each component addressed in these chapters is presented in terms of the following elements:

- Describe existing conditions
- Identify needs and opportunities to be addressed
- Discuss and evaluate alternatives to address specific issues
- Make recommendations for implementation

A summary of the recommendations is provided along with a schedule for implementation.

2006 Update:

In February of 2004, Columbia County hired the first Solid Waste Administrator for the county. That same month the county hired a design and construction team to begin work on the new Columbia County Transfer Station and Recycling Center. The facility was designed to maximize recycling and recovery potentials within the county. The facility includes a Household Hazardous Waste intake and storage facility that was partially funded by a grant from the Oregon Department of Environmental Quality. Construction of the Columbia County Transfer Station was completed in February of 2006. Through a competitive Request for Proposal process Waste Management of Oregon was awarded the operations contract and began operations in February of 2006. The first Household Hazardous Waste Event was held in July of 2006.

Although there have been some legislative and regulatory changes related to the management of solid waste, many of these changes have been focused on waste reduction and sustainability.

CHAPTER 2. BACKGROUND AND WASTE STREAM ANALYSIS

2.1 INTRODUCTION

This chapter describes the physical, economic and demographic characteristics of Columbia County. It presents a background discussion of the existing solid waste system including recycling programs, collection services and transfer and disposal sites. The chapter presents an analysis of existing waste stream characteristics and waste stream projections.

2.2 CHARACTERIZATION OF COLUMBIA COUNTY

Columbia County is located in the northwest corner of Oregon on the Columbia River. It consists of 687 square miles, with much of the County located in the foothills of the coastal mountain range. The county is bordered entirely on the east and north sides by the Columbia River. Neighboring counties include Washington and Multnomah to the south and Clatsop to the west. Across the river in the state of Washington is Cowitz County to the north and Clark County to the east.

The County has a population of 40,100 based on 1996 data. About 50% of the population lives in the unincorporated county, with the remaining 50% residing in seven cities. Most of the urbanized area is along the U.S. Route 30 corridor, with a significant concentration of population, about 60%, in the Scappoose and St. Helens areas. The cities range in population from 60 in Prescott to 8,300 in St. Helens.

The County has experienced a population growth rate of 6.8% since 1990. The average growth rate throughout the state during this period was almost 12%. Most of Columbia County's growth has occurred in its cities. This is attributed in part to people who commute to work outside the county. About 37% of the county's work force commute more than 30 minutes one way to work, the highest proportion in the state. In-county employment is distributed among manufacturing (24.8%), wholesale/retail (21.5%), government (20.6%) and agricultural.

It is expected that Columbia County will continue to grow 17% to 47,120 by the year 2010—a growth rate of 1.13% per year, which is consistent with the past 6 years. The number of households was 15,462 in 1995 and is expected to increase to 16,660 by 2010. **Table 2-1** shows Columbia County population projections for the next 20 years, based on projections developed by the Center for Population Studies at Portland State University.

Table 2-1 Columbia County Population Projections through Year 2020

Table 2.2 shows populations projections for incorporated cities in the County.

Table 2-2 City Population Projections through Year 2020

The economy of Columbia County revolves around timber and agricultural resources supporting the production of crops, cattle and lumber. About 75% of the land is zoned exclusive forest use (EFU) and 18% is zoned for agriculture. Timber production is down 24.5% since 1988, but this is less than half of the decline experienced statewide (51.6%). The per capita income is \$14,244. It is expected to grow by 8% to \$15,383.

Major industries include Boise Cascade Paper Mill; Armstrong World Industries, makers of ceiling tiles; and Coastal Chemicals, a nitrogen fertilizer plant. Businesses in Columbia County employ an average of 20 persons or less per company. As stated previously, a large portion of the work force, estimated to be as high as 60%, is employed outside the County.

The primary transportation route in Columbia County is U.S. Highway 30, which parallels the Columbia River and runs north from Multnomah County to Astoria. Seven of the eight incorporated cities are located on U.S. 30. Only the City of Vernonia is located in the south-central portion of the County, on State Route 47, which runs north from Washington County,

through Mist and on to Clatskanie, near the Columbia River. East to west transportation is limited due to the mountainous terrain. Only two minor arterials connect U.S. 30 to S.R. 47. Both of these roads are winding and hilly. The Longview Bridge from Rainier to Longview-Kelso is the only access to the state of Washington. **(See Figure 2-1: Map of Columbia County)**

The Columbia River is a major international waterway into the Ports of Portland and Vancouver. Large ocean-going vessels and barges are common as well as boats for fishing and other recreational activities. Columbia County has played an important role in transporting goods on the Columbia River. The Port of St. Helens operates terminals in multiple locations along the river, and river access is quite good.

The Burlington Northern Railroad runs parallel to the Columbia River. It carries goods from port towns along the Columbia to interior destinations. It also connects to major distribution centers and other rail carriers in Portland. Transportation of goods and services is quite accessible for any mode of transportation because of the County's location.

2.3 DESCRIPTION OF THE SOLID WASTE SYSTEM

The solid waste system in Columbia County consists of waste reduction and collection of refuse and recycling and transfer of waste to a landfill. All waste is delivered to two transfer stations that haul waste to a disposal site outside the county. Recycling and garbage collection services are provided by private companies and are regulated by the County and cities. Following is a summary of the current solid waste system.

2.3.1 Waste Reduction

The County has taken a lead role in implementing waste reduction programs. Waste reduction activities include educational presentations, special events and publication of promotional materials. This includes publication of brochures and other literature instructing people on methods to reduce waste. Until July 1997, a monthly newsletter was produced and distributed countywide. These publications enhance public awareness of methods for reducing waste.

One key program is education presentations to civic organizations and schools. In past years, the County's Solid Waste Planner attended various classrooms to instruct school kids about managing solid waste and ways to reduce waste. Educational curricula was made available for teachers to use on an as needed basis. The county also has used public service announcements on radio and in newspapers.

The County also receives grant monies to support certain waste reduction programs. Recently, DEQ purchased a dishwasher for the St. Helens School District, allowing it to discontinue purchasing plastic utensils and paper plates. By using permanent silverware and dishware the school district was able to reduce costs for its school lunch program.

Cities also play a role in educating the public on ways to reduce waste. They assist in distributing information and coordinating with County efforts. Due to budget cuts, the County

no longer provides these services.

2.3.2 Current Recycling Services

The County and service providers have implemented various programs that resulted, according to DEQ, in a 1995 recycling rate of more than 25% of the waste stream. However, DEQ calculated the County's 1996 rate at less than 25%. Recycling services include drop off centers and curbside collection programs. The level of services vary depending on the size of the community and its proximity to markets.

Collection of source-separated materials at the curb is provided once per month in four cities, Clatskanie, Rainier, Scappoose and St. Helens. In St. Helens the hauler picks up different materials including cardboard, glass, tinned cans and newspaper. The materials are processed at the storage yard of Hudson Garbage Service. In the remaining cities the franchised hauler picks up newspaper, glass, tinned cans and cardboard and is responsible for transporting materials to markets.

Figure 2-1 Map of Columbia County

Throughout the County there are six locations where people can drop off recyclable materials. This includes a drop-off facility located at the St. Helens Transfer Station. These drop-off centers receive a variety of materials and are serviced by local franchised haulers. Civic organizations also operate drop-off programs to collect newspapers.

At this time there is no central processing facility for preparing materials for markets. As a result, franchised haulers who collect source-separated materials and who service drop off-centers are responsible for transporting materials to markets. Most of these markets are in Portland. Larger companies such as Boise Cascade separate recyclables, principally cardboard, and ship the material to markets in Portland and Longview. (See **Figure 2-2: Solid Waste Management Material Flow.**)

2.3.3 Refuse Collection

Five private collection companies are franchised to provide garbage service in the county. Each company has a distinct area to provide basic services. In each of these franchised territories the company collects garbage for both the cities and the unincorporated areas. However, the cities have their own franchise agreements. Therefore, each city can prescribe the level of services they desire for their community. (See **Figure 6-1: Columbia County Collection Franchise Areas in Chapter 6.**)

The private refuse companies have a franchise agreement to provide collection services for a period of ten years. The County undertakes a review of collection rates (service fees) on an as-needed basis, to determine if the costs of services are reasonable and that the collection companies' profit levels are not excessive. In 1997, the County will complete a review of the rate-setting process.

The County has four drop box service areas. Columbia County Drop Box Company has a ten-year franchise, effective May 1, 1989 and expiring May 30, 1999, to collect in the Scappoose and St. Helens area. In each of the other service areas, the franchised hauler responsible for collection provides drop box services.

2.3.2 St. Helens Transfer Station

The Columbia County Transfer Station is located in St. Helens. The facility is owned and operated by Columbia County Transfer Station, Inc. under a 10- year franchise agreement with the County. The franchise term began in March 1990. The transfer station is designed to serve the entire county.

Figure 2-2 Solid Waste Management Material Flow

Collection companies can bring waste to the transfer station where it is reloaded into larger trailers for long haul to the Riverbend Landfill in Yamhill County. The facility accepts waste delivered by residents who elect to self haul their solid waste. The transfer station does not accept hazardous materials but does take some nonhazardous industrial waste.

The facility also serves as a recycling drop-off center for various customers. Self-haulers may bring source-separated recyclable materials to the facility and place them in bins set out for that purpose. Source-separated materials collected from curbside programs also are brought to the station. These materials are then prepared and sent to markets.

Columbia County Ordinance No. 89-8 requires that all waste collected within the county be disposed of at a site authorized by the Board. At this time the St. Helens transfer station is the designated facility to accept all waste. All waste is delivered to the facility with the exception of garbage collected in the Vernonia area. This area is served by the Vernonia Transfer Station. Because of its proximity to Washington County, waste collected at the Vernonia Transfer Station is taken to the Forest Grove Transfer Station. This appears to save the system costs by reducing transportation cost, since all of this waste eventually is taken to the Riverbend Landfill in Yamhill County.

2.3.3 Solid Waste Disposal

No landfills currently operate in Columbia County. All waste is taken to Yamhill County and disposed of at the Riverbend Landfill, which is owned and operated by USA Waste of Houston, Texas. The County signed a 15-year agreement that expires June 11, 2005. Under this agreement the County must deliver a minimum of 15,000 tons of waste per year for 15 years. The County can vary its annual delivery amount by not more than 10% or less than 5% without written notice to the landfill. With notice the amount of waste can be increased or decreased by 20% for a given year. The current fee is \$27 per ton.

2.4 WASTE STREAM ANALYSIS

This section presents a summary of waste stream generation and composition in Columbia County. It also forecasts future disposal and potential recycling levels. Columbia County waste disposal trends and corresponding population data have been used to produce a 20-year solid waste forecast (1997 to 2017). These forecasts are used to estimate recycling tonnages needed to meet Columbia County recycling goals. The analysis in this section provides a basis for determining solid waste handling needs for the next 20 years.

2.4.1 Definitions

For purposes of this analysis, the total discard stream is defined as tons of solid waste disposed and recycled in Columbia County. Total discards also are referred to as total waste generated.

Most types of solid waste discards are landfilled, while other discards are recycled or disposed of in sites designated for a specific type of special waste.

Municipal solid waste (MSW) is the largest component in the Columbia County waste stream. In Columbia County most MSW is delivered to the St. Helens Transfer Station by collection companies or self-hauling residents and businesses. Most of this MSW is landfilled at Riverbend Landfill. Some wastes are delivered to transfer stations in Forest Grove and Astoria.

Special wastes includes industrial waste, wood, debris from construction and demolition, hazardous waste, infectious wastes, sludges and septic tank pumpings, and tires.

Recycled discards typically include various grades of paper (corrugated cardboard, newspaper, high-grade office paper, low-grade mixed paper, magazines); metals; glass containers; plastic packaging; yard debris and woody wastes; used oil; tires; and lead acid batteries.

Each waste category has its own characteristics and handling requirements.

This section discusses the entire waste stream in further detail, including data on recycled and recyclable discard quantities. Chapter 3 assesses opportunities for waste reduction and recycling. Chapter 9 of the SWMP covers special waste streams in more detail.

2.4.2 Waste Stream Composition

Waste stream composition describes quantities of materials disposed, including recyclable commodities. In 1995, the Oregon Department of Environmental Quality (DEQ) analyzed local waste streams throughout the state, taking some 20 samples in Columbia County. DEQ used samples from a range of locales to develop waste characterizations for wastesheds with varying urban/rural mixes. DEQ advises that Columbia County use the waste stream characterization for counties required to recycle 25 percent of their waste streams.

Table 2-3, *Columbia County 1996 Tons Disposed and Recycled*, includes:

- DEQ waste composition percentages for 25 percent wastesheds;
- Estimated tons disposed in Columbia County, based on 20,000 tons reported (normalized from the higher, flood-affected disposal);
- Pounds per capita (person) disposed in 1996, based on 40,100 residents;
- Tons of each material recycled, based on Columbia County 1996 reports to DEQ;
- Percent of each material recycled, derived by dividing tons recycled by the sum of estimated disposed and recycled tons for that material;
- Pounds per capita recycled in Oregon and Columbia County.

First quarter of 1996 disposed tonnages in the County were 48% higher than the year before, due to flood debris.

As can be seen from the table, the largest components of Columbia County's waste stream are, in order:

Other Organics	41%
Total Paper	29%
Other Inorganics	11%
Metals	9%
Plastics	8%
Glass	3%

Table 2-3 also shows that Columbia County recovers 55% of its cardboard, 47% of its newspaper and wood, and 99% of its tires; 58% of its glass containers and 90% of its aluminum beverage cans (due to the deposit return system); but almost none of its yard debris; only 22% of all metals; 29% of all paper; and 3% of all plastics.

2.4.3 Availability of Recyclable Materials

Sources and quantities of recovered material help identify opportunities to increase recovery.

Table 2-3 shows that Columbia County recycles greater percentages of some materials (cardboard, newspaper, tires) than others (high-grade office paper, rigid plastic containers, yard debris).

Based on these data, Columbia County residents recovered 312 pounds per person in 1996 compared with an average 842 pounds per person for Oregon residents as a whole. Some differences may be due to service availability; some to lack of awareness; and some to structural conditions such as the high incidence of backyard burning and the high percentage of workers who commute outside the county.

Table 2-3 Columbia County 1995 Tons Disposed and Recycled

It is possible that the rural character of Columbia County eliminates both the opportunity and cost benefits of collecting and processing yard debris. However, the cost of disposing recyclable items has to be compared with the cost of keeping them out of the landfill and, in some cases, realizing sales revenues and public sector procurement savings (e.g., fill, mulch).

Not all disposed materials could have been collected for recycling or sorted from dry waste and recycled. Quantities of newspaper and cardboard, for example, are contaminated even before being disposed and therefore are not "available" for recycling.

2.4.4 Failure to Meet 25% Goal in 1996

In October 1997, DEQ released data on 1996 recovery levels in Columbia County. **Table 2-4, Comparison of 1995 and 1996 Recovered Tonnages**, shows that total tons recycled fell from 6,937 in 1995 to 6,258 in 1996—a drop of 679 tons, or 10 percent. This decline put Columbia County out of compliance with its 25 percent recovery goal. In 1995, DEQ credited Columbia County with 27 percent recovery. In 1996, Columbia County achieved 21.7 percent recovery. Consequences of noncompliance typically include requirements for addition of two new services, such as weekly curbside recycling collection, commercial, multifamily and/or yard debris collection programs.

The largest declines from 1995 to 1996 were for newspaper (down 262 tons, or 36 percent); metal scrap (down 162 tons, or 26 percent, including a 56 percent decline for tinned cans, or 45 tons); glass containers (down 56 tons, or 11 percent); plastic (down 61 tons, or 55 percent); and tires (down 472 tons, or 70 percent). Increases were recorded for cardboard, high-grade (office) paper, magazines and animal waste/grease. Wood recovery fell 61 tons, or 3 percent. All paper, including grades cited above, lost a total of 64 tons, or 3 percent.

Not all reasons for the declining recovery are known. Some changes are due to improved control of double-counting by DEQ (e.g., twice counting the same material reported sold by a collection company to a handler and then reported sold by that handler to an end market). 1995 recovery for tires was atypically high in all Oregon counties, due to allocation of clean-up tonnages from Les Schwab's central facility. DEQ rechecked its Columbia County reporting sources and found less 1996 tonnage from one local buyer and one collection company. In addition, flood debris greatly increased disposal tonnages for 1996, thereby boosting the discard denominator and reducing percent recovered. Significant declines in tons of low-value/high-cost cans, glass, plastic and mixed paper may be linked to the lack of incentive for collection companies to recover and market these items.

Table 2-4 Comparison of 1995 and 1996 Recovered Tonnages

2.4.5 Waste Stream Projections through Year 2020

Table 2-5, Columbia County Disposed Municipal Solid Waste, presents estimated disposal tonnage through the year 2020, based on population trends and projections and per capita discards. The table's assumptions produce:

- low disposal estimate of 23,980 tons in 2020 (low population increase, per capita disposal remaining at 1,000 pounds/year), resulting in an increase of about 3,930 tons disposed annually over the next 22 years;
- medium projection of 27,738 tons in 2020 (medium population increase, per capita disposal increases 2 percent each five years), producing a 7,700 ton increase annually by 2020; and
- high disposal estimate of 33,718 tons (high population growth, 5 percent increase in per capita disposal each 5 years), generating 13,668 more tons of trash in the year 2020 than in 1996.

Local and world economics will interact with local and world recycling and waste reduction developments to create actual disposal tonnages.

Table 2-5 Columbia County Disposed Municipal Solid Waste

2.2 Characterization of Columbia County

2006 Update. The 2005 Oregon Population Report estimates Columbia County's population at 46,220. This population estimate is 900 citizens short of the Drennan/Waste Matters 1997 population estimate for 2010. The county has grown by approximately 13% since the 1997 Solid Waste Management Plan. St Helens, the largest incorporated city in the county has a 2005 estimated population of 11,795. The Drennan/Waste Matters 2020 population estimate for St Helens is 11,420. At a growth rate of 1.5% the city of St Helens should have a population of or about 14,448 by 2020. However with the increased sprawl in the Metro region a more realistic growth trend is the approximate 3.4% per year already experienced in the last 9 years. At this growth rate St Helens will realize a population of approximately 19,468 in 2020. This is two times the estimate included in the 1998 Columbia County Solid Waste Management Plan. The city of St Helens has issued a correction to the PSU Population estimates. The correction memo dated January 31, 2006 gives the corrected 2005 population of St Helens at 11,795. Included in this memo is a city population estimate of 18,403 in 2025.

2.3 Description of the Solid Waste System

Columbia County continues to haul its solid waste out of the county to the Riverbend landfill in Yamhill county. In February of 2006 Columbia County's Land Development Services completed construction on the new Columbia County Transfer and Recycling center located at 1601 Railroad Avenue in St Helens. The 6.32 acre facility includes a 12,500 square foot tipping floor, a Household Hazardous Waste intake facility, a maintenance and truck wash bay and dual scales for both inbound and outbound traffic. This facility is owned by the county and is operated by a contract with Waste Management of Oregon.

2.3.1 Waste Reduction

According to the Oregon Department of Environmental Quality the per capita waste generation for Oregonians increased by 6.47% from 2003 to 2004. However during the same period of time Columbia County's per capita waste generation decreased by 6.69%. Without collection of proper research data there is no definitive way of knowing the influence on the decrease of per capita generation. However this decrease may be attributed to stronger public education programs, economic factors or a host of other influences.

In 2005 St. Helens High School became the first Oregon Green School in the county. The Oregon Green School program focuses on educating students on the importance of waste reduction and energy conservation programs. This program is also designed to increase the student's awareness of their impact on the eco-system and the environment in which they live.

To date, St Helen and Scappoose High Schools have implemented recycling, recovery and waste audit programs in the schools. In addition to the solid waste and recycling issues, the program also focuses on energy conservation and sustainability issues.

2.3.2 Current Recycling Services

Curbside recycling services were made available to Clatskanie and unincorporated county residents serviced by Clatskanie Sanitary and Hudson Environmental services.. In addition Scappoose residents saw curbside recycling program enhancement in the form of yard debris curbside pickup. Additional curbside programs are being explored and considered for Vernonia and other unincorporated county areas.

The new Columbia County Transfer Station offers a new convenient recycling depot for the collection of mixed papers, 1-7 plastic containers, scrap metal, mixed glass, oil, antifreeze, latex paint, cardboard, and various other items.

CHAPTER 3. WASTE REDUCTION AND REUSE

3.1 INTRODUCTION

Waste reduction and reuse are placed ahead of recycling in Oregon state and U.S. federal hierarchies for managing solid waste (*reduce, reuse, recycle, compost, energy recovery, landfill*). Preventing waste is preferable to special, additional handling of discarded (recycled and disposed) products and packages. By decreasing the volume of discards, waste reduction practices decrease costs and environmental impacts of collection, processing, shipping, disposal and remanufacturing. Increasing the lifetime of products they use helps agencies and individuals cut purchase costs for equipment and supplies.

All elements of the hierarchy belong in Columbia County's solid waste management system, but waste reduction requires fewer capital, material, labor and management resources than the others.

This chapter describes current waste reduction and reuse efforts in Columbia County and comparable communities; outlines needs and issues; evaluates alternative options; and recommends programs, policies and implementation strategies to accomplish waste reduction and reuse.

The primary objective of waste reduction is to reduce per capita waste generation. The key method of waste reduction is to educate people about ways and reasons to decrease discards. Waste reduction programs aim at changing personal and institutional habits related to purchase, use and manufacture. Six common types of waste reduction are:

1. Use less material to make products and packages.
Examples: lighter weight containers; two-sided copying
2. Increase product durability (lifetime).
Examples: washable dishes rather than disposables; make/buy repairable products
3. Reuse and repair products.
Examples: waste exchanges, tool sharing, resale stores, repair shops
4. Buy products and packages that generate less waste.
Examples: Buy in bulk, buy recyclable packages, avoid overpackaging
5. Reduce toxicity in products.
Examples: replace toxic cleaners, solvents,
6. Dispose less.
Examples: leave grass clippings on lawn, home-compost organic waste

Although Columbia County governments, residents and businesses do not make manufacturing decisions, they can make choices that reward waste-reducing products and services. Therefore,

education and promotion efforts are needed to make people aware of the benefits of reducing waste.

3.2 EXISTING WASTE REDUCTION & REUSE PRACTICES

3.2.1 Public Education and Information Programs

County Newsletter. In the past, Columbia County published and distributed a monthly newsletter, *Solid Waste & Recycling News*, that included occasional items about waste reduction. Some issues provided alternatives to more toxic household chemicals for cleaning; and an article on home composting. The County distributed these newsletters primarily through public offices, libraries, schools, and a few interested civic groups and churches. This newsletter—essentially the only source of waste reduction information in Columbia County—was produced by a staff person within the Department of Land Development Services. This staff position—the Solid Waste Management Coordinator—was eliminated from the County's 1997-98 budget.

Cities. None of the cities has a position responsible for education and promotion of waste reduction/reuse. No city has a budget or plan to produce or distribute waste reduction information.

Policy. Neither Columbia County nor any of its cities has adopted a policy, ordinance or directive supporting waste reduction.

Haulers. Haulers do not educate residents about waste reduction when they inform them about recycling programs, as they are required to do four times each year by State law.

Private sector. There is no concerted effort, public or private, to inform Columbia County businesses of waste reduction benefits and methods.

State. DEQ develops educational materials on waste reduction, but local agencies must request and distribute them.

Media. Waste reduction and reuse get occasional coverage on regional (Portland, southern Washington) media, including radio, television and newspapers—but seldom if ever in local media.

3.2.2 School Education and Curricula

Children tend to bring home knowledge and values learned at school, including waste reduction and reuse. Several elementary and intermediate schools in Columbia County use resource conservation elements in their curricula, but most schools have not added this type of instruction.

Previously, the County's Solid Waste Coordinator spent about 20 percent of his time making

presentations to school groups and guiding field trips—although most of these activities related to recycling more than waste reduction and reuse. Only five of the County's schools—all in St. Helens and Scappoose—availed themselves of these services. The Solid Waste Coordinator had developed and distributed information sheets on a variety of resource conservation subjects to all school principals and school districts. Their actual use is unknown.

Columbia County schools do not send teachers to DEQ-run inservice program on resource conservation curricula. The County Solid Waste Coordinator provided DEQ curriculum materials in response to about 15 teacher requests each year.

3.2.3 Waste Minimization for Columbia County Departments

Columbia County has no policy or directive to reduce the volume of waste in its own offices through reuse, repair or purchasing practices. Budget considerations and good management principles may result in decisions that prolong the useful life of equipment and prevent waste of supplies. But these measures are not routinely documented and shared with other managers. There is no system in place to reduce wasteful practices. There is no policy requiring departments to buy reusable, recyclable or repairable products and supplies. Purchasing staff are not instructed to buy recycled-content paper, oil or other products.

3.2.4 Rate Incentives

Each ton of waste that is not generated saves Columbia County ratepayers almost \$62. Many communities throughout the U.S. use refuse collection charges as an incentive for waste reduction. Charging customers on the basis of container size, number and setout frequency can encourage customers to adopt better conservation strategies, such as recycling and waste reduction. Columbia County's five franchised haulers all offer a good variety of volume-based rates, in which additional cans cost *almost* as much as the first ones—but they still cost less, which does not create incentive. Average cost for weekly collection of one 32-gallon residential can is \$15.06 per month, increasing to \$24.73 for two cans per week. Biweekly and on-call service are available at an average \$10.21 per month.

None of Columbia County's rate systems offer the "minican". In several Oregon cities, a 20-gallon can saves the homeowner \$3 to \$5 per month over the standard 32-gallon can (and more compared with 40- and 60-gallon rollcarts). These savings can induce more thorough waste reduction and recycling. People who have an opportunity to save on garbage costs have less reason to object to increased service fees for adding mixed waste paper, plastics or other materials to their curbside recycling program.

3.2.5 Private Waste Reduction/Reuse Activities

Private sector businesses and nonprofit agencies in Columbia County provide a variety of waste reduction/reuse services, including:

- bike, car and appliance repair shops;
- resale shops and collection (e.g., St. Vincent de Paul, Goodwill Industries drop-boxes and trucks at local supermarkets, plus other church and charitable groups);
- garage sales and flea markets;
- equipment and furniture rental stores and cooperatives;
- bulk food sections at some stores, which minimizes packaging—although care must be taken not to overbuy and create food spoilage;
- cleaning products available in concentrated form (just add water and reuse the container you already have).

There are no tire retreading or diaper/linen services in Columbia County, and most of the above operations are concentrated in the Scappoose/St. Helens area. North County residents and businesses may have readier access to Astoria (Clatsop County) or Longview, WA. The Vernonia area may look to similar options in Beaverton/Hillsboro (Washington County).

There has been little publicity, encouragement or recognition offered these entities for their significant contributions to waste reduction and cost savings. Some transfer stations and recycling drop-off centers around the Northwest and U.S. post a list of places to bring or find used items. Some depots set aside an area for the public to bring and find them.

3.2.6 Disposal Bans

Columbia County prohibits disposal of certain items, such as tires and appliances, lead acid batteries and certain toxics. Transfer stations in some counties accept and handle these items. Recovery systems for these products include battery exchange at the point of purchase, acceptance of tires for a fee, repair and salvage operations for appliances, and DEQ-sponsored special collection events for toxics and tires. The frequency, location and convenience of these events, and the level of publicity attending them, could be improved to prevent illegal and improper disposal of these items.

3.3 NEEDS AND ISSUES

Columbia County needs a consistent, integrated approach to make people aware of how and why to reduce waste. This section describes means and reasons to accomplish these types of behavior changes.

The primary waste reduction needs in Columbia County are for education, policy adoption, top level management support and improved procurement practices.

Overcoming institutional (public and private) resistance, indifference and lack of information constitute the main challenges. Meeting these challenges requires leadership in asking for change and proof that the changes work. It is important for the County itself to set specific internal goals and objectives and to measure progress to ensure its efforts are effective.

Legal requirements and opportunities. As stated above, Oregon law (Oregon Revised Statutes 459 and ORS 459A) holds waste reduction and reuse to be the top priorities in solid waste management. These statutes require local governments to provide waste reduction education programs. Collection companies are required to inform all customers of available waste reduction and recycling services—including commercial accounts. Interpretation and performance of these laws can vary, but the County and city governments can convey expectations, form agreements and monitor collection company compliance. All counties are required to set new recovery goals in 1997, for attainment by year 2005—and waste reduction can bring down the disposed tonnage denominator.

Education. There is a need for stronger commitment and persistence in educating and promoting waste reduction activities. The need for leadership in this effort could be filled by the County and/or its public agencies including cities and schools. Residents, businesses and institutions need to hear more about methods and benefits of waste reduction; and about businesses and nonprofit services that enhance repair, reuse and sharing. The public sector needs to enlist the cooperation of private associations and enterprises.

Reuse opportunities. The County needs more opportunities for salvage. Cities and the County should look at franchise and rate agreements with the transfer station operator and collection companies. The transfer station could meet the need for a central area where people can leave and take repairable and reusable items—if it is determined that this service would not harm existing charitable and business reuse activities. Collection companies could distribute information to business and residential customers and could accept repairable/reusable items at seasonal clean-up events.

Funding. Waste reduction and reuse programs need to be accomplished with minimal staff time and expenditures—preferably within current budgets. But these efforts aren't without cost. The County and cities need a consistent, sufficient funding mechanism to support waste reduction promotion efforts.

Measurement. Monitoring program effectiveness weeds out less successful tactics and confirms the ones that work. It can be difficult to verify large-scale impacts of waste reduction programs, because the County waste stream fluctuates constantly in response to economic conditions, employment mix, even weather. However, before-and-after assessments of public behavior, awareness, targeted generator costs and waste streams will demonstrate improvements over time due to waste reduction efforts.

3.4 ALTERNATIVES AND EVALUATION

ORS 459 requires that counties and cities establish programs to educate and promote waste reduction. This section describes and evaluates options for meeting this requirement.

In evaluating waste reduction and reuse program options, this plan considers the following criteria:

- 1. Cost effectiveness.** This criterion includes waste reduction effectiveness (quantities) and efficiency (short- and long-term costs). Costs considered in relation to waste reduction are capital, operating and administration; purchase and disposal savings, if any; and impact on public and private systems, including solid waste.
- 2. Waste reduction effectiveness.** How much material will be kept out of the waste stream? How convenient and readily understood is the method?
- 3. Technical effectiveness.** Is the program proven to be practical, reliable and sustainable? Can it be accomplished with available personnel and equipment and with minimal impact on existing systems? Is it adaptable to changing conditions?
- 4. Institutional barriers.** Even if a program is technically feasible and achieves high levels of waste reduction or recycling at low cost, it may not be implemented readily due to local institutional and/or political barriers. Factors to be considered include consistency with state and local laws, plans, policies and ordinances; effect on business and solid waste operations (collection, transfer, disposal, agreements); and lack of authority or top level support to implement a program.
- 5. Ease of implementation.** Can the program be implemented quickly, or in phases? Will it be acceptable to the public and private sectors and to key individuals within agency departments?

The consultant team and SWAC rated the options described below for each of the above five criteria. Program managers may wish to do their own assessment in choosing implementation strategies. Each subsection below identifies priorities among options within the category, based not only on ratings but on knowledge and experience of option effectiveness in similar communities and systems. Section 3.5 recommends overall priorities and strategies for implementation.

3.4.1 General Public Education

In the past, Columbia County relied primarily upon its newsletter to provide the public with occasional information on waste reduction and reuse. That newsletter has not been published in recent months. The newsletter in any case did not reach a large number of citizens or businesses and offered only limited waste reduction information. Individual businesses and households may have adopted certain practices due to the efforts of a few employees or managers, but there currently is no consistent, widespread promotion of a waste reduction ethic or specific methods in Columbia County.

Waste reduction relies primarily on educating people to change their behaviors. Education tells them how and why—what to do and what good it does. Saving money may mean more to one person, saving resources may provide the incentive for someone else. Working with other groups for a common aim may motivate others. Education cannot reach everyone, but it gives means and opportunity to many.

Program Options

- **Create and publicize a resolution at the Board of Commissioners level**, and obtain endorsements from cities, businesses, associations, school boards and other key stakeholders. The resolution should state the importance of stopping waste before it starts; the need to conserve resources including money; and the commitment to establish effective practices and provide information on what works.
- **Resume publishing regular waste reduction and reuse information in a revived newsletter**. County staff would write, produce and distribute this newsletter.
- **Publish information sheets targeted to specific subjects** (e.g., toxics, home composting, collection events). County staff would write and produce these promotion/education pieces and ensure their distribution through haulers, transfer station, water bills, postal service, and local newspapers.
- **Write and/or get newspapers to write articles targeted to specific subjects**. Ask local newspapers to do a series. Considerable information is available through Metro Information Center and DEQ.
- **Distribute and broadcast videos** that can be found through DEQ, Metro, and other regional groups. Local students or video specialists could be induced to produce work on the subject. Ask local cable stations to help.
- **Research and write about alternatives to household hazardous materials**. Include copies of articles with water or garbage bills.
- **Develop and present (or find uncopyrighted) educational materials** for fairs and community events. Many excellent brochures and flyers exist.
- **Post repair and resale shop information prominently** at transfer station and in well-frequented areas such as shopping centers, library and public buildings. Include information about agencies that accept donated goods for charitable purposes.
- **Encourage residents and institutions to leave grass clippings on their lawns and to compost nonputrescible (nonmeat) organics** including food.
- **Seek coverage of notable and creative Columbia County efforts in the most widely**

distributed media (*Oregonian*, radio, television). These media do not often focus on Columbia County, but they have regional editions.

- **Ask local papers to donate ad space and local agencies to create ads.** It is too expensive otherwise.
- **Explore participation in DEQ's Resource Efficient Community Program.** This program enlists local agencies and businesses to reduce waste of energy, water and commodity resources.

Metro and DEQ have libraries with uncopyrighted free materials in print and video. The Master Recyclers, Association of Oregon Recyclers, *Resource Recycling* Magazine in Portland, and local colleges and universities have considerable resources on the subject and often can provide volunteer help. Portland State University's Recycling Education Projects has a library of promotional and educational materials.

Evaluation and Strategy

Columbia County could achieve long-term improvements in waste reduction and reuse by developing a clear, consistent message and by improving the distribution of that message. The County should pursue a strategy of piggy-backing onto existing communication routes, including newspapers; collection company promotion/education required under State law and paid for through service fee rates; newspapers; transfer station handouts; and school and government publications. This strategy will allow wider distribution of information at lower cost to the County. The primary County expense would be for staff time to research and prepare materials and arrange to place them. (See Section 3.4.3 for similar strategies related to businesses.)

The following options offer the highest likelihood of cost-effectiveness and successful implementation:

- Promote repair, reuse and resale information. (2% recovery rate credit)
- Create and publicize a resolution by the Board of County Commissioners.
- Encourage home-composting. (2% recovery rate credit)
- Promote alternatives and proper disposal for household hazardous materials.
- Provide educational materials at fairs and community events.
- Publicize successful local waste-reduction efforts.
- Seek coverage by local electronic and print media.
- Acquire information already developed by Metro, DEQ and others.

All options received SWAC ratings indicating strong value, but several may involve greater cost or institutional difficulties. For example, publishing a newsletter and targeted information sheets *for the general public* probably would require more staff time and expense than the top priority activities. The same applies to asking local papers to donate ad space. However, targeting local businesses with information received a high priority.

3.4.2 Expand School Programs

Columbia County school districts, principals and teachers have not generally adopted waste reduction as part of their academic strategy. The subject of resource conservation gives schools vast opportunities to engage students in writing practice, research, mathematics, science, public policy studies, history and world events, debate activities, and many versatile project assignments. Resource conservation offers a powerful lens on many disciplines. It is a current, popular subject with great potential for creating involvement.

Getting kids involved is a superb way to get families involved. It also creates positive habits, choices and understanding in the next generation of citizens. Resources are becoming less, not more, plentiful. World, national and local decisions in the next 30 years will turn more and more on resource issues. It is important to begin creating awareness of what our actions cost and what effect they have.

Waste reduction and reuse programs should be examined in the light of facts and reason, not religious conviction. Programs need be considered as strategies that in some cases do and in other cases do not achieve their intended purposes. The popularity of resource conservation stems in part from its message of individual responsibility and contribution, but also because it offers opportunities for cooperative achievement.

The following options, inclusively or in part, could help develop and expand school instruction in these subjects:

1. **The County**, which used to donate 10-20 percent FTE of its Solid Waste Coordinator's time to schools, could restore its commitment—on a limited project basis—to help school districts enhance instruction in the subject.
2. **Schools** could send teachers to Teacher Training sessions provided by DEQ, usually on-site at the schools. Schools could send teachers to the Association of Oregon Recyclers spring conference, which is geared in large part for teacher training. Schools also could take advantage of curricula, education materials, and presentations available through DEQ and Metro.
3. **Cities** could take the lead in urging and helping local schools to increase their resource-oriented and waste reduction instruction.
4. **Collection companies** have helped conduct field trips and speak to classes. They could be called on to do so again.
5. **Challenge grants** could be used to encourage school waste reduction projects. The County receives \$15,000 annually from reduced disposal fees at Riverbend Landfill. These funds have been used in the past to promote recycling and waste reduction.

6. All the above, with County stimulation and leadership. Probably the most successful approach will involve contributions and leadership by all sectors. The County could dedicate a set amount of hours as a project for one of its planners to coordinate increased awareness and commitment in school districts and cities. The County could help develop partnership among school districts to acquire curriculum materials and make administrators and individual teachers aware of resources, presentations and teacher training available from DEQ, Metro and other agencies. Portland State University's Recycling Education Project also has an extensive library of books, videos, periodicals, studies and worksheets.

Evaluation and strategy

Somebody has to take leadership. If the County hires a part-time recycling coordinator, as recommended in Chapter 10, this coordinator could undertake a brief, well-defined project to enlist the cooperation of school districts, collection companies and cities, and to identify and provide informational resources. As noted in Section 3.5, however, although school education is an important long-term investment and an effective way to reach homes, it is not the highest priority for immediate County action or investment.

3.4.3 Focus on Business and Industry

Commercial and industrial waste makes up more than half of local waste streams in Oregon, according to DEQ studies. These businesses depend on cost containment to sustain their enterprises and build their profits. Recycling and waste reduction can strengthen their economic performance and contribute to meeting state-mandated county recovery goals.

The sections on General Public Information (3.4.1) and Waste Minimization for Government (3.4.5) contain many techniques for reaching the private sector. Counties and cities can ensure private sector access to the following additional methods to improve waste reduction:

Program Options

- **Offer seminars** run by DEQ, Master Recyclers, and business associations.
- **Publish information sheets targeted to specific types of businesses.** County staff and volunteers can research and write about waste reduction/reuse subjects targeted to offices, retail, restaurant, hospitality, manufacturing. These articles can be distributed widely and directly, through business associations and local publications. Alternative distribution routes for these promotion/education pieces include haulers, transfer station, water bills, and postal service. Many good articles already exist, reducing the need to create them anew.
- **Write and/or get newspapers to write articles targeted to specific subjects.** Ask local newspapers to do a series. Considerable information is available through Metro Information Center and DEQ.

- **Place articles** in newsletters put out by Chamber of Commerce, fellowship groups and other business associations—including regular publications by some of the larger individual companies. The County and/or cities need to provide information and ask that these subjects be covered.
- **Onsite waste audits** show businesses what they throw away and how to do less of it, and how to save by reducing waste. County, city and volunteer staffs, as well as student interns, can help make businesses more aware of opportunities by helping them look at their own discards. Assessment forms exist that can be copied without new development costs.
- **Ask them.** Accompany the County resolution described in Subsection 3.4.1 with a request that all business and industry help reduce waste. Get publicity for this BOCC request.
- **Help them.** Provide information on techniques and results. Brief checklists work better than lots of prose. These checklists are available through Metro commercial recycling project reports and from local consultants.
- **Recognize Green companies.** Create awards and public recognition events for successful practices and practitioners. Get media coverage. Honor individual and institutional efforts to keep materials out of the landfill. "Best new idea," "Largest disposal savings," and similar annual awards can make others aware of waste reduction techniques and benefits.
- **Inform them about potential cost savings.** Businesses are more likely to reduce waste and recycle when they are informed of their opportunities to use smaller containers and/or less frequent collection. This is not an easy message for collection companies to convey, since it costs them money. Collection companies are in the business of picking up discards and putting them down. They share the ethic that abhors waste; but they have little economic incentive to reduce the number, size and frequency of containers they collect. Neither should they—or any other business—be expected to do much that is not compensated in some way.
- **Clarify and enforce franchise requirements.** Cities and the County may need to form and enforce franchise agreements that require haulers to distribute information to businesses about cost-saving waste reduction methods. No service level requirements now exist; franchise agreements include boundaries and fees only. Providing information to commercial as well as residential customers is part of State law, and ensuring that this is done is a local government obligation. State law also requires haulers to charge the same total fee for collecting the same quantity of discards, whether collected as refuse alone or as refuse and recycling.

Evaluation and strategy

Providing information directly to the responsible authority at each business is the best route to changing business waste reduction practices. As in reaching the general public, it likely is cheaper and more effective to use existing communication routes than to initiate an expensive mail-out—or a poorly distributed County newsletter. However, the County could expect good results from distributing information sheets targeted to specific practices, based on published materials already available in this region. The following County actions would likely be most cost effective:

Place articles in local newspapers and company or association newsletters.

Ask businesses to do it, through brochures and a County resolution.

Require collection companies to inform customers of potential savings.

Provide technical assistance, through seminars, waste audits and fact sheets.

Tell them the potential benefits, for society and for their own disposal costs.

Recognize successful efforts with awards and articles.

3.4.4 Rate Incentives

Weight Based Rates. Many people in the solid waste industry have reasoned that weight-based rates would be an equitable and appropriate way to charge people for their disposal. These (in theory) highly specific, behavior-based charges should create strong incentives and give generators information they need to reduce or recycle more material. However, the technology is not yet proven, despite claims by many scale manufacturers and the relative satisfaction of a few collection companies. Weighing garbage on an occasional basis can be useful to haulers in evaluating customer service decisions; and to rate regulators in establishing cost of service and level of compensation. But as a daily practice aimed at billing customers, weight-based equipment and systems tend to be unreliable, expensive, high maintenance, vulnerable to breakdown and fraud, and time-consuming. At this point it is not recommended. Weight-based rates fail the test of technical effectiveness.

Volume Based Rates. As stated in Subsection 3.2.4, Columbia County haulers offer a range of rates based on collection frequency and container number and size. The minican option is missing from Columbia County's rate system and could be offered, along with an explanation how using a smaller can requires waste reduction and recycling. Increased second-can costs could be managed and promoted in a way that encourages waste reduction and recycling—particularly if the increase were coordinated County-wide and the money went to a fund to increase waste reduction/recycling programs.

Surcharge. Efforts to make garbage service mandatory or universal usually run into political problems—although full utilization can reduce illegal dumping and improve unit costs. Some municipalities include a surcharge on all water bills to create a fund for increasing educational and recycling programs. This "backdoor mandatory service" recognizes the universal social responsibility for handling and reducing waste. And if people know they are paying for services, they are likelier to use them. Tillamook County, for example, charges \$1 per month to all

citizens on their water bills, whether they take garbage service or not. Most local governments use all or part of the garbage collection and/or franchise/disposal fees for waste reduction programs; typically those funds are dedicated to such programs by law.

Evaluation and strategy

The evaluation rules out weight-based rates until technology becomes more reliable. Universal surcharges also have problems: they would have to be applied through property taxes, and probably would be institutionally and politically difficult to establish. Volume-based incentive rates were evaluated highly, because they have been effective elsewhere and can be established by city and County fiat (service level agreement); some haulers object that 20-gallon containers do not fit well with semi-automated collection, but in fact there are rollcart inserts that can be used. Service level agreements in the local franchises can require collection companies to offer the minican rate.

3.4.5 Government Waste Minimization

Many states, counties and cities in the U.S. have established policies that encourage purchase of products that contribute to waste reduction/reuse and recovery goals. Columbia County can set an example for other public agencies and private enterprises by doing these things, and by sharing information about what worked.

Throughout Oregon and the U.S., public agencies and businesses successfully use the following options to reduce waste and costs of disposal and purchase:

Reuse:

- Reuse file folders—label them with pencil, turn inside out, or cover old labels with new ones.
- Check county and state surplus before buying new equipment or supplies.
- Promptly notify state, county, city and school General Services Property Manager about surplus items that other departments/agencies could use.
- Save and reuse paper printed on one side for notepads, route slips, new drafts (e.g., obsolete or outdated letterhead, old drafts).
- Save styrofoam and bubble wrap packaging for future use; or donate to package express operations.
- Use refillable carbon cartridges for copiers and printers.

- Use washable, durable mugs for coffee, etc.–not disposable cups.
- Identify and promote resale, repair and waste exchange options.
- Salvage construction and demolition materials; compost trimmings from parks.
- Establish a central location for reading newspapers and periodicals to decrease the need for individual subscriptions; reroute periodicals of interest.

Reduce:

- Require two-sided copying whenever possible; purchase copiers that can do two-sided copying conveniently and automatically.
- Send memos by e-mail or interoffice network.
- Schedule and perform routine maintenance of equipment to prolong life.
- Where practical, share equipment between departments—possibly by having a central holding area to maximize use and minimize redundancy.
- Minimize use of tape and adhesive labels that make materials less recyclable/reusable.

Procurement:

County policy, promotion and internal monitoring can ensure that each department reviews its procurement specifications and practices to ensure purchase of the following:

- Packaging materials that can be reused, refilled or recycled.
- Surplus equipment and supplies.
- Durable, repairable equipment.
- Durable supplies (e.g., cloth toweling, long-life bulbs)
- Rechargeable printer toner cartridges and batteries.
- Equipment that enables waste reduction, such as copiers that do two sides.
- Supplies that have recycled content and are recyclable/reusable (paper, rerefined oil,

park structures, furniture, recycling and garbage containers, printer toner cartridges, desktop items, toilet stall dividers, bulletin boards, carpeting, insulation, fences, pallets, rulers, tires).

- Supplies that minimize packaging by coming in concentrated or bulk form (e.g., toilet paper in large rolls, detergents).
- Supplies that minimize toxicity by replacing harsh cleaners and solvents with substances less damaging to the environment.

Evaluation and strategy

The net effect of the above measures will be to reduce unnecessary and harmful waste and to reduce County disposal and purchasing costs. It could raise public approval. Most of these measures can be implemented quickly and cost-effectively, instead of practicing more costly business-as-usual. The County can lead the way in the community by giving directives to its managers and by documenting and publicizing its successes to other public and private entities. Failures and problems need to be noted as well. The County's strategy would include BOC resolution; providing information to managers and staff in each department; and requiring managers in each department to instruct staff to identify and pursue opportunities for waste reduction and to report positive actions as well as obstacles.

Policy. The County should lead by example and send the message that it reduces waste. The County BOC can establish a waste minimization policy, for the system as a whole and for its own departments. In any organization, direction and support come from the top. If you don't ask, you don't get.

Administration. Each department should be enlisted to look upon these changes as a positive experiment calling for open, honest communication. Interdepartmental task forces can take on elements of the effort. Successes and good suggestions should be acknowledged and rewarded.

Practice. The wise tendency in management is not to fix what isn't broke. Experienced purchasing agents are in place in many departments, and so are long-established procurement specifications, contracts, relationships and practices. Habits can be difficult to change, and efforts to change them may seem disruptive or fruitless at first. A strategy of proven effectiveness is to challenge departments to set and achieve waste reduction goals, including identifying specific opportunities, methods and results. Measurable results could include, for example: cost of paper and other supplies; cost of disposal; miles driven; cost of new equipment and furniture purchases; reuse actions; new procurement language specifying recycled/recyclable content. Use the budget process to ensure policies are met: require managers to demonstrate the necessity to buy virgin/new product if recycled/reused is available.

3.4.6 Disposal Bans

As outlined in Subsection 3.2.7, Columbia County prohibits disposal of tires, unprocessed appliances, lead acid batteries and toxics. Recovery systems for these products include battery exchange at the point of purchase, tire and general cleanup events, and DEQ-sponsored household hazardous facilities in Portland, which are available to Columbia County residents. Many of these options are not widely promoted or known in Columbia County. Some local governments around the U.S. have banned disposal of yard debris, corrugated cardboard and other materials that have healthy local recycling markets. Banning disposal of certain materials can increase their recovery and reuse. However, such measures also can increase illegal dumping. If an item is banned from the solid waste system, other facilities and services must be designated for convenient, inexpensive collection.

Evaluation and strategy

Disposal bans are within the purview of the County, but given the illegal dumping problem, lack of support among key stakeholders including the cities, and limited recycling opportunities, this option is not advised. The County should continue its bans on problematic and damaging wastes (tires, batteries, appliances, moderate and high-risk hazardous) and increase recovery opportunities. Regular community clean-up events are needed, including opportunities for people to bring in tires and household hazardous waste. The frequency, location and convenience of these collection events, and the level of publicity attending them, need to be improved to prevent illegal and improper disposal of these items. Chapter 9 recommends an in-county household hazardous waste collection facility.

3.4.7 Packaging Bans and Surcharges

A few states and fewer counties and cities have enacted laws to reduce packaging waste, with measures ranging from bottle bills to recycling mandates to bans of nonrecyclable packaging. The success of bottle bills in keeping containers out of the waste stream and off the roadsides is well known, and statewide recycling goals have spurred industry investments in recycling. However, local initiatives have questionable impact and can be difficult and costly to enforce, as well as to defend in court. For example:

- Portland, Oregon, banned polystyrene take-out containers from stores doing a high level of take-out business; the replacement containers (coated paper cups and boxes, double paper cups) are not recyclable and have not decreased waste.
- The Minneapolis Area Council of Governments banned certain plastic packages in the 1980s, but found it difficult to define terms, gain cooperation, prove benefits, enforce restrictions or handle litigation. The public objected to losing certain product options. That ordinance goes unenforced.
- Florida established an advance disposal fee (ADF) that in essence placed a tax on all containers sold with product in them. The fee was intended to help pay for disposal and recycling programs, and to encourage waste reduction. It proved unwieldy, ineffective and subject to dispute. This law has been sunsetted.

Evaluation and strategy

Packaging bans and taxes can incur long and expensive court battles that would not be justifiable for local taxpayers or in terms of local benefits. Enforcement and collection impose costs and require structures that do not exist in Columbia County. This plan does not advise Columbia County to undertake any product or packaging bans or surcharges.

3.4.8 County and City Coordination

Many of the programs described above will yield best results if they are implemented in a coordinated manner by cities and the County. Cities and the County can accomplish more if they share information, policy and costs. Cooperative agreements could take the following forms:

Public Education. These materials can be centrally prepared and jointly funded, improving cost-effectiveness. The more local governments are involved, the better information will be distributed and used.

Policy. Coordination in crafting policies and joint endorsement will ensure broader acceptance and implementation. It gets better news coverage, too.

School programs. Schools are more likely to respond to local government and citizen initiatives than to general County pronouncements.

Public sector waste minimization. Sharing information and even risk (you do this one, we'll do that one) can increase the number of changes made successfully. It can increase interest and resources as well.

Rate incentives. Coordinated information and process can improve rate equitability. All jurisdictions should be aware of useful terms and data.

Commercial initiatives. More jurisdictions involved in sharing information from different parts of the County will increase publicity and participation.

All programs outlined in this chapter can be piggybacked with information about recycling programs.

Evaluation and strategy

Unified action and knowledge among the cities will help accomplish County objectives. Cities should be asked in a timely manner to include in their own service level agreements any elements instituted by the County regarding collection company provision of promotion/education. Cities and the County both should ensure that their departments, contractors and franchisees comply with State laws SB66 and HB3456. City councils should be

asked to endorse BOCC waste reduction policy. Finally, if the cities and County combine staff efforts, information and finances, all jurisdictions are more likely to achieve successful, efficient compliance.

3.5.RECOMMENDATIONS

In order to meet state mandates for County recovery goals, public education and to emphasize waste reduction as a priority, it is recommended that the County and cities implement the following programs for waste reduction:

Recommendation 3-1. Develop and distribute educational and promotional materials about waste-reducing products and purchasing behaviors, and about their environmental and economic benefits. County staff should provide resources and coordination to accomplish these objectives. Activities include:

- **Create and publicize a resolution by the Board of County Commissioners**, endorsed by city councils if possible, that urges all citizens and businesses to consider ways to reduce waste. Tell people the benefits and offer fact sheets available at libraries, County and city offices and in newspapers.
- **Ensure collection companies provide information** four times yearly to all customers, as required by law, with increased focus on waste reduction and improved distribution to commercial sector.
- **Increase media coverage**, including TV and radio, spurred by the news hook of continuing developments in the County, cities and commercial sector; and by requests for coverage and use of informational materials.
- **Develop targeted fact sheets related to hazardous waste reduction, home composting, and other waste reduction methods.** Obtain existing information materials and promotional ideas from regional resources.
- **In conjunction with collection companies, present informational materials at fairs and community events;**
- **Post repair/rental/resale information** prominently and widely, including at the transfer station, and promote them in brochures produced by haulers, businesses and government.

Recommendation 3-2. Help businesses reduce their waste.

- **Provide informational materials** to the right persons in each business.
- **Help businesses do waste audits and develop waste reduction plans.**
- **Ask them to do it**, as an official resolution of County and cities, and by requiring haulers to tell them how and why in brochures.
- **Recognize their efforts** and successes through public commendation.
- **Make sure they understand how they can save** by reducing collection frequency and volume, and by increasing product life. Require haulers to inform customers of potential savings.
- **Ensure through rates** that waste reduction is rewarded.
- **Place articles in local newspapers and company or association newsletters.**
- **Offer seminars** with the help of regional experts and associations.

Recommendation 3-3. Promote and educate home composting.

- **Encourage residents and businesses not to dispose of grass clippings.**
- **Encourage home composting** of nonmeat organics.
- **Acquire and distribute information** on how and why to home compost.

Recommendation 3-4. Create government policy and directives to minimize waste.

- **Provide information to all departments** on how this can be done.
- **Have all departments set goals and methods** for reducing waste.
- **Establish interdepartmental task forces.**
- **Measure and recognize successes and acknowledge problems;** measures to include actions, products, costs, dollar and disposal savings.
- **Review procurement policies and practices;** change as needed.
- **Provide seminars and informational materials** on what worked and what didn't; recipients to include other local governments, public agencies, businesses and business associations, and the media.
- **Seek interlocal coordination** for waste reduction practices.

Recommendation 3-5. Encourage and support school use of resource conservation curricula.

- **Provide County staff assistance** in making presentations, guiding field trips, and acquiring curriculum materials.
- **Enlist cities and civic groups** to request schools offer these studies.
- **Support school efforts with curricula and teacher training sessions** from DEQ, Metro and other regional educational agencies.
- **Provide schools a list of information and educational resources** beyond those available from local government.
- **Increase the number of schools involved.**
- **Provide challenge grants** for waste prevention projects at school and in the community.

Recommendation 3-6. Develop and promote rate incentives.

- **Ensure that all collectors offer volume and frequency based incentives** to reduce waste.
- **Require collectors to notify all customers of volume-based incentives.**
- **Establish and promote a minican rate.**
- **Ensure availability of rollcart inserts,** if collectors require it.

Recommendation 3-7. Develop alternative funding sources

- **Dedicate franchise and tonnage fees** to solid waste programs.
- **Enlist cities and other public agencies** in providing program funding.
- **Seek grants, donations and in-kind support** from public/private agencies.

3.6.IMPLEMENTATION

The implementation plan at the end of Chapter 4, Recycling Collection and Education, presents estimated staffing and scheduling requirements for both waste reduction and recycling efforts. The FTE (full-time equivalent) hours shown at the end of Chapter 4 are intended to provide County response to all waste reduction and recycling recommendations over a two-year period. County commitment would be reviewed in the second year in light of current and achieved objectives. The key purpose of County effort would be to complete tasks and projects and to create new resources and practices, not to create a continuing obligation of staff hours.

CHAPTER 4. RECYCLING COLLECTION & EDUCATION

4.1 INTRODUCTION

Recycling programs divert waste materials so they can be reprocessed and used instead of virgin commodities as feedstock for manufacturing. Examples of commonly recycled materials include office paper, newspaper, mixed waste paper, corrugated cardboard, glass containers, tinned steel cans, aluminum and other metals, plastic bottles, and motor oil. Mills and factories make new paper, containers, rerefined oil and a variety of items used in everything from automobiles to videotape cassettes.

Recycling is third priority in the hierarchy of solid waste management options for Oregon, coming after reduction and reuse but before composting, energy recovery and landfilling. The rationale for this placement is that recycling uses more physical and financial resources than the priorities before it but saves more resources than the ones that follow it. Recycling conserves natural resources, reduces energy used in manufacturing, prevents environmental damage due to extraction processes, extends the life of landfill space, and decreases long-term costs of municipal solid waste disposal.

Recycling also confers benefits on the community by creating jobs and tax revenues; by providing a social common ground; and by educating people to take responsibility for how their actions affect future conditions.

Oregon law (ORS 459 and 459A) sets a percentage recovery goal specific to each county (or other designated watershed) and requires all counties to ensure provision of services to achieve that level of diversion from the waste stream. Columbia County is required to meet a 25% recovery goal by 1995 and to set a new goal by July 1998 that will help Oregon meet its 50% statewide goal by the Year 2005 .

Oregon law provides a menu of services that cities with more than 4,000 residents must choose among and implement and that counties must ensure are provided in urban growth areas. Oregon counties and cities are responsible for ensuring compliance with state solid waste management law, including recovery goal attainment.

Some programs in Oregon utilize source-separated materials such as tires and clean wood debris as an energy fuel source. In calculating annual recovery rates, DEQ allows energy recovery derived from *source-separated materials only* to be included in recovered tonnage totals. Land application of mulched and composted, source-separated organic materials (food, grass, yard trimmings) also counts toward recovery rates. Energy recovery from burning municipal solid waste is not allowed in resource recovery rates.

Columbia County currently complies with most Oregon law and DEQ regulations, providing services as required in local cities and urban growth areas. However, DEQ found that the County failed to meet its 25 percent recovery goal in 1996, after exceeding the target in 1995. Part of the problem involved 1996 flood debris that drove up disposal tonnage; however,

recycled tonnage also fell in 1996.

Pending further discussions with the County, DEQ may require the County and its cities to provide two additional services from a menu (see following pages). In addition, Columbia County needs to consider the following issues:

- a new recovery goal must be set and attained;
- population growth and new legislation will require additional services in the near future;
- more than half of recyclable paper in the County goes unrecovered, along with 90 percent of metal;
- net system savings may be possible through increased recovery of wood, yard debris, and construction/demolition wastes;
- some sections of the County have limited recycling opportunity; and
- participation in recycling appears to be improvable for the residential, commercial and multifamily sectors.

This chapter describes current recycling and recovery efforts in Columbia County; outlines needs and issues; evaluates alternative options; and recommends programs, policies and implementation strategies to accomplish recycling in the County through the year 2018.

Recycling involves well-established collection and handling approaches and offers clear-cut opportunities for measurement. Costs are an important consideration, since the separation, processing, marketing and shipping of secondary materials requires vehicles, equipment, facilities, labor and other operating expenses. Like waste reduction, recycling relies on public education and promotion to ensure that people participate, prepare materials properly, and capture a large proportion of their waste for recycling.

4.2 REGULATORY REQUIREMENTS

This subsection presents recycling program requirements for Columbia County under Oregon state law and briefly outlines the County's compliance.

1. Set a new recovery goal by July 1, 1998 that is at least equal to but preferably higher than the 1995 rate achieved by the County, in order to help Oregon meet its statewide goal of 50% recovery by Year 2005.

- *Columbia County's recovery fell to 22% in 1996, which will require the County and obligated Cities to provide additional programs.*
- *Columbia County reached 27% recovery in 1995 and so must set its goal at 27% or above.*
- *DEQ may request that the County set a higher goal in order to attain the State 50% goal by Year 2005.*
- *Efforts to increase system utilization and tonnage throughput for revenue purposes could degrade the current recovery rate—further increasing the tons needed to meet the recovery goal.*

$$\text{Recovery Rate} = \frac{\text{Weight of Material Recovered}}{\text{Weight Recovered} + \text{Weight Disposed}}$$

2. Plan, coordinate and ensure provision of the following Waste Reduction and Recycling services, for qualifying cities and their urban growth areas.

A. Provide, at minimum, monthly curbside recycling of at least four primary recyclable materials in all cities with more than 4,000 population and their urban growth areas, on the same day solid waste is collected.

- *St. Helens (8,300 residents) and Scappoose (4,130) are the only such cities in Columbia, and their haulers comply. They collect newspaper, cardboard, tin cans and glass on route. Columbia City also provides monthly curbside recycling services.*
- *The County's agreements with its franchised collection companies ensures that they offer the same recycling services in St. Helens and Scappoose urban growth boundaries.*
- *Clatskanie and Columbia City, despite having under 2,000 residents, also have monthly residential recycling collection of four materials.*

B. Minimum of three services from the following menu (● indicates option chosen by obligated cities of St. Helens and Scappoose, and complied with by Columbia County):

● **Education/promotion materials** must be provided to all new residential, commercial and institutional customers; and to all existing customers at least four times each year; explaining at a minimum the materials collected for recycling, schedule for collection, how to prepare materials; plus how to reduce and reuse; and, at least yearly: Why—the needs and benefits of reducing, reusing and recycling. Community and media events must be targeted to promote recycling.

- *Haulers have been given the responsibility of informing residents quarterly and yearly. They agreed to do this with billing inserts and flyers. However, Cities and County do not monitor their compliance.*
- *Compliance for notifying new customers is not known.*
- *Haulers state that they do not provide the requisite information to most businesses.*
- *In the past, County staff presented information at schools and sometimes at fairs and other events. Current County staff do not have these services in their work plan.*

● **Durable recycling bins (at least one)** provided to qualifying city and urban growth residences.

- *County and Haulers provide bins in Scappoose and St. Helens areas.*

● **Expanded depots for recycling at least all principal recyclable materials**, plus promotion and education to maximize use of the depots. The depots must have regular and convenient hours and be open on weekend days.

- *It appears that Scappoose is out of compliance with this requirement, due to lack of a multimaterial recycling depot.*
- *Depots in St. Helens at the Transfer Station and the Hudson yard comply.*
- *The City of Vernonia leases land to its collection company, which is used for a transfer station and multimaterial recycling depot.*
- *Churches and other community groups operate several small depots for collection of newspaper in cities along the Highway 30 corridor.*
- *Promotion and education efforts consisted in the past primarily of County-produced and distributed brochures. Updating, reprinting and distributing those brochures is not now assigned.*

Because the watershed failed to achieve its required recovery rate in 1996, cities over 4,000 (Scappoose and St. Helens) plus the County within urban growth boundaries of those cities must implement two additional recycling program elements from the menu.

Additional services required for failure to meet recovery goal

Menu options not among currently chosen City/County programs include:

Multifamily recycling program: Collect at least four principle recyclable materials from each multifamily dwelling complex having five or more units. This program must include promotion and education directed to the residents of each multifamily dwelling unit.

Commercial and institutional recycling collection, including regular onsite collection of source-separated principal recyclable materials from solid waste generators employing 10 or more persons and occupying 1,000 square feet or more in a single location. The definition of commercial and institutional solid waste generators means stores, offices (including manufacturing and industry offices), restaurants, warehouses, schools, colleges, universities, hospitals and other nonmanufacturing entities, but does not include other manufacturing entities, or business activities in residential dwellings.

Residential yard debris collection/composting program, that includes promotion of home-composting of yard debris; plus either monthly or more frequent on-route collection of yard debris from residences for production of compost or other marketable products; or a system of yard debris collection depots conveniently located and open to the public at least once a week.

More frequent (weekly) residential recycling collection in Scappoose and St. Helens and their urban growth boundaries.

Solid waste residential collection rates 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 for containers of different sizes, the rate on a per pound basis shall not decrease with increasing sizes of containers, nor shall the rates per container service be less with additional containers serviced.

Additional service required for cities above 10,000 residents

Growing population will place new requirements on Columbia County in the next few years:

St. Helens population. When St. Helens reaches 10,000 residents—likely in next ten years—it will have to choose one more recycling option from the menu (e.g., commercial, yard debris) **plus** weekly residential collection (or some combination of five options approved by DEQ). At that time, the County will need to ensure the same service to St. Helens urban growth areas.

1997 legislation adds requirements, opportunities

The 1997 Oregon State Legislature passed HB3456, which adds several new requirements, refinements and opportunities, including:

A. Every public contract for demolition shall require the contractor to salvage or recycle construction and demolition debris *if feasible and cost-effective*.

Every public contract for lawn and landscape maintenance shall require composting or mulching of yard waste material at an approved site, *if feasible and cost effective*. These requirements will affect proposal requests, service contracts and compliance monitoring for County, city, school and Port.

B. New Construction. Each new multifamily residential dwelling with more than 10 individual residential units shall include adequate space and access for collection of containers for solid waste and recyclable materials. The same applies to each commercial building and each industrial and institutional building. Plans have to include space/access, the County has to require it, and must include it in permit review.

C. Each watershed can gain a 2% credit on its recovery rate for implementing primarily promotion/education for each of the following:

Waste prevention: promotion/education plus two of the following: 2% less annual per capita waste generation; media campaign; school programs; household hazardous waste prevention education; government or business and institution self-assessments and documented actions; material-specific waste prevention campaign for businesses.

Reuse: promotion/education on opportunities; and two of following: Construction/demolition salvage depots; promote local resale businesses; promote businesses that take back and refurbish white goods; develop and promote waste exchange programs; transfer station site accommodation for recovery of reusable materials; sidewalk pickup and community fair.

Composting: promotion, public demonstration; plus two of following: urge residents to leave grass clippings on lawn; local school composting; increase availability of compost bins for

residents [e.g., for sale]; or other program that increases household ability to manage yard trimmings or food waste.

The three programs under item C, above, can add as much as 6 percent to Columbia County's recovery rate, essentially for a few consistently provided promotion/education efforts using current activities such as mailers, events, newsletters, cable TV appearances plus a household hazardous plan/facility. Addition of services at the transfer station or other depot may be needed to meet composting requirements.

4.3 EXISTING RECYCLING & RECOVERY PRACTICES

4.3.1 Materials Recovered/Recycled

Compliance. The State requires Columbia County to recover 25 percent of its municipal solid waste. According to DEQ, the County recovered 27 percent of its discards in 1995 but less than 22 percent in 1996. Flood debris increased disposal tonnage in 1996, but the county's total tons recycled also declined about 10 percent, from 6,937 tons to 6,258 tons. Not all reasons for this drop in recovery are known, but DEQ found decreased reporting of tons from one collection company and one end-market. Most of the decline was for tires, scrap metal, newspaper, mixed waste paper, tin/steel cans and plastic. These items have lower sales value than other materials. It is illegal under State law for collectors to dispose source-separated materials—and there is no evidence that such violations occurred in Columbia County. However, no major collection program changes occurred either. Under 1991 State law (SB66), DEQ must require obligated cities and counties that fail to meet their county recovery goal to implement additional recycling programs.

By Material. Chapter 2 provides data on Columbia County tons and percentages disposed plus recycled for each material, and compares per capita disposal and recycling with statewide averages. Among the evident patterns:

1. Columbia County in 1996 recovered 36 percent of its recyclable paper grades (2,390 tons of cardboard, newspaper, magazines, high-grade office, and low-grade mix out of 6,662 tons generated). The County recovered 55% of its cardboard, 47% of newspaper, 28% of high grade paper and 4% of low grade.
2. The County disposed 28% fewer pounds per capita than the state average (1,130 vs. 1,566) and recycled 63% fewer pounds per capita (312 vs. 842).
3. Highest recovery rates in Columbia County were for tires (99%), deposit containers (84%), cardboard (55%), wood waste (47%), and newspaper (47%).
4. The lowest Columbia County recovery rates in 1996 were for
 - Yard debris (0.4%, or 0.2 pounds per capita vs. 159 pounds statewide);

- Plastic packaging (6% recovery rate, or 3.7 pounds per capita vs. 9.8 pounds per person statewide);
- Magazines (12%, or 1.9 pounds/capita vs. 11 pounds/capita statewide);
- High-grade office paper (28%, or 8.2 pounds/capita vs. 31 pounds statewide average per capita);
- Metal, including tin cans (21.6%, or 23.5 pounds per capita, vs. 45.1 pounds per capita statewide of this resource-intensive material);
- Container Glass (22.8 pounds/capita vs. 49 pounds/capita statewide);

4.3.2 Collection Programs

This section presents a detailed description of recycling collection services in each City of Columbia County.

Clatskanie

Residential curbside collection (monthly). The collection company picks up glass, newspaper, cardboard and tin cans on the last Saturday of each month. This service is not required by state law but is part of Clatskanie's service agreement.

Limited commercial/institutional collection is available for cardboard and some metals.

A one-box drop-off depot accepts newspaper at the Horse Arena.

In essence, residences and businesses that wish to recycle must contact Hudson Sanitary Service for at-the-door collection, or they must drive source-separated materials to depots at the St. Helens Transfer Station, 30 miles away. Some generators probably haul recyclables to depots in Longview, Washington (15 miles), or at the transfer station in Astoria (20 miles).

Columbia City

Curbside residential collection. Hudson Sanitary provides monthly curbside collection of source-separated glass, newspaper, cardboard and tin cans.

Drop-off collection. Residents and businesses can bring milk jugs, newspaper, cardboard, magazines, metals and motor oil to the Transfer Station or Hudson's Center in nearby St. Helens. Hudson's Center also accepts office paper and mixed waste paper.

Rainier

Recycling collection services in Rainier are similar to those in Clatskanie.

Curbside residential collection, although not required, is provided on the first Friday of each month for glass, plastic bottles (numbers 1 and 2), newspaper, cardboard and tin cans. The collection company estimates about 50 households participate.

Limited commercial/institutional collection is available for cardboard and some metals.

There is no multimaterial drop-off depot in Rainier. The Sentry store has a newspaper box. Some citizens take materials to Longview (7 miles) and to the St. Helens transfer station or to Hudson's Center (16 miles).

Scappoose

Residential curbside collection (monthly) is provided by the hauler for glass, newspaper, cardboard, tin cans and plastic bottles on the last Saturday of each month. The hauler has provided one bin to city customers, with DEQ grant-funding the County to purchase bins for customers in the urban growth area.

Limited commercial/institutional collection is available for cardboard, office paper and some metals. Some businesses self-haul their own recyclables to the transfer station and some of the largest companies haul their recyclables directly to market or contract for collection and processing outside the County.

There is no multimaterial drop-off depot in Scappoose. The Kiwanis Club has a box for newspaper. St. Wenceslas Church accepts magazines. The Thriftway store has discontinued its once-a-month collection of plastic containers and bags. The St. Helens transfer station and Hudson's Center, located about 8 miles from the Scappoose city center, serve some residents and businesses.

St. Helens

Residential curbside collection (monthly) is provided by the hauler for glass, newspaper, cardboard and tin cans on the last Saturday of each month. The hauler has provided one bin to city customers, with the County purchasing bins for customers in the urban growth area.

Limited commercial/institutional collection is available for cardboard, office paper and some metals. Some businesses self-haul their own recyclables to the transfer station or directly to market or contract for collection and processing outside the County.

St. Helens has three multimaterial drop-off depots open to the public: the transfer station, Hudson's Center, and Boise Cascade. All three accept newspaper, cardboard, and magazines. The Transfer Station and Hudson's Center also accept metals (but not aluminum), tin cans, plastic milk jugs and motor oil. Only Hudson's Center and Boise Cascade take office paper. St. Frederic's Church has box for newspaper and magazines. The Safeway store take plastic bags from customers.

Vernonia

Nehalem Valley Sanitary operates a drop-off depot at the Transfer Station that accepts glass containers, plastic bottles (numbers 2, 4 and 5), newspaper, cardboard, metals and tin cans. This material is then hauled to the Forest Grove Transfer Station to be processed and transported to markets.

Other Programs

Multifamily. Except for self-haul, no recycling collection programs in Columbia County are targeted to multifamily dwellings.

Household hazardous. DEQ underwrites household hazardous waste disposal facilities in Portland and Oregon City that are open to all Oregon residents. These facilities are at the Metro Central Transfer Station in Portland and the Metro South Transfer Station in Oregon City. In past years, there have been occasional annual collection events in the St. Helens area.

Tire collection events generated 673 tons in 1995, which were taken by a company that shreds them and sells them to be burned for energy in industrial boilers. No such event occurred in 1996.

Wood recovery by Boise Cascade constitutes the major program for this material in the County. Pallet collection and brush/tree chipping are not done regularly. The transfer station's activities in this regard are limited.

Construction and demolition debris are not recovered in any quantity. Opportunities exist to separate on site or at the transfer station or other site to avoid disposal of wood, gypsum wallboard, soil, concrete and rock.

4.3.4 Materials Markets

This subsection looks at historical markets (demand and price) for recyclable and recoverable materials. Sustainable recycling programs require rational and relatively predictable economics. What is predictable about secondary materials markets is that they will be volatile, rising and falling like any other commodity—linked to macro-economic conditions and the supply of competitive materials including virgin.

The following table shows the average U.S. price paid for an average ton of recyclables (all materials averaged together) by processors (local consolidating and handling companies) and end-users (mills, manufacturers).

Processor

End-User

July '97	\$14.34	\$ 43.24
July '96	\$16.34	\$ 52.79
July '95	\$54.62	\$149.42

(Source: Waste Age's Recycling Times, July 21, 1997)

Northwest prices do not follow these national numbers precisely, but local pricing has followed the same scale, affected by the same global demand and supply. Northwest prices tend to be somewhat higher because our many paper mills prefer local supplies that do not require transportation subsidies. In addition, export capabilities keep Northwest demand fairly stable.

Prices tend to favor higher grades and least-contaminated loads. In times of fiber oversupply, office paper prices will fall along with all other grades, but mills will take office paper before they dip into supplies of contaminated and expensive-to-process mixed papers. Buyers will favor suppliers who provide reliable quantities and quality, and may pay better prices in times of downturn to preserve such relationships.

Columbia County is located close to strong markets in the Portland Metro area as well as sharing the region's well-established export opportunities. Consistent, reliable demand and a strong long-term outlook favor the following materials, even though prices periodically soar and dip:

Waste paper

- Newspaper
- Corrugated containers
- Office papers
- Magazines
- Office mix (low-grade office)

Scrap metals

- Nonferrous (copper, brass, other)
- Ferrous (iron, steel, alloys)
- Tinned steel cans
- Aluminum

Glass containers

- bottles, jars (including deposit)

Plastic containers

- PETE (#1) bottles, food and custom
- HDPE (natural and colored)

Local and Regional Markets

Paper fiber. Oregon and Washington have a number of paper mills using virtually all grades and seeking local supplies that do not require high transportation costs. Paper buyers within 100 miles of any Columbia County city include Boise-Cascade, Smurfits, Weyerhaeuser, James River, Willamette Industries, Georgia Pacific, EZ Recycling and others who process for the above mills. Most of these operations also broker export loads. Although recycling programs in the Willamette Valley collect mixed waste paper (junk mail, cereal boxes, etc.) and although this material usually can be given away and helps increase local recovery rates by as much as 20 percent, it has consistently cost processors about \$30 per ton to bale and deliver.

Metals. Portland markets include Schnitzer Steel, Mt. Hood Metals, Metro Metals, Calbag Metals, and another dozen scrap yards and buyers. Most of detinning operation, and most cans recovered in the Northwest now must be shipped to facilities out of the region. White goods include post-consumer appliances (stoves, refrigerators, washers and dryers) that contain a high portion of ferrous metal. Schnitzer is the primary market nearby, because U.S. EPA regulations have imposed strict controls on older appliances that may contain polychlorinated biphenyls (PCBs), freon and toxic paints. Possible contamination by these ingredients has driven most collection sites away from handling these potentially valuable items.

Glass Containers. Owens-Brockway in Portland buys glass bottles and jars, crushing and cleaning them to produce new containers. Cullet from recovered glass containers saves considerable fuel in the energy-intensive manufacturing process. Color-sorted (clear, green, brown) supplies have value, but mixed-color cullet lacks a reliable market. Small amounts of this glass goes into bead, fiberglass, asphalt and tile or brick, or other products calling for use of silica. There is virtually no market for window glass. Glass cullet is rarely if ever exported. The market value for container glass has long been pegged at \$15 per ton for clear, less for amber and \$0 for green. Owens-Brockway refuses mixed color glass. Recycling programs in some communities crush and screen mixed color glass for use in pipe and septic tank drainage as a replacement for gravel.

Plastics. Many communities in Western Oregon collect all plastic bottles, at the curb or at depots, because the Garten Foundation in Salem will buy and sort these mixtures. However, 95% of collected plastic bottles are #1 (PETE, used for soft drink, liquor, juices and personal care bottles) and #2 (HDPE, used in its natural form for milk jugs, or pigmented for detergent, juice and personal care bottles). These two resin types have had long-term, consistent, reasonably well-priced markets, both domestically and overseas. PETE prices have ranged from \$120 per ton (the current low, baled truckload quantities) to \$700 per ton two years ago—a high not likely to be seen again soon. Natural HDPE seldom has dipped below \$160 per ton, reached \$640 per ton two years ago and sells in late 1997 for \$320 per ton (baled truckload). Plastic industry subsidies for mixed bottle purchases will go away after 1997, so new programs are advised to stick with these two items. Markets are unreliable and noncompensating for injection-molded tubs and boxes (as opposed to blow-molded bottles). Some stores collect plastic bags, which are sold on the open market for about \$25 per ton or taken back by bag manufacturers as part of their service and made into garbage bags or agricultural film. Warehouses and manufacturers who generate large quantities of pallet wrap often find it cost-justified to recycle this material rather than dispose it.

Wood. Pallets and lumber usually can be sold or given away, depending on the quality of the board, for use in making new pallets, structures or chipped for ground cover or hog fuel. Tree branches and brushy waste likewise can be chipped for fuel or mulch. Industrial boilers are the chief destination for hog fuel. Public agencies responsible for parks, roads, schools, port property, sewage and water districts and forest service areas, or for land reclamation, usually prefer taking this material to buying it, but can be relied on to accept it. Waste exchanges can help distribute wood.

Yard and Food Waste. Composted yard and food waste and uncomposted chips or fines (mulch) are used as soil amendments and nutriment in nonagricultural nurseries, golf courses, cemeteries, parks, institutional grounds, roadsides, and by residents and landscapers. Some companies have successfully co-composted sewage sludge (septage) and yard/food wastes.

Refuse-Derived Fuel. Mixed waste high in paper and plastic can be shredded and cubed to produce fuel for use in industrial boilers and electric utility generators. The Metro Central Transfer Station used to operate a cuber but lost its chief market recently. City Light in Tacoma accepts shredded, air-classified, magnetically sorted mixed waste from the Tacoma Refuse Utility. However, operating costs and market prices have not been proven to sustain break-even operation of refuse-derived fuel facilities. Special dispensation from DEQ would be needed to count the material toward recovery rates.

Summary

Based on current and historical markets and the proximity of major end-users and export options in the Portland area, Columbia County has genuine opportunities to recover and sell more materials. Markets are particularly reliable for newspaper, corrugated cardboard and office paper; metals; glass; and plastic bottles coded 1 and 2. Market prices vary and will affect the economics of collecting wood, but the outlets remain solid. Mulched and composted yard debris can find both public and private uses where there are recreational and housing developments. Collection and sorting capabilities are needed to accomplish this recovery, as well as support systems for promotion, education and management.

4.3.5 Public Education and Information Programs

County Publications. Columbia County no longer produces its monthly newsletter, *Solid Waste & Recycling News*, which provided information about how, where and why to recycle. Articles included success stories, how materials are made into products, and benefits of recycling to the environment, economy and community. The County distributed these newsletters primarily through public offices, libraries, schools, and a few interested civic groups and churches. The County still distributes brochures and informational flyers on the subject, but no staff have been assigned to update or reprint these publications.

Cities. Cities occasionally place an article in their newsletters, but no city has a position

responsible for education and promotion of recycling. No city has a budget or plan to produce or distribute such information.

Collection companies educate residents about recycling, but it is not certain they do it as often as they are required to (four times each year by State law). Collection companies do not provide regular information to most of their commercial customers about how, where, when and why to recycle.

Private sector. There is no concerted effort, public or private, to inform Columbia County businesses of recycling benefits and methods.

Media. Local media cover recycling news but there are no regular features printed or broadcast. Regional media (Portland, southern Washington) may raise expectations that are not satisfied for Columbia County residents.

Summary

At this time there is no coordinated or consistent promotional effort in the county. No regular outreach is targeted to residents or businesses to persuade them to use the services that are provided. Collection companies inform customers about services available and how to prepare materials, but no one asks the public to participate or tells them why it is important to do so. State regulations require that customers be informed of recycling benefits at least yearly.

4.3.6 School Education and Curricula

As described in Chapter 3, only a few schools in the County provide class time to recycling and other waste minimization issues. The County's former Solid Waste Coordinator spent about 20 percent of his time making presentations to school groups, including providing DEQ-developed curriculum upon request and guiding field trips related to recycling. Collection companies respond to occasional teacher requests for presentations. However, there is no concerted, coordinated effort to involve schools in recycling education.

4.3.7 Recycling by Public Agencies

Because paper is more than 80 percent of office waste, and because schools and local governments are major employers, recycling by public agencies could achieve notable disposal savings. However, public agency recycling is inconsistent in Columbia County. Considerable improvements are possible. Some departments of the County recover office paper, some do not. Recycling programs were not in evidence at most of the cities visited during preparation of this SWMP. City and County officials were unaware of internal policies and mandates to recycle. Some schools recover paper, others do not, and there is no policy to require that it be done. Cardboard and metal go largely unrecycled at all public agencies.

4.3.8 Service Fees and Franchise Agreements (Rate Incentives)

Collection companies in all five franchise areas charge enough for second and additional containers to constitute some degree of incentive for waste reduction. However, none of the franchises offers the minican (20-gallon) and none of the rates is structured to ensure that the rate per pound does not decrease as the size of the can increases. Second-can costs currently are lower than first can, which fails to encourage waste reduction and recycling. No one—neither collection company nor local government—asks the public to reduce waste or tells them about how recycling offers them opportunities to save on refuse collection costs. Collection companies do not promote smaller cans or less frequent collection as incentives to recycle.

4.3.9 Private Recycling and Recovery Activities

Businesses in Columbia County utilize several types of recycling and recovery options. However, economic benefits of recycling are only apparent to larger companies that manage their own solid waste and have large quantities of waste to manage. Businesses that pay for solid waste as part of their rent, in a shopping center for example, are less likely to see the benefits or be aware of opportunities, and are less inclined to recycle. Those that do recycle typically:

- **Request collection from a local franchised hauler**, which is more likely to be provided if the customer has large quantities of material such as corrugated cardboard or metal or is part of a business complex;
- **Self-haul to the transfer station or other recycling depot** in St. Helens, or to out-of-county collection depots in Astoria (for North County generators), Beaverton (for Vernonia area), Portland or Longview (common mid- and south-county).
- **Self-haul materials directly to markets** in Portland Metro or Longview areas;
- **In the case of chain stores, backhaul materials to distribution centers** out of the county, where they are aggregated and shipped to mills in the Northwest or overseas.
- **Contract with collectors out of the area**, who may be able and willing to offer a better financial deal than local haulers or even company fleets to large generators of more valuable source-separated materials.

4.3.10 Disposal Bans

Columbia County prohibits disposal of certain items, such as tires and appliances, lead acid batteries and certain toxics. Limited private recovery systems for these products include battery exchange at the point of purchase, acceptance of tires for a fee, repair and salvage operations for appliances, and special collection events for toxics and tires. The frequency, location and

convenience of these events, and the level of publicity attending them, could be improved to prevent illegal and improper disposal of these items. However, such expanded services would need to be funded out of franchise or user fees or with state or local monies.

4.4 NEEDS AND ISSUES

This section describes needs and issues that Columbia County must focus on in its efforts to increase recycling. It identifies constraints that the system must overcome and objectives that the County can set for itself in order to meet recycling and recovery goals.

Promotion/education. The chief recycling need in Columbia County is to get people to participate in and use existing services. To do this, they must be made aware of local opportunities to recycle and the benefits to themselves and their society of doing so. Asking people to recycle has not been part of the effort or ethic by any private or public entity in the county. Providing a consistent message and promoting it consistently has not occurred. At present, the County and its cities have no staff person to ensure that collection companies provide information as required by law; and no one tries to get more businesses, residences, or public agencies to do recycling.

The County and obligated cities, at a minimum, need to ensure and document that their collection companies comply with state law regarding frequency, content and customer coverage for information about recycling. Collectors are required to inform all customers—including commercial accounts—of available waste reduction and recycling services. Commercial customers are not now being informed of their opportunities as required, and local officials need to confirm the frequency of residential notice. The County itself needs to resume publishing brochures and information sheets that help achieve participation and recovery.

Noncompliance with State law. In 1996, Columbia County fell considerably short of the 25 percent recovery goal mandated by Oregon law. DEQ likely will require the cities of St. Helens and Scappoose and the County to develop two new recycling services. The County needs to coordinate and ensure that these efforts occur and that they increase recycling. DEQ is empowered to impose penalties and fines for failure to progress in these matters. Although it is likely that DEQ will make every effort to work with the cities and County, someone in the County must be assigned responsibility for ensuring that an acceptable plan is agreed to by the cities and presented to DEQ; and that recovered quantities are properly reported and sufficient to meet the goal.

Also, lack of a recycling depot in Scappoose puts that city out of compliance with Oregon law (Oregon Revised Statutes 459 and ORS 459A), which requires the County to ensure recovery goals are met and services provided.

Set a new goal. The County must set a recovery goal at or above 27% (the 1995 rate achieved in the County) for the Year 2005. When St. Helens reaches a population of 10,000—possibly by the year 2005—it will be required to offer weekly curbside service and to choose among other recycling collection options such as yard debris, multifamily, and/or commercial.

Establish reliable, sufficient funding. Recycling programs are paid for out of service fees. Revenues from sale of materials typically do not pay more than 20 percent of collection and handling costs—less during down markets. Not only must collection companies receive adequate funding to do recycling collection, but governments must have money to do their part of the job. Cities in Columbia County do not now use their collection company franchise fees for waste management, and most franchise fees collected by the County go into the general fund. Along with staff to perform other solid waste management duties, the County needs funds to pay for promotion/education, coordination/enforcement of recycling requirements, and reporting. Whether funds come from increased fees, disposal savings, household surcharges, or dedication of franchise fee funds, the County must establish a budget and means that allow it to perform the adopted recommendations of this plan. It also is important that new services not impose uncompensated costs on collection companies and thereby destabilize the system on which the public relies for regular, sanitary removal and control of its solid waste.

Establish administrative and organizational structures. Currently there is no one in the County or any of the cities whose job description includes recycling oversight. Those duties have been assigned or adopted sporadically, but there is no long-term, formal recognition of this responsibility.

Establish public agency recycling policies and programs. Schools are the second largest employer in the County, and the large number of non-employees (students) who generate paper within schools each day guarantees that they are leading generators of recyclable materials. Government in general is among the leading local employers, producing recyclable materials and buying (or not buying) recycled-content and recyclable supplies. Lack of policy and practice in public agencies sends the wrong message and fails to achieve the required goals.

Create effective collection and transfer agreements. The County and cities need to look at opportunities in their franchise and rate agreements to ensure compliance with recycling requirements. Agreements and rates can provide for services as well as additional program options, such as yard debris and commercial service. Transfer station agreements could include incentives for increased recovery of paper fibers, metals, wood and other items.

Acknowledge and control the costs of recycling. Local governments have to conduct an informed and attentive process to include fair and reasonable costs in collection service fees. Collection companies are willing to add services if they are compensated for them. However, when franchised collection companies have guaranteed profits, they must be monitored to ensure that they use discipline in incurring costs. The public pays for these costs and profits in their rates. In many communities, a survey of customers shows that a majority are willing to pay to recycle; but also that they are not willing to pay beyond a certain amount. The County and cities have opportunities to pool resources to develop a coordinated process for assessing costs. Such a process is not now available in the County.

Measurement and reporting. The County is required by DEQ to gather recycling data from cities, collection companies, depots, the transfer station and other collection programs. DEQ confirms data from these and other sources. Also, monitoring and evaluating program

effectiveness helps improve strategies. Some education materials work better than others; some depots or materials need more promotion; some changes can have a striking impact on recovery.

4.5. ALTERNATIVES AND EVALUATION

The chief recycling objectives for Columbia County and its cities are to meet the State-mandated goal; and to comply with service requirements under State law. The following options are evaluated as to their likely effectiveness, cost, reliability and ease of implementation.

4.5.1 Recovery Rate Goal

DEQ expects the County in conjunction with its cities to achieve a 25% recycling goal and to set a recovery rate goal of 27% or higher. (Despite the County's 1996 recovery rate of 22%, DEQ regulation calls for a new goal based on 1995 recovery, which was 27%.) DEQ may request that the County set a higher goal, but it may not be incumbent on the County under current State law to meet DEQ's request. Oregon voters approved a statewide initiative in 1996 that prevents the Oregon Legislature from imposing new requirements without also providing funding to meet them. Neither has DEQ set any date for achieving the new goal, nor stated any consequence for failing to meet it.

However, existing laws and regulations still are in effect, and they require Columbia County to attain at least 25% recovery and to set a goal of 27% or higher.

One new development should help the County attain a goal of 27% or higher: HB3456 comes out of the 1997 Legislature offering opportunities to add as much as 6% to the County's recovery rate for promotion/education and demonstration projects (such as at schools), and for improving the household hazardous waste program. Home composting promotion/education likely would provide real as well as regulatory increases in the County's recovery rate. DEQ currently is reviewing HB3456 to determine how it should be implemented, including setting level-of-effort standards.

There is an opportunity to include in a new transfer station franchise agreement the construction of an HHW collection facility. As discussed in Chapter 9, Special Waste Handling, the County also may wish to consider mobile HHW collection units. Free disposal of these materials is available at Metro-operated facilities in Portland (although not free transportation to those facilities).

Recovery also may be increased by sorting recyclable materials from refuse loads delivered to the transfer stations. Evaluation and comparison of avoided disposal and sorting costs must be refined further, but they may point to the merits of diverting more cardboard, yard debris, woody wastes, construction and demolition debris and metals. Current, new and expanded facilities all could play a part in recovering more materials.

Columbia County and its cities can consider the following options:

4.5.1 (1) Set the recovery goal at 27 percent. It can't be set lower. Improved promotion and the likely addition of new services required by DEQ (weekly residential collection, yard debris depots, possibly incentive rates) should make this goal attainable. If the County and cities require that haulers use their promotion and education budgets to inform the public about waste reduction, reuse and home composting, recovery can gain another 6 percent under HB3456, likely ensuring that this goal can be met.

4.5.1 (2) Set the recovery goal at 30 percent. There do not appear to be any consequences for aiming higher. Improved promotion, participation and services as described above, plus low-cost HB3456 efforts make this recovery level attainable. Setting a higher goal in Columbia County also helps the State move toward its own 50 percent recovery goal. However, the County failed to meet its 25% goal in 1996 and needs to find out why its recovered tonnage fell steeply between 1995 and 1996. It may have been poor reporting or actual changes in collection. Until the reasons are understood and dealt with, it would be unwise to set a new rate.

4.5.1 (3) Set the recovery goal at 35 percent. Given current participation levels, plus funding uncertainties for collection companies and governments, this goal may be somewhat ambitious. Apparently no harm can come from setting a goal this high, but the likelihood of attainment is less than for lower number. Again, the reasons for the County's falling rate need to be understood and remedied. Also, DEQ may not be able to provide a formal or valid promise to withhold consequences for failing to meet a new goal.

Evaluation and strategy

There may be no consequence for setting a high goal, but this isn't certain. The County and cities can require in new franchise agreements that collection companies provide promotion/education to help attain the 6% recovery credit available through HB3456. When DEQ requires two more services, as it must do when the County falls below its recycling goal, increased recovery should ensue. Questions remain, however, as to why recycled tonnage fell 10% from 1995 to 1996. Until these questions can be answered, and until the County and cities show the will to fund and staff recycling promotion efforts, and to require and help collection companies to improve promotion, the minimum goal of 27% seems advisable. It appears likely that recovery would rise above 30% if the public participates at a higher rate in available programs and the County provides HB3456 programs and claims the credits available. At that time, the County could reassess the situation and set a new goal.

4.5.2 Recycling Collection Programs

Columbia County and the cities of Scappoose and St. Helens face a DEQ requirement to add two services in order to reach the 25% recovery goal. The following options can be compared in terms of costs, productivity, reliability, institutional acceptability and ease of implementation. The two cities, the County and affected collection companies need to agree on new services.

Option 4.5.2.(1): Weekly residential curbside collection in St. Helens. When St. Helens exceeds 10,000 population in a few years, it will have to collect residential recyclables weekly and will need to choose an additional recycling program. DEQ may urge weekly collection in St. Helens sooner as a partial response to the County falling short of its 25% recovery goal. Weekly collection, same day as garbage, in combination with bins and education, can increase recovery levels as much as 40% above monthly service, because residents remember better when to set out materials and are less likely to throw away accumulated recyclables when the bin fills (*Waste Matters Consulting* national survey). Increased collection costs need to be passed on to ratepayers, but the extent of increase should depend on actual equipment and crew requirements and productivity, and avoided disposal costs. Cities and the County should confirm these facts with objective expertise.

Option 4.5.2.(2): Depot-based yard debris collection. Curbside collection would be too expensive and unnecessary, at least in the near-term, since well-promoted depot collection qualifies. Collection and processing could be done at the St. Helens Transfer Station and/or the Hudson Center nearby. There would be a need to grind and screen yard debris, and perhaps to transport the processed material to a suitable, permitted composting facility—although one of the above-named sites may be able to qualify. Nearby markets could include landscapers, developers and roads or parks departments. Markets are essential. They may not pay for the material, however. Reducing yard debris by grinding is key; County/city managers should avoid high costs incurred by trucking unground material. Having a collection and mulching site also will help gain 2% credit under HB3456, and allow public agency landscapers to comply with HB3456 requirements. This operation could piggy-back with wood recovery, which also will help the County meet its goal. Finally: City and County managers should require or strongly encourage reduced disposal costs for separated yard debris to ensure public utilization and high recovery.

Option 4.5.2.(3): Mixed waste paper collection. It is not advised that any *curb* collection programs add low-grade mixed waste paper at this time, since it likely would increase truck and crew requirements and transportation costs, and because this grade has had a continuing negative value. However, mixed paper can be delivered reliably to nearby markets and adds considerably to recovered weights. Avoided disposal costs of \$31 per ton constitute roughly a wash with baling and delivering mixed waste paper to Portland markets for no payment; and those markets often charge to accept loose mixed paper because they have to bale and deliver it to downstate mills. Acceptance of office and mixed paper *at recycling depots* should be considered at some future time if it regains some positive value; or if the importance of increasing recovery rates exceeds the issue of cost. However, drop-off depots do not contribute as strongly to recovery as curbside programs.

Option 4.5.2.(4): Plastic bottle collection. Depending on public demand, which is not now clamorous, #1 and #2 plastic bottles could be added to the truck, if capacity requirements do not increase the number of trucks or the cost of operating them. Plastic bottles do not add much recovery or revenue, but collecting them (or any other new material with attending publicity) tends to increase overall participation and tonnage. This increase applies also to depot collection, but works economically only if depots bale or otherwise compact the bottles for transport to markets. Milkjugs are the most consistently valuable of all plastic bottles; milkjugs

alone add about 60 pounds/week (2 cubic yards) for every 400 customers serviced (a low estimate of households serviced for one day's collecting by one residential vehicle). Adding #2 colored HDPE bottles and #1 PETE could bring the total to 90 pounds per 400 households serviced/week, or about 3 cubic yards. If the decision is made to collect plastic bottles, vehicles can be retrofitted with 26-inch wide compactors for about \$12,000; or purchased on new vehicles for about the same increment. However, plastics industry subsidies for mixed plastic bottles are about to be withdrawn, and the prices for mixed bottles could go negative, like mixed waste paper.

Option 4.5.2.(5): Locate a multimaterial depot in Scappoose. According to DEQ, based on services the City chose from the SB66 menu, Scappoose has to add a multimaterial recycling depot. This depot was required even before the County fell below its 25% recovery goal.

Option 4.5.2.(6): Add a multimaterial depot in the North County. Collection companies and local jurisdiction need to assess the cost and value of doing this. It probably would improve recovery due to increased convenience, but likely utilization and demand should be assessed before moving ahead.

Option 4.5.2.(7): Sort out cardboard, wood and metals at the St. Helens Transfer Station. If improved processing capability (sorting, baling, magnets) were installed at the current or some new transfer facility, haulers should look at selective routing to ensure they deliver dry, recoverable waste loads (mostly paper, metal and wood) rather than material contaminated by food, grease or questionable industrial materials. Separate collection of restaurants (to eliminate contamination by food wastes) would help keep delivered waste sortable. However, franchised collection companies in Columbia County typically do not operate enough commercial trucks daily to permit much selective routing. Even so, increased sorting labor at the transfer stations could enhance recovery of these materials. Sorting recyclable items from delivered waste is discussed further in Chapter 5; this discussion relates to collection strategies that could improve sorting recovery.

Option 4.5.2.(8): Increase multifamily recycling opportunities. If they choose this program option, the County, cities and haulers should promote collection from multifamily complexes (more than four units) directly to managers. But managers also could be requested and/or required to provide information to all residents about local drop-off depot collection of principal recyclable materials. Media coverage likewise could increase renter awareness of recycling opportunities. Finally, HB3456 requires new multifamily construction to include space and access for recycling; the County and cities are required to inform and enforce this law. Multifamily collection often is done with roll-carts, similarly to collection from medium-sized businesses.

Evaluation and strategy

First do what has to be done (education; drop-off depot in Scappoose; two additional programs in Scappoose, St. Helens and their urban growth areas). Then do the most cost-effective programs. Final choices may depend on what DEQ accepts, but also should depend on cost and results. Weekly curbside collection increases costs more than most programs, but it typically

gets good results if properly promoted. Targeting high volume materials for recovery from mixed commercial refuse delivered at the transfer stations (cardboard, wood) can be accomplished with minimum investment, possibly even with community release workers. Add only materials that have reliable markets and reliably positive revenues (e.g., office paper, metals).

4.5.3 Public Education and Promotion

The aim of public education is to persuade and help people to recycle, and to remind them regularly. Getting more people to use existing opportunities (on-route collection, depots) and to recycle all that they can avoid throwing away are the least expensive, most reliable ways to improve recovery. Getting recyclers to capture more of their recyclables has been proven a major builder of recovery levels.

Option 4.5.3 (1): Columbia County publish brochures, fact sheets and articles. Columbia County needs to continue updating and publishing information about how and why to recycle, and must find a way to improve circulation of these materials. Placement of articles in local newspapers, city bulletins, association newsletters and company publications would help increase recycling. Delivering targeted information to targeted generators also would optimize the value of information. For example, different types of businesses generate office paper, wood, metals, oil, hazardous wastes. Resumption of the Columbia County recycling newsletter cannot be recommended, at least on a monthly basis, for cost-effectiveness reasons; however, quarterly or special issues targeted to specific businesses and topics could retain identity for the County's promotion/education efforts. Coordination with cities and business associations and local media must be part of this approach.

Option 4.5.3 (2): County and Cities ensure collection companies do required promotion and education. The County and Cities should ensure that (and help) collection companies provide engaging and regular information—including a focus on commercial recycling and waste reduction opportunities. It is crucial that publications be distributed to the right persons at the right locations. Collection companies should help target distribution. County and city officials responsible for franchise management must ensure collection companies perform these tasks in compliance with state and local law.

Option 4.5.3 (3): Ask people to recycle. Collection companies, local governments and media all should make it clear that there are real benefits to recycling and that these community-leading groups want the public to do it. It is too common that people know they could recycle if they wanted to, but not that anyone "upstairs" or even up the street really cares if they do.

Option 4.5.3 (4): Use existing resources. With particular reference to commercial recycling promotion and education, Metro and DEQ have libraries with uncopyrighted free materials in print and video. The Master Recyclers, Association of Oregon Recyclers (AOR), *Resource Recycling Magazine*, the Recycling Education Project at Portland State University, and other local colleges and universities have examples of promotion and information materials and often can provide volunteer help—particularly with waste audit and training projects.

Option 4.4.3 (5): Get feedback on promotion/education effectiveness. What worked, what didn't, and why? Promotion/education costs money, and the money shouldn't be spent unless it works. It is important to improve ongoing efforts based on what works. Sometimes a simple adjustment fixes the problem. If a good publication doesn't reach the people who can act on it, the investment was wasted. Professional public surveys shortly after a campaign begins can tell program managers how to improve what's improvable and what to stop or start doing. However, these surveys cost money that might better be spent (if available) on choosing proven tactics in the first place. Recycling tonnage reports are a cheap, already-required way to find out—if they show strong improvement—that a campaign is working.

Evaluation and strategy

Cities and the County should use franchise agreements to require collection companies to participate in enhanced promotion. Getting more residents and businesses to recycle requires good-looking, attention-grabbing publications and a consistent, coordinated campaign. One of the chief efforts of a County recycling program coordinator should be to get more groups involved, more materials published and distributed, and to make sure materials reach their intended targets and are acted upon. Regular, timely tonnage reports also will help evaluate campaign effectiveness.

4.5.4 Public Agency Recycling

Option 4.5.4 (1): Establish recycling at public agencies. If only for the disposal savings, out of duty to taxpayers, County and city offices, schools and Port operations, need to look at how well they recycle and waste reduce and how successfully they translate waste prevention into smaller refuse containers, less frequent collection and actual savings. Public agencies are among the County's largest employers, and they could increase recovery noticeably. Top management in these agencies should ask departments to set goals, do waste audits, make plans, arrange systems, assign responsibilities and report results. Budget approvals, job descriptions and promotion can be tied to waste prevention results. Except for wet wastes (food) and nonrecyclables (paper towels), most facilities generate 80-90% recyclable paper, including valuable cardboard and office papers. Some departments generate oil, tires, wood, yard debris and metals. Setting an example, contributing to the recovery for which they are responsible, and avoiding hypocrisy also are reasons for public agency recycling. DEQ offers assistance to help set up and coordinate programs.

Option 4.5.4 (2): Buy recycled and recyclable. Public agencies can make the effort to buy recycled-content paper, retreaded tires, rerefined oil, as well as a range of products used in parks, car pools, offices and warehouses. Recycling only happens when people and organizations buy products made with recycled material. Many public agencies throughout the state allow a price preference of 5-10% for recycled paper, including the State itself, cities such as Eugene and Portland, and school systems. As demand for recycled content paper has increased, the price difference has dropped and the preference has become less necessary. It can be difficult to change buying and recycling habits in any organization. It can be difficult to get approval for

buying more expensive products. Requests and directives from top management, plus regular feedback on results, help keep procurement programs on track.

Evaluation and strategy

Top management and elected officials at public agencies should require that recycling occur and make sure it does. Job descriptions should include establishment and maintenance of resource-efficient programs. Not all programs will save dollars immediately, and not all programs will save resources; it is important to avoid religious pursuit of wasteful actions. But public agencies have the ability and responsibility to move the County toward compliance with State recycling goals.

4.5.5 Service Fees/Franchise Agreements

Option 4.5.5 (1): Establish volume-based rates. Columbia County haulers offer a range of rates based on collection frequency and container number and size. The minican option is missing from Columbia County's rate system and should be offered, along with ensuring that additional cans do not cost less than the first can. Another reason for adding the minican rate is that this option is on the menu from which the County and Cities must choose two additional services. Changes in rate should be accompanied by an education campaign that explains the intent to increase and reward waste reduction and recycling. Collection companies and a local government representative should make sure that minicans and/or rollcart inserts are widely available at a reasonable price, and that the minican rate is clearly, fully promoted.

Option 4.5.5 (2): Improve franchise agreements. Current collection franchise agreements consist of little more than boundary descriptions. There is ample reason to evaluate opportunities to add or clarify services within the current agreements. Materials collected, education, reporting, financial disclosure, promotion/education, and other elements can be introduced into a formal agreement. Transfer station franchises could include incentives and requirements to separate out materials that have positive market value (cardboard, newspaper) and/or that can be recovered at less than or equal to the \$31 avoided disposal cost.

Evaluation and strategy

Among the least-cost options available to the County and cities are to use franchise agreements to require minican rates; to require reporting and promotion/education; and to recover recyclable materials disposed at the transfer station(s).

4.5.6 Focus on Business and Industry

Commercial and industrial waste makes up more than half of local waste streams in Oregon, according to DEQ studies. These businesses depend on cost containment to sustain their

enterprises and build profits. Recycling and waste reduction can strengthen their economic performance and contribute to meeting state-mandated county recovery goals.

Several options evaluated above include opportunities that would serve both residential and commercial/industrial recycling. These options deserve special emphasis in terms of their contribution business sector recovery and should be considered for priority effort by the County:

- Depot collection of yard debris [4.5.2 (2)], mixed wastepaper [4.5.2 (3)], and plastic bottles [4.5.2 (4)];
- Additional depots [4.5.2 (5)] and [4.5.2 (6)] would serve businesses;
- Sorting out cardboard, wood and metals from refuse loads [4.5.2 (7)];
- Promotion/education fact sheets targeted to specific businesses [4.5.3 (1)];
- Requiring and ensuring haulers do promotion/education [4.5.3 (2)];
- Asking businesses to recycle [4.5.3 (3)];
- Promoting buy-recycled/recyclable purchasing [4.5.3 (4)];
- Establishing and promoting volume-based savings [4.5.5 (1)].

In addition, the following options could improve commercial recycling:

Option 4.5.6(1): Increase commercial recycling collection options. Large companies typically know how to save money recycling. Small to medium-sized businesses often do not know that recycling services are available, or that they could reduce the size and/or frequency of container collection, and thus save money. Increased promotion and education to businesses and institutions would increase recovery, even if they are only encouraged to bring materials to the depots and/or to their homes for residential pickup. It is doubtful that "bring it home" would harm the economics of collection companies, particularly if their costs are reported under a good, well-monitored rate compensation system. Increased services and promotion to commercial customers also are likely to yield good, cost-effective results, particularly if the services dovetail with existing programs such as residential curbside collection.

The Cities and County also should consider providing recycling bins to small and medium-sized businesses and collecting them as part of residential recycling schedules, charging a residential recycling fee—possibly a recycling-only fee.

Option 4.5.6 (2): Collect office paper at St. Helens/Scappoose/Vernonia depots. Depots could contribute to recovery by collecting high-grade office papers and promoting this service. The transfer station does not now collect this material. Office paper has a stable market and is one of the most valuable papers. Its sale price in nearby Portland plus avoided disposal and transportation costs to the landfill more than justify its collection—unless transfer station and collection company financial structures make disposal a more favored option. The County and Cities should ensure that transfer stations and collection companies have incentives to recycle. Collecting office paper at all depots in St. Helens and Scappoose likely could draw more material of other types from the commercial and residential sectors. Good signage, staffing and regular upgrading of materials would be needed.

Option 4.5.6 (3): Provide waste audits and other technical assistance to businesses.

Through internship and County-funded outreach personnel, show businesses how much waste they could recycle and how much they could save by doing so. Provide self-audit materials to requesting businesses; these are available readily in the Metro region. Make sure businesses know how to set up internal recycling programs, deal with collection companies, and find depots if necessary. Other efforts could include:

- **Place articles** in newsletters put out by Chamber of Commerce, fellowship groups and other business associations—including regular publications by some of the larger individual companies. The County and/or cities need to provide information and ask that these subjects be covered.
- **Provide information** on techniques and results. Brief checklists work better than lots of prose. Seminars are available through Master Recyclers, Association of Oregon Recyclers and other volunteer experts.
- **Recognize them.** Create awards and public recognition events for successful practices and practitioners. Get media coverage.

Option 4.5.6 (4): Collect food waste and grease. Food waste, including grease, often can be collected from restaurants and food-serving institutions by companies that render the grease or feed hogs, or compost organics. Special collection vehicles and containers are required for separated food and grease, making this service best suited to a specialized business rather than a regular collection company.

Evaluation and strategy

Increase awareness and opportunity. Ask businesses to recycle, tell them how and why and what benefits they could realize. Increase the opportunities available to small/medium-sized businesses, through use of the residential recycling program already in place. Collection company claims of financial hardship should be examined and compensated through rate review, in light of actual negative revenue impacts, rather than based on prior protests of lost income. Collection of office paper at depots should be increased, with tonnages and costs/revenues monitored.

4.5.8 County and City Coordination

Many of the programs described above will yield best results if they are implemented in a coordinated manner by cities and the County. Cooperative agreements could take the following forms:

Public Education. These materials can be centrally prepared and jointly funded, improving cost-effectiveness. The more local governments are involved, the better information will be spread and used.

Policy. Coordination in crafting policies and joint endorsement will ensure broader acceptance and implementation. It gets better news coverage, too.

School Programs. Schools are more likely to respond to local government and citizen initiatives than to general County pronouncements.

Public Sector Recycling. Sharing information can increase the number of changes made successfully. It can increase interest and resources as well.

Rate Incentives. Coordinated information and process will improve rate equitability and the opportunity to get the most service without damaging the system. All jurisdictions should be aware of useful terms and accurate data.

Commercial Initiatives. More jurisdictions involved in sharing information from different parts of the County will increase publicity and participation.

Conjunction with Waste Reduction. All the programs outlined in this chapter can be piggybacked with information about waste reduction programs.

4.6. RECOMMENDATIONS

In order to meet state mandates for County recovery goals, public education and to emphasize recycling and other forms of waste reduction as a priority, the County, with the assistance of the cities, needs to implement cost-effective, sustainable recycling programs. The following recommendations are considered most important for immediate implementation and allocation of resources, although some can be accomplished over a longer term and at a lower allocation of resources than others.

Recommendation 4-1. Set the recovery goal at 27 Percent.

This is the required minimum goal for Columbia County, based on 1995 recovery. The County could consider increasing its goal if recovery increases in response to new programs required by DEQ, improved public participation due to promotion/education efforts, and up to 6% credit for waste reduction, reuse and home composting promotion/education under HB3456. In the meantime, 27% appears prudent. However, if DEQ confirms that a higher goal carries no penalty or deadline, the County may wish to increase its goal to 30%.

Recommendation 4-2. Establish new residential collection programs based on cost-effectiveness and DEQ requirement.

- **Establish a multimaterial recycling depot in Scappoose**, as required.
- **Weekly curbside.** The most productive new collection programs would be weekly curbside pickup in St. Helens and Scappoose and their urban growth boundaries. Curbside collection is expensive, and ratepayers would have to bear increased costs; but if the County and cities evaluate costs realistically and prudently, this may be the best route to meeting the County's recovery goal.

- **Yard debris.** If nearby mulch and compost markets can be developed, consider depot-based yard debris collection, grinding and composting. Effective promotion and reduced disposal fees for yard debris would enhance participation.

Other options that would comply with DEQ requirements for two new programs include the 20-gallon can rate; expanded commercial recycling (see Recommendation 4-4 below); multifamily services; and setting aside space for donation and collection of reusable items at the transfer stations.

Recommendation 4-3. Develop and distribute educational and promotional materials about how, where and when to recycle, and about environmental and economic benefits. Activities include:

- **County publish targeted brochures and fact sheets**, possibly in association with a quarterly newsletter. Ensure wide availability and use of information by working with collection companies, media, city governments, libraries and business associations.
- **Cities and County ensure haulers provide information** four times yearly to all customers, as required by law, with increased focus on asking people to recycle, telling them why it is important, and encouraging waste reduction.
- **Increase media coverage**, including TV and radio, spurred by the news hook of continuing developments in the County, cities and commercial sector; and by requesting coverage and providing informational materials.
- **Obtain existing information materials and promotional ideas** from regional resources.
- **Present informational materials at fairs and community events.**
- **Request donation of ad space and community group involvement** to support these efforts.

Recommendation 4-4. Help businesses recycle.

Make commercial/industrial recycling a priority for County and collection company effort, including promotion/education focus.

- **Increase recycling opportunities for small businesses** in Scappoose and St. Helens through "take-it-home" campaigns and by collecting recycling bins from small businesses that are convenient to residential routes.
- **Increase depot promotion and availability.**
- **Collect office paper at depots** in St. Helens, Scappoose and Vernonia.
- Provide waste audits by haulers, County staff and through use of self-audit materials available in region.
- **Help businesses develop recycling and waste reduction plans.**
- **Ask them to recycle**, as an official resolution of the County and cities.
- **Offer seminars** with the help of regional experts and associations.
- **Provide informational materials** to the right persons in each business.
- **Recognize their efforts** and successes through awards and public commendation. Commend individuals, businesses and institutions that contribute notably to the recovery goal and/or to innovative solutions.
- **Make sure they understand how they can save** by reducing collection frequency and volume.

- **Ensure through rates** that waste reduction/recycling are rewarded.

Recommendation 4-5. Develop and promote rate incentives.

Rate incentives may be one of the easiest new programs to install, when DEQ requires the cities and County to choose two new services from the SB66 menu. Rate options could be exercised quickly and at low cost to the jurisdictions through franchise agreements due to be renewed/revised.

- **Study rate incentive programs** in other jurisdictions.
- **Establish and promote a minican (20-gallon) residential rate.**
- **Make additional can/yard/ton collection fee equal to the first.**
- **Create incentives to recycle in franchise agreements with collection companies and at the transfer station.** Examine current and future agreements and profit structures to eliminate incentives to dispose. Ensure that rates encourage utilization of recycling options.
- **Require collection companies and the transfer station to educate all customers about recycling incentives and the opportunities to save.** Franchise agreements should include this requirement.

Recommendation 4-6. Create government policy and directives to recycle in publicly funded agencies.

County, city, state, school and port agencies should establish policy and programs to ensure that taxpayer dollars are not wasted through unnecessary disposal costs. Over the next two years, agency managers and elected officials should:

- **Establish policy** requiring recycling where feasible and cost effective.
- **Ensure that policy is fulfilled** at each department level.
- **Provide information to all departments** on how this can be done.
- **Have all departments set goals and methods** for recycling.
- **Include waste prevention achievement in job descriptions, promotion decisions and budget approvals.**
- **Establish interdepartmental task forces.**
- **Measure and recognize successes and acknowledge problems;** measures to include actions, products, costs, dollar and disposal savings.
- **Review procurement policies and practices;** change as needed.
- **Provide seminars and informational materials** on what worked and what didn't; recipients to include other local governments, public agencies, businesses and business associations, and the media.
- **Seek interlocal coordination** for recycling practices.

Recommendation 4-7. Develop city/county coordination.

It may take time and persuasion to get all or several local jurisdictions to join forces, including funding, policy and management systems, to meet the following objectives:

- **County oversees central management of public education efforts,** in cooperation with collection companies and cities.
- **County/cities cooperate in improving commercial and multifamily recycling efforts** and promotion.

- **Waste prevention initiatives should be as county-wide as possible**, to create sense of community policy and to optimize public investments.
- **Local jurisdictions jointly endorse and publicize request to public** to do waste reduction and recycling.
- **Public sector waste reduction and recycling** would benefit from sharing of information through periodic joint task forces.
- **Rate incentives and rate review process** would benefit from single County-wide process and/or shared information, where possible.

Recommendation 4-8. Develop alternative funding sources

- **Consider minimal surcharges** on water/sewer or property tax bills.
- **Dedicate franchise and tonnage fees** to solid waste programs.
- **Seek grants, donations and in-kind support** from public/private agencies.

4.7IMPLEMENTATION

The following staffing and scheduling estimates apply both to waste reduction (Chapter 3) and Recycling (Chapter 4). FTE (full-time equivalent) hours are not necessarily all County or city staff; they could include school, intern or staff other than the County's.

The objective is to create resources and practices, not to create a permanent position. Emphasis should be on completed tasks and projects, rather than ongoing obligations. Efforts should aim at establishing useful policies, programs and products. Only two years of implementation effort are outlined below, since re-evaluation should occur during the second year. Pending review and new decisions, it is expected that most programs would be maintained at a level requiring fewer hours than the development phase.

Program 1 Develop and Coordinate Education/Promotion

Duration: 2 years (400 hours/year, 8 hours/week), maintained thereafter.

<u>Year</u>		<u>FTE</u>	<u>Hs/Week</u>
1, 2	Produce/distribute fact sheets, articles	0.1	4
1, 2	Increase media coverage	0.05	2
1, 2	Monitor/assist hauler information efforts	0.05	2

Program 2. Business Recycling and Waste Reduction

Duration: 2 years (600 hours/year, 12 hours/week), maintained thereafter.

<u>Year</u>			
1, 2	Provide information, promotion, recognition	0.1	4

1, 2 Waste audits, other measurement of change 0.2 8

Program 3. Home Composting

Duration: 2 year (150 hours/year, 3 hours/week), maintained thereafter.

<u>Year</u>		<u>FTE</u>	<u>Hs/Week</u>
1, 2	Promote/educate home composting	0.05	2
1, 2	Ensure bins available for sale in County	0.025	1

Program 4. DEQ- and County-Required Rate and Reporting

Duration: 2 years (100 hours, 2 hours/week), with annual effort thereafter.

<u>Year</u>			
1, 2	Secure and report recovery data to DEQ, County	0.05	2

Program 5. Government Waste Reduction and Recycling

Duration: 1 year (250 hours, 5 hours/week), maintained thereafter within departments.

<u>Year</u>			
1	Develop policies, goals collection/audit systems	0.1	3
1	Promote, coordinate, assist activities	0.05	2

Program 6. Support School Curricula

Duration: 2 years (200 hours/year, average 4 hours/week), maintained thereafter within school systems.

<u>Year</u>			
1, 2	Presentations, field trips, curriculum	0.05	2
1, 2	Promote resource studies at schools (includes developing local resources, commitments)	0.05	2

Program 7. Create Rate Incentives

Duration: 1 year (100 hours/year, 2 hours/week), in effect until revised.

1	Create/require minican rate, and can increase. Create other incentives (transfer station/hauler)	0.05	2
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Program 8. Develop Alternative Funding

Duration: 2 years (100 hours, 2 hours/week), with annual effort thereafter.

<u>Year</u>		<u>FTE</u>	<u>Hs/Week</u>
1, 2	Develop grant proposals, donations	0.05	2

Program 9. City/County Coordination

Duration: 2 years (100 hours, 2 hours/week), with minimal maintenance.

<u>Year</u>			
1, 2	Develop joint policies, proposals, processes, data	0.05	2

This implementation schedule requires approximately 40 hours/week of staff time if all tasks are pursued in Year 1, and about 28 hours/week in Year 2, when presumably most promotion/education materials would be developed already; rate, school, home composting and new collection program start-up issues would be largely resolved; and public sector waste minimization would require less time. It is likely that some programs could be accomplished with less effort than allowed in the above estimates. For example, rate incentives might be completed in Year 1 with a few meetings and a franchise agreement. City/County coordination may not develop into a continuing effort. The County also could choose to invest less time in some programs, depending on resource availability. For example, County staff could coordinate and promote business and school programs, but use collection companies and/or volunteers to provide direct services such as audits and education.

County resources and decisions would dictate priorities and commitments on a year-to-year basis.

As stated above, more than one staff person could perform tasks. Indeed, policy and management issues would be handled by a more senior person than the one who does research and implementation.

CHAPTER 5. MATERIALS PROCESSING

5.1. INTRODUCTION

Materials collected for recycling typically require further processing before they are ready for market. Depending on the material, processing may include removal of contaminants to improve selling price and salability; densification (e.g., baling, shredding) to reduce shipping and handling costs; storage to accumulate a full load; shipping by economic and reliable means; and, in the case of yard debris and other compostable waste, the need to shred, blend, water and regularly turn compost heaps to make a product.

Recyclable materials processing also can include the removal of commodities from mixed waste.

This chapter discusses three types of processing and whether Columbia County needs additional in-county facilities/capabilities: (1) *handling of source-separated materials* such as paper, metal, glass and plastics; (2) *removing recyclable items from loads of garbage* delivered to a transfer or other facility; (3) *composting organic materials at a central site*.

1. Handling of source-separated recyclable materials. Materials collected from residences and businesses are delivered to a facility that prepares them for market. Preparation includes upgrading (sorting out contaminants and/or higher value items such as office paper); densifying (baling or compacting); storing, either loose in roll-off boxes or baled; and shipping. Expensive equipment (balers, conveyors, storage boxes, trucks and trailers) and labor are required to perform these functions, making it important to ensure that tonnages handled will repay the investment.

2. Removing recyclable items from loads of garbage. Many material recovery facilities (MRFs) use a combination of mechanical and hand labor to pull out recyclable materials from loads of garbage. Some facilities use magnets, air classification, size-graded screens and other devices to maximize recovery from mixed garbage of all kinds. Some facilities focus on recovering items from specific types of loads, such as those high in cardboard or wood. Facility workers may work with collection companies to identify loads worth picking over—construction/demolition loads or those from office/retail/warehouse routes, for example. Many transfer stations have requirements or incentives calling for operators to recover a percentage of waste that passes through the facility. Some facilities charge a lower rate for loads with a high proportion of recoverable material.

3. Composting organic material at a central site. Many communities compost yard debris successfully, in some cases co-composting yard debris with sewage sludge. Brushy trimmings typically are chipped, mixed with bacterial "starter" to hasten the process, blended with grass clippings and other vegetal waste for nitrogen/carbon balance, laid out in rows and regularly watered, tested for temperature and turned. Supplies can come from yard services, individual self-haulers, land-clearing operations and on-route or depot collection programs. Composting businesses exist in communities that do not have door-to-door collection. Often,

parks and roads departments compost grass and brush trimmings and autumn leaves, either selling or giving the final compost to the public and using it in their own projects.

Other processing systems. This plan omits detailed discussion of several types of solid waste processing that have proved uneconomic or technically unreliable under current conditions. These technologies include *solid waste composting*; *fiber-based fuel production* (using an otherwise rejected fraction of solid waste sorting, usually nonrecyclable paper and plastics, to make boiler fuel); and *pyrolysis* (heating solid waste and/or tires, plastic and other petroleum-based products in an oxygen-free chamber to produce usable oil). *Subsection 5.4., Alternatives and Evaluation*, briefly discusses these technologies and the reasons this plan does not recommend them.

Additionally, mills and other markets further process materials for use in manufacture of new products. This chapter does not consider these industrial processes relevant to Columbia County's solid waste management plan.

5.2.EXISTING MATERIAL PROCESSING FACILITIES

5.2.1 Handling Source-Separated Materials

Source-separated recyclables in Columbia County go to a variety of processing facilities. Because of geographic distances and the number of collection company owners, the system does not readily present opportunities for aggregating all or most source-separated materials at a single facility.

Franchise-collected materials. The two franchises belonging to the Hudson family (St. Helens and Clatskanie areas) bring their residential and commercial materials to the Hudson Center depot in St. Helens—which also functions as a public recycling drop-off. The two franchises operated by Ambrose Calcagno Enterprises (Scappoose and Vernonia areas) bring their materials either to the transfer station in St. Helens, which also functions as a public recycling drop-off; or to the Forest Grove transfer station, owned and operated by Calcagno. Rainier Sanitary takes commingled recyclables to Waste Control Systems in Kelso, WA.

Commercial self-haul. Large retail outlets such as Fred Meyer and Safeway backhaul their cardboard and other recyclables to company-owned or contracted central aggregating facilities, which bale and sell the material.

Other collectors. Boise Cascade currently operates a public drop-off depot and also source-separates hundreds of tons annually of its own office and industrial wastes. Smurfit, a mill-based broker operating out of Portland, provides large roll-off boxes to Boise Cascade and collects them on a regular basis, in some cases paying for materials whose market value exceeds handling and shipping costs. Hudson Garbage Service hauls some of this material for Smurfit. Local collectors and processors have not succeeded in making a competitive offer that would secure these recyclable materials. Neither has Columbia County actively sought to persuade the

owners of these recyclable materials to use local franchised services. Legal courts at all levels have consistently found that generators of source-separated recyclables can sell, give or otherwise assign them as they wish, having full property rights unaffected by local refuse collection franchises.

5.2.2 Removing Recyclables from Garbage

All garbage from Columbia County goes to the St. Helens or Forest Grove transfer stations, which are owned by the same operator. Currently, staff at the Transfer Station in St. Helens pull some corrugated cardboard and wood from selected loads of commercial waste dumped on the facility pad. There is no conveyor system or screening arrangement at this transfer station to improve recovery or make it more convenient for workers. Material flows are not scheduled or designed to maximize recovery. Companies that dispose at the transfer station, including self-haulers, have no incentive in the form of reduced fees to bring loads that might be high in recoverable items.

Current arrangements do not offer the transfer station operator an incentive to improve this type of recovery. The costs of extracting, densifying, storing and shipping these materials to market do not compete successfully with the current economic advantages of loading and shipping them for disposal. The operator would have to sort, process, ship and sell recyclables for a net cost equal to or less than the estimated \$31 per ton avoided costs of disposal from the transfer station. Cardboard, newspaper and metals should be able to meet this standard; wood would need a favorable and probably in-county market. Use of community service workers, if liability allows, could help economics.

Prior to the recent sale of Nehalem Valley Sanitary Service, its then-owner removed some recyclable and reusable items from trash deposited in roll-off boxes at the small transfer station in Vernonia. No other recovery from solid waste was found in Columbia County.

Columbia County's recovery rate for cardboard is 57 percent. Mixed paper recovery is at 28 percent; wood at 47 percent; and metals (other than beverage deposit containers) at less than 15 percent. All these items have ready markets and lend themselves to recovery from mixed waste, particularly from dry loads containing good concentrations. Only cardboard and metals consistently have positive market value.

5.2.3 Composting of Organics

Columbia County does not have a formal, centralized composting operation. Yard debris is not collected at the curb or at depots; it is not granted a special disposal rate and diverted at the transfer station, as in some communities. No business or known enterprise, including government parks or roads agencies, grinds or otherwise treats or composts their trimmings. No water district makes sewage sludge, which might utilize yard debris for bulking. Doubtless some private agricultural composting goes on.

Yard debris has a much lower recovery rate in Columbia County (0.4%, or 0.2 pounds per capita) than the Oregon average (159 pounds per capita statewide).

5.2.4 Other Processing Technologies

Solid waste composting. Columbia County currently has no such system. Neither is one currently operating in the Northwest.

Refuse-derived fuel. Some wood pulled from garbage at the transfer station is ground for hog fuel.

Pyrolysis. There is no such system operating in Oregon at this time.

5.3.NEEDS AND ISSUES

This section describes Columbia County's needs and opportunities for materials processing over the next 20 years. The primary processing needs in Columbia County are to:

1. Improve ability/commitment to recover materials from garbage.

At present, all recyclables handled by the transfer station, including source-separated materials delivered by self-haulers and franchised collection companies, amount to only 5 percent of the refuse the transfer station disposes. Current recovery in Columbia County is improvable for materials that have reliable, nearby markets, including cardboard, newspaper, metals and wood. There is no incentive or requirement in the franchise agreement for the transfer station that would encourage more recovery. There is no incentive or requirement in the collection franchise agreements that would encourage loads rich in recyclables. The transfer station offers no price break for such loads. Indeed, many construction/demolition contractors are known to bury their waste on the sites where they work, to avoid disposal costs.

Finally, the transfer station is not equipped with basic sorting conveyors or stations, magnets or screens; and it does not schedule or design operations to optimize recovery from delivered refuse. Its baler is not set up to handle recyclable materials—although baling may not be cost-effective for some items, given the availability of nearby markets. The transfer station operator says he has held off making capital investments until issues of location and franchise renewal are settled with the County.

2. Ensure local capability to handle and process source-separated recyclables.

Columbia County has multiple options for processing recyclables—a desirable situation. The transfer station and the Hudson Depot in St. Helens are augmented by operations in Astoria and Longview WA that serve the North County; by operations in Forest Grove and Beaverton that serve the Vernonia area; and by operations in North Portland that receive materials from the East and South County.

Local receiving, storage, and baling operations are essential to sustain the economics of recycling. Because Portland-area markets are close to Scappoose and St. Helens, where most Columbia County recyclables are generated, it has been possible for the transfer station and Hudson Center to transport loose materials in roll-off boxes. However, the County needs to be aware if local handling capability declines for any area.

3. Explore economics, technology and land-use permitting for a central yard debris composting site.

When St. Helens reaches 10,000 population, probably by the Year 2005, it will have to choose an additional service. Given the County's failure to meet its 25% recovery goal in 1996, DEQ already has required St. Helens and Scappoose to provide two additional services in 1998; St. Helens chose commercial and multifamily recycling. Yard debris collection and processing at a central site also would qualify as a required service. State law allows a series of conveniently located depots to substitute for door-to-door collection, which may prove financially attractive and easily integrated with current facilities. In addition, State law passed in 1997 (HB3456) provides a 2 percent credit to the recovery rate for composting.

The same law requires that every public contract for lawn and landscape maintenance ensure composting or mulching of yard waste material at an approved site, *if feasible and cost effective*. Provision of a yard debris composting site would better enable public contracts to include and fulfill such terms. Available compost would benefit the County, cities, schools, Port and State by reducing disposal costs, saving parks and roads department the cost of soil amendments, and strengthening recovery rates.

Transfer station and collection company economics also would be affected by yard debris and woody waste mulching and composting. Costs of processing as well as reduced revenues from incentive fees need to be evaluated. Different market scenarios for the product (price, demand, distance) also will affect the sustainability of yard debris collection and processing economics.

5.4.ALTERNATIVES AND EVALUATION

Materials processing capability and activity can help meet the County's State-mandated recycling goals and allow cities to continue providing State-mandated services. Source-separation is not enough, however; processing and markets are essential.

5.4.1 Handling Source-Separated Recyclables

Option 5.4.1 (1): Upgrade one or more centralized facilities to process commingled recyclables.

Limited handling and sorting capability everywhere in the County currently limits the ability and willingness of collection companies to maximize recovery. These companies are reluctant to provide additional services because they cannot recover costs without increasing rates and/or upgrading materials collected. They cannot collect commingled materials from larger

commercial generators without having a place to take these source-separated materials for sorting—and no such place exists in Columbia County. Waste Control Systems in Longview WA currently serves such a need, but does not pay for the material delivered.

The St. Helens transfer station and the Hudson Center have limited baling capability and virtually no sorting systems. Neither facility has sufficient covered sorting or storage area or conveyor lines. The transfer station hauls most recyclables loose in roll-off boxes to Portland markets. It has only one baler, used for garbage.

Operations in Rainier and Clatskanie have no site or equipment for consolidating recyclables, and not enough current or projected flows to justify such investment. Neither area is required to provide recycling collection, although both haulers offer monthly pickup.

Vernonia's transfer station also functions as a drop-off center. Recyclable materials go loose in roll-off boxes to the Forest Grove transfer station, and ultimately to end users in the Beaverton/Hillsboro area, rather than back down the winding hill to St. Helens or Portland. Although the Vernonia site has limited space and equipment, and limited recovery quantities at present, improved public education in this growing area may require the operator to maintain and improve handling capacity.

If either of the St. Helens facilities (transfer station, Hudson Center) were to upgrade their sorting capability, they might be able to offer competitive prices to local businesses, such as Boise-Cascade and Fred Meyer, that currently send their recyclables out of town.

Similarly, the ability to sort mixed recyclables could allow increased recovery from multifamily dwellings that have limited space for collecting each item separately. Mixed recyclable sorting could permit more efficient, commingled collection from selected commercial and even residential customers.

The next franchise agreements—both for the transfer station and collection companies—could require increased capability to process source-separated materials and to sort commingled recyclables.

One apparent problem with this option is that quantities of recyclables generated locally would not pay back a major investment in equipment—and certainly not by two operators. However, a basic conveyor line with sorting stations could handle both mixed recyclables and recovery from loads of relatively uncontaminated mixed waste (see subsection 5.4.2). Based on installations at Portland-area facilities with many more tons of throughput per day, the St. Helens transfer station and/or Hudson Center could invest \$100,000 to \$200,000 to attract and recover more material. Because Columbia County generates relatively low volumes of recyclables, however, the sales revenues from improved handling efficiencies would pay back equipment investments slowly. Therefore, the potential for rate increases should be evaluated before such investments are required. The County should closely track investment and operating costs as well as revenues and avoided disposal fees in order to make appropriate disposal and collection rate adjustments.

Option 5.4.1 (2): Centralize all source-separated materials processing.

The nominal purpose would be to achieve economies of scale for Columbia County's limited quantities of recyclable materials (about 7,000 tons per year, or 32 tons per day—most of it not passing through the hands of franchised collectors). However, Columbia County's recyclable materials are not soon likely to be concentrated at any one site. Geographic distances, multiple collection companies and the independent systems employed by large generators will continue to send recoverable materials in different directions.

While it might be wise economics in some situations to maximize utilization of capital facility investments, there is little reason to suppose that the current situation will change any time soon. Even complete and total consolidation of hauler ownership would not generate enough recyclable material in itself to justify a major investment in new handling equipment.

5.4.2 Removing Recyclable Materials from Garbage

Many transfer station operators have terms in their contracts or franchises requiring them to recover a target percentage of material passing through the facility. That rate is 35 percent for the Metro Central transfer station and for the Rabanco facility in Seattle. These facilities handle upward of 2,000 tons of garbage per day. Actual recovery percentages at Portland area facilities have run less than half the target percentage, but still contribute significant diversion.

The transfer station in St. Helens handles about 60 tons of garbage per day, which is estimated to increase to about 90 tons per day by the year 2015. This quantity may not fully utilize the facility nor the time of transfer station staff. It may not challenge the ability of a well-planned but modestly funded effort to recover more cardboard, wood, metals, newspaper, even plastic.

Option 5.4.2 (1): Identify and segregate loads high in recoverable materials.

Key to recovering more materials from mixed waste is to identify and divert loads likeliest to yield worthwhile concentrations. Haulers and transfer station staff need to cooperate to generate such loads and place them where they can be picked.

The chief obstacles to recovering more materials from mixed waste include:

- lack of financial incentives to, or requirements upon, the transfer station operator;
- lack of incentive disposal rates for haulers bringing loads worth sorting;
- lack of enough generators and loads to permit much "dry waste" selective routing by collection companies;
- lack of commitment from County and transfer station operator that would ensure repayment of capital investments needed;
- lack of service level agreements in the collection and transfer franchises that encourage actions favorable to mixed waste recovery.

Incentives can include

- **selectively lower disposal fees:** Wastech, licensed as a transfer station and mixed-waste recovery facility in Portland, prorates load disposal fees based on percentage of recyclable material.

- **selectively higher disposal fees:** Increased charges for nonrecoverable loads, particularly from noncommercial self-haulers, could help repay equipment investments.
- **impose franchise requirements:** As stated above, some transfer station franchise agreements have recovery clauses. Similarly, collection franchise agreements can include requirements that franchisees make all feasible efforts to deliver loads that take advantage of mixed-waste recovery opportunities.
- **establish transfer station operator incentives:** The County needs to explore ways of increasing the attractiveness to the operator of recovering materials rather than hauling them to the landfill. Simply setting a percentage recovery target may be sufficient, but a penalty for failure to meet goals may also be needed. The County could look at allowing a per ton disposal profit only when recovery goals are met. The County also could credit the transfer station some dollar amount for each ton diverted from refuse delivered to the transfer station—an incentive in common use, by Metro and other franchising authorities throughout the U.S. Analysis would yield a payment formula that takes into account accurate and realistic sorting costs as well as marketing costs, revenues and avoided disposal.

The next franchise agreements—both for the transfer station and collection companies—could require increased capability and effort to recover recyclables from mixed waste. These agreements could set target goals for recovery of selected materials. Reduced disposal fees for recoverable loads (wood, paper, yard debris) could benefit self-haulers, franchised collection companies, and the County's recovery rate.

Analysis of transfer station operations may disclose a cost-efficient way to increase recovery from mixed waste through a combination of current staffing levels, low-tech equipment, low-cost sorting labor, incentives and requirements and improved management of delivered waste.

One problem in Columbia County is the relatively low employment in commercial businesses, compared with more urbanized counties. The number of customers and amount of material available locally will somewhat limit the number of high-gradable loads. However, the quantities of cardboard, wood, metals and other disposed recyclables suggest strongly that improvement, given a rational investment, is possible.

Option 5.4.2 (2): Enhance wood recovery from waste delivered to transfer stations.

Improved wood recovery can be aided by lower disposal fees and a special area for delivery of wood at the transfer station; by stringent permit standards for construction and demolition projects; and by special rates/requirements for collecting/accepting such loads. The City of Portland requires construction and demolition projects costing more than \$25,000 to set aside and separately deliver wood and other recoverable items. Many disposal sites charge a lower price for wood. Note, also, that Oregon legislation passed in 1997 requires that *every public contract for demolition require the contractor to salvage or recycle construction and demolition debris if feasible and cost-effective*. Having this capability and incentive at the transfer station would allow the County to ensure such recycling is feasible and cost-effective.

The sorting line described in subsection 5.4.1 could serve both mixed-waste and mixed-recyclable sorting. Items not removed for recycling could run off the end of the line into a

garbage baler. A more expensive system cannot be justified or readily compensated given current and projected throughputs. At a minimum, mixed-waste sorting should target items that have reliable if not always profitable markets: cardboard, wood, metals, newspaper, and—as markets warrant—mixed waste paper.

Option 5.4.2 (3): Improve requirements and holding capabilities for recoverable dry loads and recyclables in North and West county areas.

Local collection franchises in all parts of the County could include incentives and requirements to assist mixed-waste recovery. Cost analyses and limited local handling capacity may not justify additional trips from Rainier. But holding capacity in Rainier/Clatskanie and Vernonia areas—possibly associated with mini-transfer stations and/or recycling drop-off depots—would enable those franchisees to maximize recoverability, particularly if local franchise requirements were put in place that they do so.

This option has several problems: Cost may not justify the investments. Accumulations of garbage are not allowable under state and local law. The political will to make such investments at city and County level is not clear.

5.4.3 Composting Organics

Yard debris recovery could save on disposal and help the County meet its State-mandated goal. A composting program should be evaluated closely if DEQ requires the County and its cities to add new services. Composting and mulching could be done at a transfer station or by a separately permitted facility. Odors have troubled neighbors of composting facilities, which may dictate a site more isolated than the St. Helens transfer station or Hudson Center.

The crucial elements for any recovery program are to ensure reliable markets, sustainable economics, and the ability to meet market specifications. Yard debris compost typically has reliable markets: all types of public and private landscaping, including parks, schools, roadways, golf courses, commercial and industrial grounds, tree farming, home gardens, needs for soil amendments, as well as sewage sludge co-composting.

Collecting the material from homes and businesses will impose additional costs: putting a truck and crew on the road costs about \$50 per hour if the truck is still being paid for/depreciated, and somewhat less if the truck is a semi-retired packer—the usual candidate for yard debris collection. Depot collection should cost less, although it also serves fewer generators and must be monitored carefully for contamination.

However, the same entities that use compost also generate and transport yard debris: roads and parks departments, yard services, facilities with large grounds. These operations have to haul trimmings away and could benefit from a place to bring it that costs less than disposing it.

In addition, the County could gain an automatic 2 percent credit on its recycling rate for developing a composting program.

Finally, 1997 State legislation states that *every public contract for lawn and landscape maintenance shall require composting or mulching of yard waste material at an approved site, if feasible and cost effective.*

The widespread use and success of composting programs in Oregon does not necessarily prove that such efforts will work in Columbia County. But they do indicate that the County should evaluate cost and benefits for such programs in the near future. When St. Helens reaches 10,000 residents, likely in five to ten years, it will have to choose one more recycling option plus weekly residential collection (or some combination of options approved by DEQ). St. Helens already has added commercial and multifamily recycling in response to DEQ requirements that the County increase services in order to meet its 25% recycling goal. The St. Helens franchisee (Hudson) has begun exploration of yard debris composting. The St. Helens transfer station does occasional mulching but no composting. Involvement from the County and cities will include permitting of a compost site and evaluation of cost-benefits from, and compensation for, investments (e.g., land, equipment, labor).

5.4.4 Solid Waste Composting

Some communities operate facilities that compost municipal solid waste after it has been sorted for recoverable metals, glass, plastic and paper. This technology so far has worked best in countries that use less fat and meat in their diets and that have fewer toxic metals and less stringent environmental regulations affecting the compost product. Portland Metro had an expensive, unsuccessful experience with this technology, partly because of odor and partly because the product and market didn't develop properly. Portland's problems included high lead content, possibly from existing site contamination, probably also from lead-acid batteries and other lead sources in solid waste (paint, wine foil capsules). Solid waste composting operations in Minnesota and Florida have closed recently. The technology continues to be used in Europe, Africa, India and China.

5.4.5 Fiber-Based Fuel

Mixed waste high in paper and plastic can be shredded and cubed to produce fuel for use in industrial boilers and electric utility generators. The Metro Central Transfer Station operated such a cuber until recently, but it mothballed the operation when it lost its largest customer and no longer could sell the cubes reliably in this region. Also, BFI, the facility operator, was not able to attain full cost-effectiveness or continuous mechanical operation.

City Light in Tacoma has long accepted and burned for energy a supply of shredded, air-classified, magnetically sorted mixed waste from the Tacoma Refuse Utility. However, cost, quality and price issues have plagued this operation and prevented break-even manufacture of refuse-derived fuel.

5.4.6 Pyrolysis

For several decades, turning trash to cash with the flip of a switch has spurred multiple ventures into pyrolysis in the U.S. and elsewhere. Pyrolysis devices heat garbage, or some fraction of garbage, in an oxygen-deprived chamber, breaking down molecular bonds without igniting the feedstock, and producing various amounts of crude oil, carbon and recoverable metal. The garbage itself can provide much of the heat source to keep the process going. Currently, one company in Chehalis offers equipment that will break down tires and plastics. Other companies occasionally will send representatives to sell their systems. Although devices a few years back had problems with doors blowing off, the continuing problem with this technology seems to be that the resulting products have not proved reliably marketable and/or that making the product and getting it to market costs more than disposal. In addition, such systems require careful, professional operation and maintenance and therefore do not appeal to a desire for simplicity. This plan omits serious consideration of pyrolysis because it does not meet the test of proven technology and economics, and its reliability in meeting market specifications needs further proof. Also, Oregon court findings have disqualified some pyrolysis applications as recovery, allowing tire-to-fuel uses but refusing plastics, except as used to make more plastics.

5.5 RECOMMENDATIONS

In order to meet state mandates for County recovery goals, and to reduce costs of disposal that will be passed on to the public, it is recommended that the County and its cities implement the following measures:

Recommendation 5-1. Develop collection and transfer franchise agreement and incentives to increase recovery from garbage.

The County and cities need to establish incentives and requirements in their franchise and rate agreements to ensure materials processing and recovery:

- **Service level agreements with transfer station operators** should include target percentages recovered from delivered waste. A target of 8 percent recovery from delivered waste should be considered. Recoverable paper, wood, metals, and yard debris constitute more than 40 percent of the waste stream. The transfer station agreement should include increased recovery of paper fibers, metals, wood and other items.
- **A new transfer station agreement should include incentives to recover material, possibly in the form of per ton payment for recovery** as is used elsewhere. Payment should consider realistic, reasonable costs, as well as market values and avoided disposal expenses.
- **Evaluate collection fee rate incentives and requirements** to encourage selective routing and high-gradable loads rich in recyclable/recoverable items (cardboard, office paper, wood, metals).
- **Evaluate disposal fees that encourage high-gradable loads.** Offer cheaper disposal for highly recoverable loads (wood, cardboard, metals, office paper) and higher fees for loads not lending themselves to recovery to help cover costs of new equipment.
- **The County should encourage modest investment by the transfer station operator in mixed waste sorting capacity** by clarifying and confirming the franchise agreement

and facility location. Major investment would not be appropriate given low quantities available and recoverable, but could include increased covered area for diverting loads. The County should require the transfer station operator to track and report costs, revenues and recovery levels related to new investments and operations.

Recommendation 5-2. Ensure adequate capacity to handle source-separated recyclable materials.

- **County continue to monitor and evaluate handling capacity.** Redundant and scattered outlets for materials are characteristic of Columbia County and not readily or profitably changed. Consolidation may benefit some company or other, but lack of it does not threaten County obligations.
- **Consider improving/maintaining storage capacity** for recyclables in Vernonia, Clatskanie and Rainier. Mini transfer station storage space and equipment could make recycling less costly in those areas.
- **Evaluate cost-benefit of commingled collection of recyclables** from multifamily dwellings and businesses. More service and recovery may be possible, particularly in St. Helens, justifying new sorting equipment investment.

Recommendation 5-3. Evaluate benefits of yard waste collection and composting.

- **Facilitate site permitting if warranted.**
- **Incorporate costs in rates.**
- **Assist supply and markets through interlocal agreements.** Public agencies are a major source and market for compost. Materials should be directed to the site.
- **Develop reduced "disposal" rates for yard debris.** This incentive will help recover material.
- **Explore options for co-composting yard debris and sewage sludge.** Coordinate meetings with sewer/water district, cities.
- **Promote program.** And get State credit for doing so (2 percent).

5.6 IMPLEMENTATION

1998

1. Evaluate cost-benefits and feasibility of potential investments, rate incentives and efforts by collection companies and transfer stations to improve materials processing and recovery.
2. Develop new collection and transfer franchise agreements and incentives to increase processing and recovery. Coordinate with cities.

1999

1. Review capacity/capability and cost for materials processing.
2. Evaluate benefits of yard waste collection and composting.

2000-2005

1. Annual review of collection and transfer station rates, costs and franchise agreements re: their effectiveness in recovering materials.
2. Establish yard waste and other needed collection and processing.

CHAPTER 6. REFUSE COLLECTION/TRANSFER

6.1 INTRODUCTION

This chapter discusses the current refuse collection practices and services provided to constituents of Columbia County. It presents the existing conditions and services, the needs and opportunities for providing these services, evaluates alternatives for meeting these needs and makes recommendations.

The current system is evaluated in terms of its ability to meet certain goals that are considered important. These goals were established by the SWAC to provide overall direction and guidance for managing solid waste. The specific goals that pertain to collection and transfer services are as follows:

- *The system should provide uniform level of services to all constituents unless it is not cost effective, in which case alternative services should be provided.*
- *Rates should encourage participation and utilization of services.*
- *Rates should be based on cost of services and minimize subsidy by any one user class.*

In addition to these primary goals the system should promote efficiencies by having the County and cities coordinate services to promote standardized recycling and collection programs. This coordination could extend to reviewing the cost of services and for setting rates.

6.2 EXISTING CONDITIONS

Refuse collection services are regulated by Columbia County for the unincorporated portions of the County. In the incorporated areas, each City is responsible to franchise and regulate the companies that provide these services. The regulatory authority of each of local jurisdictions is described below.

6.2.1 Regulatory Framework

The regulatory authority to provide for the collection of refuse from residences and businesses is granted by state law. Under Oregon Revised Statutes (ORS 459.085), for the areas outside cities, the Columbia County Board of Commissioners may, by ordinance or by regulation or order adopted pursuant thereto:

- a) Prescribe the quality and character of and rates for solid waste collection services, and the minimum requirements to guarantee maintenance of service.
- b) Divide the unincorporated area into service areas, grant franchises to persons for solid

waste collection service within service areas and establish and collect fees from persons holding franchises.

- c) Prescribe a procedure for issuance , renewal, or denial of a franchise to a person providing or proposing to provide solid waste collection services.

Furthermore ORS 459.200 explains the authorities of both cities and the County for issuing franchises and creating the opportunity to recycle. It declares that a city or county may displace competition with a system of regulated collection service by issuing franchises which may be exclusive if service areas are allocated. The city or county may recognize an existing collection service. A city or county may award or renew a franchise for collection service with or without bids or responses for proposals.

ORS 459.200 explains the authority of a city and county to carry out on behalf of the state, the solid waste management plan.

As stipulated by these provisions, a private solid waste collection company must apply to the county or appropriate city for a franchise to operate in the specified areas. The county has the authority to review cost of services and operating revenues in order to set rates or act upon request for changes in rates. Typically these franchises have terms and conditions attached which may be revoked or amended after a hearing is held by the County. Cities have similar authority for their jurisdictions.

6.2.2 Collection Services

Collection of solid waste is provided to the entire County by six private companies. Each collection company is granted a 10 year franchise to provide services for a designated territory. These franchise agreements expire in December 1997. The franchised areas are shown in **Figure 6-1: Columbia County Franchise Areas**. The franchises are administered by the local jurisdiction. The services include collection of solid waste from residences and businesses and, where appropriate, collection of source-separated recyclables. The following is a discussion of the different companies and the service provided for their designated territory.

Figure 6-1 Columbia County Franchise Areas

Hudson Garbage and Recycling Services (HGS)

HGS provides collection services for the City of St. Helens and the unincorporated portions of the St. Helens area. The company also serves Columbia City, Deer Island and Warren and the surrounding areas. Services include collection of refuse and source-separated recyclables from residential customers, and pickup of containers from businesses.

The City of St. Helens reports that it has 2,445 households of which about 1,450 subscribe to HGS collection services in 1996. In the unincorporated area 1,332 households subscribe to service. HGS estimates that only 50% of the households subscribe to collection services in the City of St. Helens. The St. Helens Transfer Station also accepts refuse and recyclables brought in from the public. Because the transfer station operates in this service area, the number of households that subscribe to service may be less than in other areas.

Columbia County Recycling and Garbage Service (CCRG)

CCRG, formerly known as Mac's Sanitary Service, provides collection services to the City of Scappoose and the surrounding areas in the southern portion of the county. The services provided are similar to those provided in the St. Helens area. Within the City of Scappoose, 834 single-family residences subscribe to services. Another 527 households in the Scappoose area subscribe to collection services. There is no transfer station in this service area. However, individuals can haul waste to St. Helens 10 miles north of the City or haul it to the Metro Central Transfer Station located in north Portland.

Clatskanie Sanitary Services (CSS)

CSS serves the City of Clatskanie and the area west of Rainier along the Columbia River. The area is one of the smallest service areas within the County. This company is owned by the same family that owns HGS, but it operates as a separate company. It has a franchise with the City of Clatskanie and a franchise with the County to provide services in the unincorporated areas. The City has about 450 households that subscribe to collection services. In the unincorporated areas 650 households subscribe to services. There is no local transfer station but it is reported that some people use the transfer station in Astoria.

The level of services is similar to those provided to other portions of the County. This includes residential and commercial collection services and drop box services.

Rainier Sanitary Service (RSS)

RSS services the area north of St. Helens and includes several small communities along Highway 30. This includes Alston, Goble, Prescott, Trojan and the City of Rainier in addition to the other unincorporated portions of the County. This franchised area is one of the largest in the County and is one that is most linked to the Longview and Kelso area in Washington by the Longview Bridge.

RSS is a locally owned franchise and provides services to residential and commercial customers. It provides a limited drop box service and contracts for larger boxes (30/40 Yard) with another company as needed. In the City of Rainier, about 624 households that subscribe to collection services. Outside the City 628 households subscribe to services. It is possible that some people may haul refuse and recyclables direct either to Longview or to the St. Helens Transfer Station about 16 miles south of the City of Rainier.

Nehalem Valley Sanitary Service (NVS)

This is the largest franchised area in the County, but it is the least densely populated. It has 975 residential customers of which 524 or 54% are located throughout the unincorporated portion of the County. In the City of Vernonia 262 residences subscribe to service. A small portion of Clatsop County also is served by this company. Services include both residential and commercial collection. The collection company also operates a transfer station in the City of Vernonia. Collection trucks bring waste to the transfer station where it is loaded into larger containers for transport to the Forest Grove Transfer Station. There it is reloaded into even larger trailers and transported to the Riverbend Landfill. This franchise was locally owned and was recently sold to the same company that owns CCRG.

Gruetter Sanitary Service

A small portion of Columbia County lies on Sauvies Island. This area is serviced by Gruetter Sanitary Service of Portland. The area includes just 25 residences and a small marina. There is no franchise agreement in effect. In 1987 franchise fees were collected but in recent years the Land Development Services have not pursued either collection of fees or establishing a formal franchise agreement.

Columbia County Drop Box Company

Drop box services are provided to the Scappoose and St. Helens areas by Columbia County Drop Box Company. This service allows customers to request drop boxes (10-40 yds.) to haul large loads to the transfer stations. Also Columbia County Drop Box Company will contract for large boxes with other collection companies.

The six companies franchised by the County and cities ensure that all residences are provided with collection service. Overall it is estimated that about 60% of the households subscribe to collection services. The franchise agreements allow each company to provide a variety of services that gives customers choices. Specifically, residences can subscribe have collected anywhere from 1 to 3 cans per week for a standard 32-gallon can. All of the companies offer bi-weekly and occasional can pickup service. For commercial or business accounts companies

offer one, one and a half and two yard containers. For those customers that require drop boxes (10-40 yards) all companies can provide these services. As a result these companies provide a fairly uniform level of service throughout the County.

The current collection rates vary throughout the county. This is typical since each area has different companies providing services and the cost will vary with characteristics of that area. For instance, in the St. Helens area, the densities are higher and the collection routes are on relatively flat terrain. Also, the distance required to haul waste to the transfer station is less. In Rainier the terrain consists of rolling hills, and households are more spread out. RSS has to haul waste about 16 miles to the transfer station. This causes a natural difference in rates, and therefore each area needs to be evaluated based on its actual cost of service. The current collection rates for residential service is shown on Table 6.1.

Collection rates are set by the Cities and the County for each service area. This means that franchised companies need to submit request for rate adjustments to both the City and the County.

The process by which haulers can request changes in rates is undefined. Certain haulers, such as CCRG, received a rate adjustment in 1996. Other haulers have not processed a rate adjustment for more than eight years. Recently, the County commissioned a study to evaluate the rate setting methodology. Changes to the procedure were recommended. The County is considering these changes to determine their impact on collection rates. Even with a new methodology that provides some guidance for determining rates, haulers requesting rate adjustments still have no set format for submitting cost information and for allocating cost to various user classes. Likewise, there are no formal rate review procedures in place.

Table 6-1 1997 Collection Rates

<u>Company</u>		<u>1-Can/Wk</u>	<u>2-Can/Wk</u>	<u>1 can Bi-wkly</u>	<u>1 can Occasional</u>
Columbia County	Co.	\$17.10	\$23.36	\$11.27	\$5.63
Recycling/Garbage	Inc.	\$17.10	\$23.30	\$10.67	\$5.34
Hudson Garbage Co.	\$13.18	\$23.12	\$9.22	\$5.09	
Recycling Service	Inc.	\$13.73	\$24.16	\$8.28	\$4.25
Columbia City	Inc.	\$12.95			
Clatskanie Sanitary	Co.	\$15.41	\$29.72	\$7.91	\$5.19
Service	Inc.	\$15.67	\$30.77	\$7.98	\$4.56
Rainier Sanitary Co.	\$14.62	\$24.00	\$10.80	\$6.00	
Service	Inc.	\$13.40	\$22.50	\$10.80	\$6.00
Nehalem Valley Co.	\$13.67	\$23.94	-NA-	\$4.25	
<u>Sanitary Service</u>	<u>Inc.</u>	<u>\$16.07</u>	<u>\$28.32</u>	<u>-NA-</u>	<u>\$4.94</u>
Average Rates	Co.	\$14.66	\$24.82	\$9.80	\$5.23

Inc. \$14.99 \$25.81 \$9.43 \$5.01

-NA- Not Available

6.2.3 Transfer Stations

Transfer stations are needed in Columbia County since all of the solid waste generated is hauled to disposal facilities outside the County. These facilities provide a central receiving area both for franchised haulers and self haulers to dump their waste. The waste is loaded into larger vehicles for transporting to a disposal site that is approximately 70 miles from St. Helens. There are two transfer stations operating in Columbia County.

St. Helens Transfer Station

When the Santosh Landfill closed in 1983, the County committed to transport its waste to the Riverbend Landfill in Yamhill County. The County requested proposals to build and operate a transfer station to receive all waste from the County collection companies and haul the waste to Yamhill County. The County received proposals from several private firms. They selected a proposal from William Miller Jr., dba H.I.S. Salvage and Transfer Company, to build and operate a transfer facility in St. Helens. The County issued a franchise agreement with the company for the period of 10 years, starting on December 5, 1984. The franchise would be reconsidered after this period in December 1994.

The St. Helens Transfer Station is located at the intersection of Highway 30 and Gable Road. The facility was operated by the H.I.S. Salvage and Transfer Company until 1990. At that time the transfer station was purchased by Columbia County Transfer Station Inc. This Company has the franchise to operate the existing facility until February 29, 2000.

The transfer facility allows collection trucks and drop box vehicles to dump their waste onto a tipping floor. Collection trucks haul between 3 and 6 tons per trip. The material is then loaded into larger trailers which handle an average of 26 tons per trip. These trailers are hauled about 70 miles one way to the Riverbend landfill. Drop boxes also are brought to the transfer station and are dumped onto the tipping floor. These vehicles haul between 1 and 4 tons per vehicle. The transfer station also receives refuse brought in by the general public.

Over the years there have been improvements made and services added at the transfer station. These include adding drop off facilities for source separated recyclables and installing a compactor to improve hauling efficiencies.

In 1996 the transfer station handled almost 20,000 tons, making 743 trips to the Riverbend Landfill. Approximately 80% of the waste is delivered by franchised haulers with the remaining portion coming from public vehicles. The facility also receives source-separated recyclables brought in by the public. The materials are packaged and sent to markets. Because of the size of the receiving building there is a limited opportunity to process waste and recover other materials. Wood waste and yard debris are dumped in a separate area for recycling.

Tipping fees at the facility are \$61.36 per ton for commercial haulers and \$82.78 per ton for noncommercial customers. This fee includes the cost to dispose waste at the Riverbend Landfill which is \$25.83 per ton. The cost to operate the St. Helens Transfer Station is \$27.40 per ton for commercial haulers. Self haulers are charged a minimum fee of \$8.00 per vehicle (based on 220 pounds) at the station. Users can drop off source-separated recyclables for free. The County also collects a franchise fee at the transfer station.

Over the past 8 years there has been growing interest concerning the location of the transfer station. As the St. Helens area has grown there has been interest to develop the transfer station site for retail or other commercial purposes consistent with other developments in the area. The site is centrally located and provides easy access off Highway 30. This makes it convenient for franchised haulers and keeps traffic off local streets. It is also attractive for other developments. At times service is interrupted when trains operating on the Burlington Northern Railroad lines temporarily close Gable Road. These factors have led the County and site operators to consider moving the facility. As a result there have not been significant investments to expand and/or upgrade the facility. This is primarily motivated by the desire to use this land for commercial purposes. Depending on how the surrounding area is developed, the transfer station may not be a compatible use in the future.

Vernonia Transfer Station

In 1990 the landfill that served the City of Vernonia and the central portion of the County was closed. Initially it was intended to haul waste to the transfer station in St. Helens. This would require waste to be hauled from Vernonia approximately 26 miles to the St. Helens Transfer Station. The material would then have to be reloaded and hauled some 70 miles to the landfill. The principle route to St. Helens is Vernonia Road which is a winding road with steep grades in places. It also is impassable and unsafe at times during inclement weather, particularly for heavy boxes. As a result it was not practical or cost effective to haul to the St. Helens Transfer Station.

To provide improved transportation and a lower cost alternative, NVS proceeded to build a transfer station in the City of Vernonia. The City leased a parcel of land to NVS to build and operate a recycling facility and a transfer station. The facility works by allowing commercial haulers and the general public to dump into 40-yard drop boxes. Each box can handle about 10 tons. Originally, NVS began to haul directly to the Riverbend Landfill which is about 50 miles. Hauling directly to the landfill rather than the St. Helens Transfer Station resulted in transporting waste 46 fewer miles and reduced transportation costs.

In November 1993 the Vernonia Transfer Station received a permit from DEQ. It allows the facility to operate as both a transfer station and a recycling depot for the area.

As part of the intergovernmental agreement between cities and the County all waste collected in the County is to be delivered to the St. Helens Transfer Station. This results in everyone in the County paying for the cost of the system. However, in the case of the Vernonia area, transportation cost would actually increase. To rectify this situation NVS now hauls waste to the Forest Grove Transfer Station. The fees paid by NVS are equivalent to the fees at the St. Helens

Transfer Station. Thus, County franchise fees are collected and everyone in the system pays the same cost.

NVS was recently purchased by the Company that owns CCRG and the Columbia County Transfer Station, Inc. which operates the St. Helens Transfer Station.

6.2.4 Franchise Administration

Six hauling companies are franchised to provide service in the County. Each area is defined and services are approved by the County. The cities of St. Helens, Scappoose, Clatskanie, Rainier, Columbia City and Vernonia each franchise with these same haulers to collect waste in their communities. The current franchise agreements include an operating certificate that licenses the hauler to serve a specific area. It includes a description of the service areas and the rates for service.

The current system requires each hauler to report to the County and to the cities annually for the areas under their respective jurisdiction. Request for rate adjustments are made to the appropriate jurisdiction. There is no standard format for submitting cost of service information or set procedures for setting rates. Because there is no established process to review rates, the haulers are reluctant to request rate adjustments. Also haulers are concerned that a rate increase could result in a reduction of the number of households that subscribe to service. HGS, CSS and RSS have not had a rate adjustment since 1989. CCRG received a rate increase in 1996 and the City of Vernonia approved a rate adjustment for NVS in July 1997. The County has conducted a review of the rate setting methodology and plans to adopt changes to make it possible for these haulers to submit their rate requests.

The St. Helens Transfer Station is operated by Columbia County Transfer Station, Inc. under a franchise agreement. The current agreement is similar to the franchise certificates. There are no operating standards or rate setting procedures. The franchise was approved and effective as of March 1, 1990 and expires on February 29, 2000. The rates for the transfer station were set in 1990. During this period the County has not conducted a review of the rates charged at the transfer station. The County does receive an annual report of transfer station expenses and revenues.

6.3 NEEDS AND OPPORTUNITIES

Collection services and transfer station operations are provided through a franchise agreement between local governments and private collection companies. The agreements stipulate the area served by the franchise. Rates are adopted by separate ordinance. The following discussion reflects upon the needs and deficiencies of the current system. It identifies opportunities for improving these arrangements to be more consistent with franchise procedures used in other systems. It also considers whether new facilities are needed to meet the demands of the future.

6.3.1 Collection Services

Collection services throughout the County are fairly uniform considering the diversity of franchised areas. Each household or business has the opportunity to subscribe to a variety of collection services designed to meet its needs. For instance, a household can subscribe to regular garbage service, which is one 32-gallon can per week. People who generate more waste can use either the two or three can service on a weekly basis. Those who generate less and/or recycle more materials can use bi-weekly or the occasional can service. The difference in rates for once a week and bi-weekly service averages about \$5 per week. This creates some incentive for households to recycle. Both

St. Helens and Scappoose have weekly pickup of recyclables.

Solid Waste Ordinance 89-8 represents the legal document that contains rules and regulations for collection and transfer services. However, there is a lack of structure to the actual franchise agreements. The certificates of operation do not clearly spell out service requirements for each jurisdiction. There are no set procedures for making rate adjustments. It is desirable to develop a formal franchise agreement that embodies the standards set forth in the ordinance, defines the level of services and establishes rate review procedures. A franchise agreement would provide an instrument that better clarifies the responsibilities of the franchised company and the role of the local government in delivering these services.

6.3.2 Transfer Stations

The current transfer station system was developed to provide a means of achieving hauling efficiencies when the Santosh Landfill closed. The

St. Helens Transfer Station is about 15 years old and has served the County well. It is centrally located with good highway access. Having a central receiving and transfer point also allows the County to control where waste is disposed. This is beneficial for obtaining the lowest price for disposal services for the entire County.

Regarding the location of the St. Helens Transfer Station, it is primarily a land use compatibility issue. The facility can continue to operate at its present location for the near future. There is land available to expand should it be required. As stated in the Materials Recovery Chapter, certain materials may be cost effective to recover and recycle. The present receiving buildings have limited capability for expanding the materials recovery opportunities. Therefore, new facilities would need to be constructed to accommodate these services. Also, as more growth comes into the County, traffic at the station will only increase. The proximity to the railroad could impact future operations.

The franchise agreement should allow for incentives to recycle and avoid the cost to haul waste 70 miles to the landfill. Generally markets in the Portland area provide an outlet that is substantially closer to Columbia County than any landfill. Realizing the benefits of avoiding additional transportation cost as well as the disposal cost provide some financial incentive. Currently, the avoided cost is estimated to be about \$31 per ton.

Another factor to consider is that the ultimate disposal site could change. As discussed in Chapter 7, there are several landfills that are seeking to acquire more waste, and landfill rates have come down considerably. Access to these sites is available by rail and barge as well as by truck. It is desirable for the County to have the flexibility to transport waste using any of these methods. The current franchise with Columbia County Transfer, Inc. is due to expire on February 29, 2000. The current disposal with Riverbend Landfill contract expires in 2005.

The Vernonia Transfer Station provides good service to the central portion of the County. It was developed to make it more cost effective to haul waste to the landfill in Yamhill County. Under its present configuration the facility can load large drop boxes but cannot handle larger transfer trailers. Depending on where the County disposes of waste in the future, it may be desirable to upgrade this facility.

The area from Rainier and west to Clatskanie is not serviced by a transfer station. The driving distances range from 16 miles to 30 miles for this portion of the County. Whether a transfer station would be cost effective to service this area should be considered. The facility could incorporate a drop off area for source separated recyclables and improve the level of service to this portion of the County.

6.4 ALTERNATIVES

The alternatives were developed to address the needs and opportunities described in the previous section. Options for meeting the needs will have an impact on the current practices and policies. A brief analysis is provided to evaluate these impacts and to select the alternatives that best meet the system requirements.

6.4.1 Alternatives for Collection

The entire County is provided with collection services, and households and businesses have the opportunity to subscribe to various levels of service. There is no immediate need to expand services or to add collection programs to areas that are not served. The alternatives center around making sure that franchise agreements provide a clear definition of the responsibilities for providing these services. This is important in relation to the need to consider cost-effective waste reduction and recycling programs.

The collection companies have exclusive franchises for their designated areas. Thus, the primary needs are to provide appropriate rate regulation, establish standards for delivering services and make sure adequate enforcement procedures are in place. Following are the alternative approaches for addressing these needs.

6.4.1.1 Continue the Existing Franchise/Certificate System

The current franchise agreement is comprised of several independent documents. It includes a certificate for service, an ordinance that ratifies current collection rates and a separate ordinance that spells out rules and standards. The existing documents do not state procedures or specific rules for how rates are set or what services are provided. Franchised haulers provide an annual report that shows revenues and total expenses, number of customers served for each customer class and franchise fees owed to the local jurisdiction. The reports do not provide an itemized accounting of expenses. The term of the County franchises is for ten years. The current franchise agreements expire on December 31, 1997.

To offset the cost to administer and manage the franchise system, each franchisee pays a fee to the local jurisdiction. The fee is 5% of the gross income of the franchise company. Specific responsibilities of the jurisdictions include rate review and approval, review of services, establishing policies as needed and in some cases providing promotional materials for educating constituents about waste reduction and recycling. The County and DEQ sponsor collection of household hazardous waste as a special once-a-year event. DEQ also provides passes for citizens to use the HHW facility at the Metro Central Transfer Station in Portland.

This franchise mechanism represents a fairly loose regulatory approach. As such, any changes in rates and/or services are promoted by the franchised company. There is informal competition in the system. Haulers have maintained a uniform level of service and rates appear to be competitive. From the information provided, there has not been a true cost of service analysis conducted or rate adjustments made for most haulers in over 8 years. Recently, Mac's Garbage Service in Scappoose and NVS received approval for a rate adjustment. Both rate adjustments were made prior to the transfer of the franchises to another customer.

The reluctance of the other haulers to request changes in rates is related to the lack of clarity in the current rate setting methodology. The County is considering changes to the methodology to rectify this situation. However, there is no set format or standard financial document for haulers to use in making a request for rate adjustments. Therefore, to complete the rate review process, each hauler must prepare financial information based on their own accounting practices. This can cause confusion and add considerably to the time and effort needed to properly review a rate request.

Regardless of these short-comings, the current franchise arrangements have been adequate to meet the service needs of the communities. The haulers have responded to new regulations by introducing new recycling programs. This will most certainly create the need to reconsider rates and service levels in the near future. The County and Cities will need to decide on what level to participate in this process. Maintaining the existing franchise system would indicate a passive role and one that primarily reacts to the franchise collection companies.

6.4.1.2 Establish Franchise Agreements

The current franchise system is not different from what many other jurisdictions had for their collection services. However, when the Opportunity to Recycle Act was passed in 1984, local

jurisdictions began to take a more proactive role in determining the service requirements for their communities. In 1991, the recycle law was expanded and the State adopted a goal to reduce and recycle 50% of the solid waste generated statewide by the year 2000. It also required certain jurisdictions adopt a minimal level of service by choosing from a set of standard programs. The law allowed local governments to make these choices in conjunction with their service providers. Finally, with several of the local landfills closing, many communities became more involved with selecting the ultimate disposal site for their waste. Each of these incidents contributed to a more proactive role by local government.

As a result of these changes, local governments have established formal agreements with the franchised collection companies. Most franchise agreements now contain certain elements that create more certainty for both the local jurisdiction and the franchised collection company.

Franchise agreements contain the following elements:

- Description of service area
- Contractors services
- Level of services
- Procedures for reviewing rates
- Term and Fees

In addition to these specific elements the franchise agreement will contain standard conditions for insurance, transfer rights and restrictions and performance requirements.

Once these franchise agreements are in place, they require various levels of management and administration. The level is somewhat dictated by how often local governments wish to review financial information and/or review service requirements and performance. Another factor is the need to monitor performance of programs and to modify these programs as new information is obtained. Washington County reviews rates annually to determine if adjustments are needed. This is partially motivated by the rapid growth of that county. The City of Portland review rates annually to obtain information regarding different collection programs to give them the data needed to refine programs and to maximize the rate of recycling.

The benefits of a formal franchise agreement is that it provides clear definition of the responsibilities and expectations of the hauler for the services desired for that community. It dictates a clear process for reviewing rates, recognizing that the hauler has an exclusive franchise area that entitles them to a reasonable rate of return. This is consistent with other public utilities where no direct competition is permitted in the service area. It is therefore desirable to conduct a review of the cost of services and the rates needed to meet the revenue requirements. Also, by standardizing the reporting mechanism and determining the format for submitting financial information, the hauler can more easily generate the information needed by the local jurisdiction. It can result in a more efficient process for conducting rate review.

6.4.1.3 Bidding Collection Services

State law allows Counties and Cities the opportunity to bid out the collection services if they desire to do so. The purpose of bidding these services is to encourage competition in order to receive the best rates. In order to select a vendor, a standard bid package would need to be prepared. The package would contain much of the same information needed for the standard franchise agreement. This includes a detailed description of service levels and contractual obligations. Rate regulation would be minimal because the competitive process is used to establish cost of service and rates.

As part of the bid package the local jurisdiction would need to decide on minimum qualifications required to perform the services. For instance, a company bidding to provide collection services would need to be experienced in the collection business. They would need to have an established track record with a minimum experience of perhaps 5 years in the business. They would need to have adequate financial resources to provide the equipment and manpower to deliver the services. The term of the contract would need to be a minimum of 5 to 7 years in order to give the bidder sufficient time to capitalize equipment. This is similar to franchise agreements where the term is 7 to 10 years.

In Oregon, bidding out collection services has not been widely used. There are occasions where communities have done so. The City of Sherwood did so in the mid 80's and it resulted in obtaining a higher level of service for essentially the same cost as the existing rates. The contract was awarded to the company that previously provided the services. In Clark County, Washington, the Solid Waste Department bid out curbside collection of source-separated recyclables from residential customers.

Bidding these services in reality is another form of rate regulation. If a jurisdiction has a thorough rate review procedure and financial reporting mechanism in place there is no compelling reason to bid out these services. In some cases where there are numerous complaints about the services and the jurisdiction exercises its authority to revoke the franchise, there may be reason to bid these services out. However, there is no record of this occurring in Columbia County.

6.4.2 Evaluation Of Collection Alternatives

Currently, collection services are provided uniformly throughout the County. The services offered by individual collection companies are regular and similar. Collection companies have been responsive to state requirements for implementing recycling services. However, several factors point to the need to have more formal franchise agreements between local governments and franchise haulers.

1. The County will continue to experience steady growth. This growth will cause the Cities of St. Helens and Scappoose and the urbanized county areas to consider expansion of collection and recycling services.
2. Reports from DEQ indicate that the County is not attaining its recycling goal. This will require new programs or adjustments to existing programs. Decisions regarding these services

should be made cooperatively between the local jurisdiction and the collection companies.

3. Local jurisdictions need to be certain that rates are equitable and that each user class pays its cost of services.
4. The system should encourage utilization of collection services to minimize system cost.

Considering these issues, the current franchise agreements do not provide a clear definition of how these challenges will be met. Establishing a new franchise agreement that defines what is expected from the franchised hauler would benefit both the local jurisdiction and the hauler. It would provide a mechanism to maintain communication among service providers and define how decisions will be made for providing services in the future. Franchised collection companies would be able to make decisions regarding equipment purchases and methods for providing cost-effective services.

Bidding out collection franchises is not necessary as long as the appropriate rate review process is in place. As part of adopting a new franchise agreement it is desirable to have a rate review process that accomplishes three objectives:

1. Provide local jurisdictions with sufficient information to be sure that rates are equitable among user classes;
2. The rate of return obtained by the collection company is reasonable and appropriate;
3. By reviewing the cost of services, the local jurisdiction can, in conjunction with the franchised collection company, set rates to encourage waste reduction and recycling and that encourage utilization of services.

By establishing a formal franchise agreement, overall communication between the local jurisdiction and the franchise collection company will improve. This arrangement will clarify the expectations of each party in making certain that cost-effective services are provided.

6.4.3 Alternatives for Transfer Stations

Transfer stations are the mainstay of the solid waste system in Columbia County. They provide a local facility whereby waste can be delivered by local haulers and transported efficiently to a disposal site. The transfer stations represent a staging area to receive source-separated recyclables and possibly to recover other materials. Since all waste is transported outside the region, the County should encourage recovery of materials to avoid the cost to transport waste to distant landfills and the cost to landfill. There will be costs associated with hauling recovered materials. However, markets in Portland are closer to Columbia County than disposal sites. The following presents the alternatives for providing these facilities in the future.

6.4.3.1 Maintain Existing St. Helens Transfer Station

The County could stay at the existing St. Helens site and extend the existing franchise agreement with Columbia County Transfer, Inc.. The existing station is centrally located and has good access to Highway 30. In the near term the current receiving building is adequate. The existing facility already has the infrastructure needed to service current and projected waste flows for some time. Scales are available to weigh each commercial load, and there is a tipping area for the public. A compactor was installed to densify waste loads to maximize payloads for transporting waste. Currently, the transfer trailers are averaging about 26 tons per load. This provides reasonable transportation efficiencies for a facility of this size.

The transfer station receives recyclables brought in by the public and from haulers that collect source-separated materials at the curb. The materials are processed as needed for hauling to markets. As noted in previous chapters, there is the potential for some low tech processing and recovery of materials. To accommodate more processing and material recovery operations, the facility may require additional capital investments.

Columbia County Transfer Inc. owns this facility and has a franchise to operate the facility until February 29, 2000. The rates charged at the transfer station are subject to County approval. There has been no review of these rates since Columbia County Transfer bought the franchise in 1989. The facility is located adjacent to Burlington-Northern rail line and rail access is a potential.

6.4.3.2 Site/Build a New Central Transfer Station

The current St. Helens site is in an area that is transitioning into commercial and retail uses. It may therefore be incompatible with its surrounding neighbors in the future. The County or a private company could site a new transfer station to provide for the long term needs of the system.

There are two primary issues the County must consider when proceeding with this alternative. The first is the time factor. The current franchise is in place until February 2000. This allows about two years to find a site, obtain permits and design and build the facility. This is a tight time frame but it could be accomplished. The County may extend the existing franchise agreement until a new facility is operational.

The second issue is who will own the facility. In the past the County has not owned solid waste facilities. However, there are several approaches the County may consider in procuring a new transfer station facility.

1. The County could site the facility and obtain permits. Once the site is found the County may consider one of several approaches for building and operating the facility.
 - a) Conventional Approach–The County would design and build the facility. Once it is built the County could contract out operations.

- b) Turnkey Approach–The County would contract to a firm to design and build a publicly-owned facility. Once completed, the County could either operate the facility or contract operations.
- c) Full Service–The County would select a vendor to design, build and operate the facility. The County would lease the land to the vendor under this option.

2. The County could select a vendor to site, build and operate a new transfer station. A long term franchise agreement would be issued similar to the approach used in 1984 to build the current facility.

To implement any of these options will take time. The County needs first to decide what role it wishes to have in managing the transfer station facilities. Currently, the Inter governmental Agreements provide the County with responsibility to make sure these services are in place.

Option: Co-Locate the Transfer Station with Other Public Facilities

One alternative would be to locate the transfer station with other public facilities such as a jail. The benefit would be to economize on purchase of the properties. The other option would be to utilize work release programs or inmate labor to assist in operations. There has been some experience with this approach in other areas.

The current transfer station in St. Helens uses five employees, all of whom require significant levels of skill, experience and continuity of service. The gatehouse person weighs loads and charges fees; the loader operator uses heavy equipment to move refuse and recyclables around the yard and also operates the baler; the yard worker directs loads to various sites on the premises and helps unload; the dispatcher responds to scheduling requirements of collection companies and drivers transporting waste to the landfill and recyclables to market; the site manager provides a variety of duties as needed including recordkeeping and supervision.

None of these positions would seem appropriate for short-term, untrained, and potentially impulsive individuals. All of these employees must work together in a coordinated and safe manner. Workers at a transfer station are exposed to health and safety risks from equipment and potentially injurious materials. County prisoners do not serve lengthy terms and would be unlikely to learn all the ins and outs of the job before they leave. This type of rotation does not serve the safe or efficient operation of the transfer station.

Community service workers have been used to sort recyclables in some communities, including Lane County, Oregon and San Diego, California. Physical labor duties for actual incarcerated prisoners in many states have included forestry, construction, excavation and manufacturing. With proper security measures and insurance coverage, they also could sort out recyclables from delivered waste.

However, there are too many risks and liabilities involved in use of actual prison workers at the public transfer station. These risks and liabilities could affect the County, the prison system, the public and the individuals involved. Injury, escape and litigation all seem to be real potential

events. In addition, public perception may be negative, and may discourage recycling as well as disposal at the facility.

Use of inexperienced, constantly rotating prison workers for transfer station duties cannot be recommended in Columbia County except as sorters. These concerns about use of prison workers do not, of course, exclude locating the transfer station at the same site as the prison. There still may be savings in land cost of a county-owned facility.

6.4.2.3 Maintain/Expand the Existing Vernonia Transfer Station

The existing transfer station in Vernonia provides a convenient location where self haulers can bring in their waste and recyclables. It provides a facility where the franchise hauler can reload waste for the long haul to Forest Grove Transfer Station or to the Riverbend Landfill.

Presently, the central portion of the County does not have many options for efficiently hauling waste. Hauling to the St. Helens Transfer Station is inefficient under the current system where all waste is hauled to Yamhill County for disposal. The other option is for collection vehicles to transport waste directly to the landfill in Yamhill County. This is not cost effective. The facility is located on City property and is owned by the local collection company. There is no franchise agreement for operating this facility. The transfer station has an operating permit issued by DEQ.

The collection company, the City of Vernonia and the County should develop a formal agreement regarding the services and cost needed to operate this facility. As part of the agreement a plan should be developed to upgrade this facility to meet the long term needs of the community. This arrangement would provide greater certainty to both the City and County. It would give the collection company a long-term agreement with which it can then proceed to make appropriate investments.

Hauling from Vernonia to St. Helens can only have the effect of increasing hauler and system costs, which would then be imposed on ratepayers as long as waste is disposed of in Yamhill County. The long-term plan should consider whether the County will continue to dispose of waste at Riverbend Landfill beyond 2005. Should the County contract to dispose of waste at another site, the option to haul waste from the Vernonia to the St. Helens Transfer Station should be re-evaluated.

6.4.2.4 Site/Build a Transfer Station to Serve Clatskanie/Rainier Area

The area north of Rainier is served by two franchised haulers, Rainier Sanitary Service (RSS) and Clatskanie Sanitary Service (CSS). When trucks are full they travel 16 miles from Rainier and 28 miles from Clatskanie to the St. Helens Transfer Station. Transfer stations are generally cost effective when transporting waste over 15 miles. However, each service area needs to be evaluated individually since there are several factors that impact the cost benefits of using a transfer station.

A facility built to service this area would be a small transfer station capable of reloading waste into a larger vehicle to transport waste to the St. Helens station. It may or may not be open to the public. However, as discussed in previous chapters, additional drop off facilities are needed in this portion of the County. The facility could provide a location for people to bring their source separated recyclables.

6.5 EVALUATION OF TRANSFER STATIONS

The current transfer station system can meet immediate needs of the County solid waste system. This system was designed to transport waste efficiently to distant landfills and this still is the primary objective. However, other factors need to be considered to make the system obtain maximum efficiencies. One need relates to expanding and improving the materials recovery capabilities of the system. Also, the County should have in place an agreement that encourages materials recovery and incentives to avoid disposal cost.

6.5.1 St. Helens Transfer Station

By extending the franchise agreement to operate the existing transfer station the County will be able to maintain the existing service level. The extension period would depend on how critical it is to relocate the facility, which is somewhat related to developments surrounding the existing facility. The County should engage in a process of discussing alternative sites with the City of St. Helens and the franchise haulers. In these discussions public ownership should be evaluated.

In conjunction with extending the franchise agreement, the County should adopt an annual review of the cost and services provided at the transfer station. This facility serves various customers and classes of customers. The County should regulate rates at the facility to complement other program objectives. Rates should be set to encourage recycling and to encourage people to utilize the collection services. Rates should include incentives to deliver source-separated materials and to take advantage of avoided cost.

In siting a new transfer station the County should consider haul distances from the various franchise areas. The new site should have rail access and possibly be near a port terminal for access to barging.

By extending the existing franchise for a limited timeframe, the County solves several immediate issues. This approach removes the immediacy of relocating. It ensures continuous delivery of services and provides the time needed to develop a plan of action that will service County ratepayers for the long term.

6.5.2 Vernonia Transfer Station

The Vernonia Transfer Station offers the most cost-efficient method to transport waste to a regional landfill. A formal franchise agreement should be developed to continue operating this facility. This agreement should include the City of Vernonia as well as the County. Rate policies should be developed to encourage recycling and to encourage utilization of collection services.

6.5.3 Rainier/Clatskanie Service Area

Based on preliminary discussions with local service providers, it does not appear to be cost effective to construct a transfer station in the near future. However, as area population grows and more waste is generated, it may be beneficial to consider this alternative. Also, when a replacement for the St. Helens Transfer Station is operational, constructing a facility to serve the north county may be cost effective. This alternative should be reviewed occasionally to determine if circumstances warrant a transfer station in this service area.

6.6 RECOMMENDATIONS

Collection

Recommendation 6-1. Develop a Franchise Agreement that provides a clear description of the level of services and required performance standards. The franchise agreements should include rate review procedures.

Transfer Stations

Recommendation 6-2. Extend the Franchise for the St. Helens Transfer Station for a period up to five years. The extension time should consider whether the City and County agree this area should be rezoned.

Recommendation 6-3. Develop a Franchise Agreement that will include an annual review of the cost of services and a review of rates. Rates should be established at facilities to reflect the cost of service for each user class. The County should adopt rates that encourage recycling and that complement other programs and policies. The franchise agreement should consider incentives to take advantage of avoided cost to dispose of waste at distant landfills.

Recommendation 6-4. Evaluate the cost and benefits of relocating the St. Helens Transfer Station by mid-1999.

Recommendation 6-5. Develop a Franchise Agreement for continued operation of the Vernonia Transfer Station.

Recommendation 6-6. Re-evaluate the need for a transfer station to serve the Rainier and Clatskanie areas in the year 2003 or in conjunction with other changes in the solid waste system.

6.7 IMPLEMENTATION

1998

1. Complete new franchise agreement for collection services.
2. City of St. Helens and Columbia County determine future land use requirements for this area. Complete franchise agreement and negotiate extension to the existing franchise for the St. Helens Transfer Station.
3. Complete a franchise agreement for operation of the Vernonia Transfer Station.

4. Complete review of cost and determine rate schedule for facilities.

1999

1. Review rates for transfer station operations.

2000-2005

1. Ongoing—Annual Rate Review of Collection rates
Annual Rate review of Transfer Station Rates and cost.
2. Review of Clatskanie/Rainier Transfer Station option.

CHAPTER 7.DISPOSAL

7.1INTRODUCTION

This chapter discusses current practices for disposing the County's waste. It presents options available for disposing of waste and makes recommendations for meeting future solid waste disposal needs. The strategy for disposing of waste is linked to the transfer station alternatives discussed in Chapter 6.

7.2 BACKGROUND AND EXISTING CONDITIONS

The regulations governing disposal of solid waste changed dramatically over the past ten years. As such, many communities found themselves in a similar position to Columbia County, needing to close landfills that were out of compliance or invest significant capital to implement environmental controls at their facilities. Columbia County, like many other communities, moved to close old landfills and to consider alternatives that were most cost effective.

Two primary factors influenced the decision to close existing landfills. First, new regulations set forth certain standards that restrict the location of landfills to areas where groundwater would not be impacted. Second, the regulations required installing new environmental controls to protect and monitor the impact on groundwater at the locations selected. These two factors led to the development of larger regional disposal sites.

These new regulations caused Columbia County to make several changes to its solid waste disposal system. In the 1970s there were several landfills operating throughout the County. The primary disposal site was the Santosh Landfill, located north of the Scappoose Airport. Until 1982, all waste generated in the cities of Scappoose and St. Helens as well as the southern portion of the County was disposed at this site. At that time it was decided to close the landfill even though the site operator had prepared plans to expand the site.

Once the Santosh Landfill was closed, the Salvage and Transfer Company opened a transfer station in St. Helens. This facility accepted waste from franchised haulers as well as waste delivered by the general public and transported it approximately 35 miles to the St. Johns Landfill located in north Portland. At that time the landfill was owned by the City of Portland. In 1980 the St. Johns landfill operation was transferred to the Metropolitan Service District (Metro) on the basis that the facility served as a regional site. It served as the primary disposal site for the Metro region until 1992. Rates at the St. Johns Landfill in 1983 were \$13.48 per ton.

From 1980 through 1983 Metro searched for a new landfill to replace St. Johns. The site selected, referred to as the Wildwood site, was located just south of Columbia County and just west of Highway 30. After Multnomah County's land use permit was overturned by the State Supreme Court, the County decided to reject the site for future consideration as a landfill. The site was later developed into the Wildwood Golf Course.

Metro was forced to examine options to extend the site life of St. Johns in order to provide

sufficient time to locate a new site. This led Metro to discontinue any importation of waste from outside its jurisdictional boundaries. Columbia County was forced to develop an alternative. At the time there were few landfills available within a reasonable distance.

One of the closest alternative sites was the Riverbend Landfill in Yamhill County. This site was approximately 62 miles from St. Helens. An agreement was reached with the operators of the Riverbend Landfill to accept the County's waste. The rate at the landfill at that time was \$26.60 per ton. Since 1986, all of the County's waste has been taken to this site.

The City of Vernonia also owned a landfill that served their community and portions of the County until 1990. At that time the landfill ceased operating and was closed. This was due to new regulations that required landfills receiving waste after April 1992 to install environmental controls that would make it cost prohibitive to continue operating. Waste generated in Vernonia and the central portion of the county is now taken to the Forest Grove Transfer Station in Washington County.

Some haulers state that there were other private landfills operating throughout the County. There is no public record of these locations; however, all were closed throughout the '80s and all waste is delivered to approved sites.

7.2.1 Disposal Franchise Agreement

When the County began to dispose of waste at the Riverbend Landfill, the County negotiated an agreement with local operators. The Riverbend Landfill meets all Subtitle D requirements and has sufficient capacity to accept the County's waste for the next 15 to 20 years. The landfill was later purchased by USA Waste, a national waste management firm based in Houston, Texas. In 1990 Columbia County signed an agreement to deliver waste to the Riverbend Landfill. The disposal rate established in this agreement was \$26.60 per ton. In December 1993, Yamhill County approved a new rate of \$25.83 per ton for disposing waste transported from outside the County.

The agreement requires the County to effectively deliver an agreed amount of waste based on projections. These projections were never developed or agreed upon by the County and Riverbend. The base quantity of waste was established at 15,000 tons for 1990. According to conditions stated under Section B "Waste capacity agreement," the County may deliver more waste. For instance, the County may deliver up to 10% more than but not less than 95% of this volume for any one-year period without written notice. However, the County may, after written notice, deviate the amount of waste delivered to the landfill by 20% (either increase or decrease). This event can only occur one year after date of the written notice to deviate more or less than 20%.

The amount of waste historically delivered to the landfill is presented in the following table.

Table 7-1 Columbia County Waste Disposed at Riverbend

<u>Year</u>	<u>Waste (Tons per Year)</u>
1991	15,822
1992	15,976
1993	15,451
1994	16,710
1995	18,080
1996	<u>19,943</u>
Total (6 yrs.)	101,982

The County signed agreements with each of the Cities that stipulates the commitment to support the County in managing the disposal of waste. This allows the County to enter into long-term agreements with disposal sites.

Reviewing the history of the relationship with Riverbend, the County has continued to deliver waste according to the conditions in the agreement. Over this period, the amount of waste has grown 26%, but in no one year has the amount deviated by more than 20% from the previous year.

7.2.2 Regional Disposal Sites

The adoption of new federal regulations established locational standards restricting where new landfills could be sited. The intent of these locational standards is to protect groundwater and surface water conditions. Therefore, the regulations favor sites that are located in dryer or arid climates, such as eastern Oregon and eastern Washington. Metro and DEQ attempted to locate a new landfill in this region to replace the St. Johns landfill, but both were unsuccessful.

These same regulations required new environmental controls that resulted in increased cost to operate disposal facilities. These regulations encouraged the closure of smaller landfills and the development of new larger landfills that could meet regional disposal needs. The result was that in the period of 1989 through 1991 three new regional landfills were developed. These sites are the Columbia Ridge Landfill and Finley Buttes Landfill in eastern Oregon and the Roosevelt Landfill in Klickitat County, Washington.

In addition to these large regional disposal sites, several more landfills closer to Columbia County underwent expansion. Specifically, both the North Wasco Landfill in The Dalles and the Riverbend Landfill in Yamhill County were expanded. These expansions included upgrading the landfills as needed to meet new regulations. Another site, the Coffin Butte Landfill in Benton County, also serves as a regional landfill. **Figure 7-1** depicts the location of the landfills that accept municipal solid waste within 200 miles of Columbia County. These landfills all are operated by national firms or by larger waste purveyors located in the Pacific Northwest. Since these companies have invested large amounts of capital to build these facilities they are very competitive to acquire more waste to improve their profitability. These regional sites can

provide sufficient capacity to dispose of the waste from the entire state for the next 50 years or longer.

Also shown are two landfills in Washington County that are permitted to accept non-putrescible waste. The Lakeside Reclamation and Hillsboro Landfills are limited purpose landfills permitted to receive construction/demolition waste as well as commercial material that does not contain food waste. Each of these landfills has sufficient capacity to handle significant quantities of waste for at least the next 10 to 30 years.

7.2.3 Current Disposal Rates

Disposal rates in the Pacific Northwest have decreased significantly as a result of having several landfills competing for municipal solid waste. When these sites first opened in 1990 many communities were obtaining bids that ranged from \$26 to \$29 per ton. However, as these sites have been in operation for several years, rates have been reduced. Recently, Metro renegotiated its contract with Columbia Ridge, reducing its average rate to \$21.38 per ton if they deliver 800,000 tons or more per year. In fact, the rate actually ranges from \$7.50 to \$27.25 per ton depending on the amount of waste delivered. Coffin Butte Landfill just lowered its rate to \$18 per ton; and, Jefferson County recently (March 1997) received quotes of \$18 per ton for disposal at the North Wasco Landfill located near The Dalles.

Figure 7-1 General Purpose Landfill Locations

Many communities have issued requests for proposals to solicit bids for disposal services. The bids often include the cost to transport and dispose of waste. It is therefore important to understand what services are included in these bids in order to compare the cost of disposal. For instance, the cost to transport waste from Madras in Jefferson County to the North Wasco site, about 95 miles, was quoted at \$13 per ton. When combined with the \$18 cost to dispose, the total cost to transport and dispose of Jefferson County's 5,500 tons of waste is \$31 per ton. However, this does not include the cost to operate the transfer station.

In March 1994, Deloitte & Touche prepared a report comparing transport and disposal rates for 14 different communities in the Northwest. The average disposal rate for these communities at various regional landfills was \$20.87 per ton (1994 dollars). Many contracts include an escalator clause that is pegged to the Consumer Price Index (CPI) or some other index. The same report showed that the average cost for transportation was \$18.42 per ton. Some communities in the study haul over 250 miles to regional landfills.

Most of these agreements with regional landfills include the cost both to transport and dispose. This provides the prospective bidder with ability to determine the most cost-effective method for transporting waste. The cost to transport waste can vary depending on the mode of transportation and the ability of the proposer to obtain hauling efficiencies.

The following table is a list of the municipal solid waste landfills, their distance from St. Helens and published disposal rates.

<u>Landfill Site</u>	<u>Distance (miles)</u>	<u>Rate (\$/ton)</u>
Riverbend Landfill, Yamhill Co., OR	62	\$25.83
North Wasco, Wasco Co., OR	110	\$18
Columbia Ridge, Gilliam Co., OR	172	\$7.50-\$27.25*
Finley Butte, Morrow Co., OR	200	\$20-\$27**
Roosevelt Regional, Klickitat Co., WA	182	\$21.71***
Coffin Butte, Benton Co., OR	108	\$18

*Source: Based on the recent amendment to the Metro contract with Columbia Ridge.

**Source: Clark County rate at Finley Butte is \$20/ton; Gate rate is \$27/ton

***Source: *An Economic Analysis of the Portland Contract Modifications*, Deloitte & Touche (1994)

It is important to note that these rates are a result of public bidding process and each needs to be evaluated based on the conditions contained in its contract. Therefore, the rates can be used for comparison of typical disposal rates. Actual disposal rates can be determined only by obtaining formal quotes for a specified level of service.

7.2.4 Transportation Cost

As more communities began to export solid waste, the cost to transport waste became a larger component of system cost. First trucking the waste was the preferred mode of transportation. Then, Rabanco constructed an intermodal facility to receive waste by rail at its Roosevelt

Landfill in Washington. Columbia Ridge now accepts waste delivered by rail from Schnitzer Steel located in north Portland. And Clark County, Washington transports its waste to the Finley Butte Landfill in Morrow County, Oregon via the Tidewater Barge Company.

Each of these approaches has proven to be cost effective. In the case of rail, companies have constructed terminals at various locations where flat cars can pick up containers loaded with garbage. Thus, the companies are able to hook up additional rail cars en route to the landfill. Such is the case for Rabanco, which transports waste by rail from the Napa Valley, California to their site in Washington. Along the way they can pick up other jurisdictions.

The cost to haul via the different modes is also quite competitive. For instance, Metro pays Jack Gray Trucking \$13.40 per ton to haul 300 miles round trip to Columbia Ridge. This computes to a unit cost of \$0.045 per ton-mile. It is important to note all of the waste is transported along freeway (I-84), making this trip most efficient. Trucking rates typically range from \$0.07 to as high as \$0.15 per ton mile. The cost to transport from the St. Helens Transfer Station 124 miles round-trip to the Riverbend Landfill is estimated to cost \$8.66 per ton or about \$0.07 per ton mile. Little information is available regarding the cost of barging waste. The cost to barge based on the Clark County contract is \$14.64 per ton. The distance to the Finley Butte Landfill is approximately 360 miles, thus the unit cost is estimated to be \$0.04 per ton mile. This does not include the cost of containers.

The fact that alternative modes of transportation are available to Columbia County is an advantage other communities may not have. If the County considers a new transfer station site (Chapter 6) it would be to their advantage to locate the facility such that access to different modes is an option.

7.2.5 Flow Control/Waste Supply

One issue that has been quite controversial over the past few years is the ability of a community to direct solid waste to certain facilities. Until recently, it was common for local governments to issue revenue bonds to finance the upfront cost of building solid waste facilities. This is particularly true for capital-intensive facilities such as waste-to-energy plants. In some cases it is necessary to finance transfer stations and material recovery facilities using bonds. This financing approach requires the entity to pledge the supply of waste to pay for the facility. Thus, controlling the flow of solid waste was a typical practice.

To control the flow of solid waste to facilities, local governments employed a number of techniques. In some cases they enacted an ordinance that stipulated which facilities collection companies would use to dispose of their solid waste. Other communities used contracts or franchise agreements. For others, like Metro in Portland and Marion County in Oregon, state law was modified to enable them to direct the flow of waste to facilities. Each technique was established to make sure sufficient refuse was delivered to pay for the facility.

There have been several legal challenges to using flow control to guarantee waste supply, dating back to the Akron, Ohio case in 1976. However, the decision that had the most dramatic impact

on the industry was the case of *Carbone vs. the City of Clarkston, NY* in 1994. In this case the City required all waste to be delivered to City's transfer station. Even though individual waste haulers could process and recover recyclables, any residue from these operations had to be taken to the City transfer station. The mechanism to enforce this action was a city ordinance requiring all waste to be taken to its facility.

The ordinance was challenged and the Supreme Court ruled that the ordinance violated interstate commerce laws. The Court stated that the purpose of the ordinance was to retain processing fees charged at the transfer station to amortize the cost of the facility. It further stated that the city does so by depriving competitors, including out-of-state firms, of access to a local market. The central rationale for the rule against discrimination is to prohibit state or municipal laws whose object is local economic protectionism. This ruling basically strikes down any *local ordinances* used to direct waste to facilities for the purpose of paying off debt.

Columbia County has signed interlocal agreements with each city. In those agreements the County agrees to provide for transfer and disposal facilities and the cities agree to have their waste taken to facilities designated by the County. Furthermore, the franchise agreements with the haulers state that waste will be delivered to the County-designated facilities. These agreements represent a *contractual relationship* as opposed to a specific ordinance enacted to institute flow control. As such they do not appear to be in conflict with the *Carbone* decision. However, prior to building future facilities it would be prudent to evaluate these agreements as they relate to the *Carbone* case.

7.3 NEEDS AND OPPORTUNITIES

Columbia County does not have an immediate need for new or additional disposal services. The County may continue to haul waste to the Riverbend Landfill. The term of the agreement allows the County to dispose of waste until the year 2005. Waste flows have increased 26% over the past six years and, with the recent growth in the population, it is assumed that waste disposal needs will continue to increase. By the year 2005, it is estimated that the amount of waste to be disposed will be almost 25,000 tons per year. The waste flow could grow to as much as 34,000 tons by the year 2020. The amount of capacity needed for a twenty year period (2005-2024) is estimated to be 600,000 tons.

At the time the County signed the agreement with Riverbend Landfill, the rate was the best available option for the County. In fact, when the County signed the original agreement in 1986, many communities were reluctant to use up the capacity available at their landfills and choose to preserve it for their own communities. Columbia County's current disposal fee is about 15% higher than the average rate for other communities in the Northwest. Considering recent information suggesting rates to be closer to \$18 per ton, the rates for Columbia County are almost 40% higher than some communities.

With the addition of so much landfill capacity in the Northwest, the County will have the

opportunity to sign a long-term agreement and perhaps reduce cost over the long term. It also is important to consider providing as many transportation options as possible to prospective landfill operators that might be interested in competing for Columbia County's waste.

7.4 DISPOSAL ALTERNATIVES

The landfill agreement document states the County may deliver waste to the Riverbend Landfill until 2005. If the County continues to deliver waste as stated in this document, they may dispose at Riverbend for eight more years. The County would have sufficient time to evaluate options and implement a program to dispose of the County's waste for the next 10-20 year period.

Some communities have implemented alternative technologies for managing solid waste. These technologies include composting, processing and materials recovery facilities and waste-to-energy plants. For instance, Marion County operates a waste-to-energy facility. This plant burns about 180,000 tons per year and produces electricity. The remaining ash residue, about 30% of the original volume, is disposed in a landfill. As such, Marion County requires far less land for disposal, and the sale of energy helps offset tip fees. These facilities are capital intensive and require a sufficient supply of waste to operate them cost-effectively. They also can be time-consuming and difficult to permit; due in part to political opposition. Since the County generates less than 30,000 tons per year there is not a sufficient quantity of waste to consider these options.

The following is a discussion of the options available to Columbia County.

7.4.1 Site A New Landfill In Columbia County

Columbia County is currently disposing approximately 20,000 tons per year. As a result of continued growth and increases in the number of people who subscribe to collection service, the projected volume could be as much as 25,000 tons per year by 2005. One option for the County to consider would be to site a new landfill to handle municipal solid waste.

The first thing to consider is the time required to site a new landfill. Over the past six years, only five new landfills have been sited successfully in the Northwest. Several of these have taken from two to four years to complete the permitting process. In the case of the Portland area, two significant efforts to locate a site, were unsuccessful. It is fair to say, however, that if a community is committed to site a facility, it can do so. Such was the case in Kootenai County, Idaho and Snohomish County, Washington.

The second factor to consider is the cost to site and construct a new landfill. As mentioned previously, the cost to site, construct and operate a modern landfill facility has increased significantly due to new regulations. For instance, siting a new landfill to handle the amount of waste generated by Columbia County, could cost between \$2,000,000 and \$4,000,000. This includes the cost to conduct a search for the most appropriate locations, complete preliminary engineering and obtain permits. To site a larger landfill facility usually cost more since larger

tracts of land are needed and the impacts to surrounding areas are greater.

Once the site has been permitted, it is necessary to complete final engineering and construct the necessary infrastructure and initial landfill cells. The cost to complete these steps can range from \$1,500,000 and \$2,500,000. Thus, the total cost to site and startup a new landfill may cost between \$4,000,000 and \$6,000,000. This is based on siting a facility designed to handle up to 50,000 tons per year.

Costs to operate a modern landfill also have increased. Assuming the location chosen has sufficient soil for daily and final cover, operation cost can range from \$7 to \$15 per ton. This cost varies because certain fixed operating costs must be accounted for. For instance, a basic level of equipment and personnel are needed to operate the site whether there is 30,000 tons or 100,000 tons. For purposes of estimating the cost to operate a new landfill in Columbia County, the unit cost is assumed to be \$15 per ton. However, if the amount of waste disposed at the site would increase to 100,000 tons or more, this cost could be reduced to about \$10 per ton.

Columbia County could develop a landfill to handle approximately 30,000 tons per year. Under this option the cost would range from \$40 to \$54 per ton. Using the average cost for this scenario, the disposal rate would be about \$47 per ton. This does not include the cost to transport the waste to the landfill or other fees required to manage solid waste and to carry out waste reduction and recycling programs.

7.4.2 Continue To Haul To Riverbend Landfill

Under this option the County would negotiate a new disposal contract. This could occur immediately or the County may continue to operate under the current landfill agreement document. Yamhill County was willing to receive the County's waste when other communities were not as receptive. The owners, as well as Yamhill County, have been good partners for the past 11 years.

USA Waste, owners of the landfill, have been soliciting more waste to fill this landfill. Currently, Clatsop and Tillamook Counties dispose of their waste at Riverbend. The owners have permitted sufficient capacity to handle the County's waste for the next 15 to 20 years. However, they do have the potential to expand the site and provide for additional capacity, although the actual expansion has not been approved at this time.

The rates for the Riverbend Landfill are set by the Yamhill County Commissioners. However, in their licensing agreement, they provide USA Waste the flexibility to negotiate rates with outlying communities. The original disposal fee was \$26.60 per ton. In 1993 the rate was reduced to \$25.83 per ton and it has not changed since. Typically disposal rates with regional landfills are subject to an escalator. Most contracts are modified annually by either the Consumer Price Index (CPI) or some percentage of the CPI. This adds some uncertainty as to the future cost to dispose of waste. It also prevents the rates from escalating excessively. The licensing agreement with Yamhill County allows for a rate adjustment for increases in cost. It appears, however, that USA Waste has not exercised this option or imposed changes due to inflation. As

a result the disposal fees have remained stable.

In summary, the Riverbend Landfill has provided a good level of service to Columbia County. Their rates tend to be higher partially due to the size of the landfill. It handles about 200,000 tons annually. The current capacity of the landfill would provide sufficient space for Columbia County's waste to about 2015. The potential to accept the County's waste beyond that timeframe would depend on whether the site is approved for expansion.

7.4.3 Issue Request For Proposals

The circumstances have changed significantly since Columbia County signed an agreement with the Riverbend Landfill. There are now up to six landfills seeking to sign long-term agreements with jurisdictions to secure more waste. There is a large amount of capacity, and competition is plentiful.

Columbia County could prepare a request for proposal to solicit bids from various landfills to supply waste disposal services. The St. Helens Transfer Station could serve as the central collection point. It often is desirable to have the transportation to the landfill included in the proposal. This is because the County wants to give prospective bidders every opportunity to capitalize on backhaul situations or options for consolidating loads on barges or rail. Using this approach has resulted in the best unit prices for service.

There is little risk with this option from the standpoint of capacity. These sites have approval to accept waste for many years. There are, however, other factors that need to be considered. For instance, rates are set by other jurisdictions in some cases. Thus, the County would need to protect itself from surcharges or add-ons established by these jurisdictions. Also, various transportation modes can carry tariffs or taxes that may not be in place today. Considering these issues translates to some uncertainty with long-hauling waste to another jurisdiction. It may be possible to place this risk with the vendor during the bidding process.

The other factor to consider is that the County will be signing a long-term contract with a major waste management firm. It is important to have an agreement that provides some flexibility as well as certainty in the cost. This is particularly important as it pertains to the supply of waste. The County has some limitations for guaranteeing waste supply. Also, the contract should not require the supply of waste such that it creates a disincentive to recycle.

7.5 EVALUATION OF ALTERNATIVES

Several facts need to be considered when evaluating future disposal options for Columbia County. These are:

- The County is currently paying about \$9 per ton for transportation and \$25.83 per ton for disposal for a total cost of \$34.83 per ton to dispose at the Riverbend Landfill.

- The Riverbend Landfill has sufficient capacity to handle the County's waste until approximately 2012 based on existing facility. The current agreement expires in 2005.
- The County will need to dispose of about 600,000 tons of waste during the 20 period beyond the current agreement.
- Disposal Fees have been greatly reduced due to competition from several major waste management firms operating in the Northwest. The average disposal rate today is about \$21 per ton. Some landfills charge as little as \$18 per ton.
- Transportation networks and alternative modes to move waste to regional facilities are more developed. As a result it is possible to move waste long distances more cost effectively.

Presented with these facts, the County can consider each alternative. A brief evaluation is presented considering the options for disposing of the County's waste in the future. These options are not listed in order of preference.

OPTION 1: Negotiate a New Agreement with Riverbend Landfill

The Riverbend Landfill has provided a good level of service over the past 11 years. Rates at the facility have not increased and the facility remains competitive with other options. The landfill has the capacity under its current development plan to handle the County's waste until probably 2012. Beyond that period will require approval of an expansion plan.

During the time Columbia County has delivered waste to this facility, monies have been put into a trust fund to pay for closure and post-closure maintenance cost. It is unclear whether funds not expended for this purpose would be returned to the contributing jurisdiction but it could be possible. Nonetheless Columbia County is somewhat vested in this facility.

If the County negotiates a new agreement with Riverbend Landfill, it needs to be sure it obtains the most competitive price. The best way to achieve these results is to solicit proposals from other interested landfills. However, it is not unprecedented to negotiate an agreement with disposal sites. The primary concern is how long Riverbend can guarantee capacity to the County.

OPTION 2: Issue a Request for Proposals

The increase in available landfill capacity has resulted in a very competitive marketplace. All of the landfills including Riverbend are actively soliciting to get more waste. This was not the case in 1986 when Columbia County was forced to consider alternatives to hauling to the St. Johns Landfill. There are potentially six landfills that might consider taking the County's waste.

It is costing about \$36 per ton to dispose of waste at the Riverbend Landfill. This only includes the cost to transport and dispose. The cost of operating the transfer station is not included, as

this cost will be incurred no matter where the waste is disposed. Disposal fees at alternative landfills could be \$18 per ton or lower. Therefore the question to be answered is whether a landfill company can haul waste to their site for less than \$18 per ton.

To answer these questions, communities have developed a request for proposals from landfill vendors. The County can stipulate conditions of the contract to obtain services they wish the contractor to provide. Giving the bidder options for transporting waste is one way to increase the opportunities for obtaining the best rates for service.

OPTION 3: Site a New In-County Landfill

The County could continue to dispose of waste at Riverbend and provide sufficient time to site and build a new landfill in the County. It can take three to five years to site and permit a facility. The primary consideration for siting a new landfill is the County's ability to control and manage the solid waste system and to provide the necessary services to constituents of the County. By operating an in-County landfill, Columbia County would be able to provide service and not be subject to other jurisdictions. Also, the County would not be subject to taxes, tariffs or user fees placed on sites outside their jurisdiction. Most facilities have host community fees included in their rates and the operators offer some protection from such events. But it is possible that road tariffs or other considerations outside of County control could influence the cost to dispose at these regional facilities.

The cost estimate to site, design, construct and operate a facility to serve just Columbia County's waste could range between \$37 and \$52 per ton. Siting such a facility requires a total commitment of decision makers to believe this is the best solution. If an in-county landfill was sited it would be necessary to import waste to make it cost effective.

Another factor to consider is the amount of growth the County will have. High growth levels place greater emphasis on the need to develop a facility locally. At the same time more development would mean more resistance to siting a facility. For these reasons it may be desirable for the County to conduct a preliminary evaluation of potential sites. By identifying locations that could be used for a landfill, the County could preserve this option for the future. It may not be cost effective today, but in the future the financial situation may change.

7.6 RECOMMENDATIONS

In Section 7.5, the primary options for disposing of the County's solid waste were considered and evaluated. The option to site a new landfill was presented but is not recommended. There is a significant amount of landfill capacity available at regional landfills described in this chapter. This factor, when considered with the small amount of waste generated in Columbia County, makes this alternative impractical.

Considering current market conditions and the fact that Columbia County has a agreement for disposal until 2005 the following approach is recommended.

Recommendation 7-1. The County will continue to haul waste to the Riverbend Landfill under the existing landfill agreement document. At least one year prior to the discontinuing service to Riverbend the County will prepare a formal Request for Proposals to solicit bids for the disposal of waste from Columbia County.

Recommendation 7-2. As an option, the County could negotiate a new agreement with Riverbend provided the County was certain that the disposal rate was competitive with alternative sites. This could be established through an independent evaluation of alternatives. This alternative if selected should occur at least 4 years prior to the expiration date of the Riverbend Landfill agreement.

7.7IMPLEMENTATION

1998-2001

1. Consider options for negotiating a new agreement with Riverbend Landfill.

2004

1. If the County has not negotiated a new agreement with Riverbend, solicit proposals for disposing of waste at alternative disposal sites.

CHAPTER 8.ILLEGAL DUMPING

8.1INTRODUCTION

The Columbia County SWAC has identified illegal dumping as a high priority for solid waste management.

In general, illegal dumping can be defined as "intentionally depositing unwanted waste onto the property of another, or onto public property or a public right-of-way." Columbia County also has concerned itself with accumulation of unsightly or hazardous items on a person's or business' own or rented private property.

Illegal dumping can range from visual nuisance to right-of-way hazard to a public health and safety problem. It costs the County, private individuals and businesses many thousands of dollars each year in enforcement and clean-up.

Depending on material and location, illegal dumping presents several types of problem, requiring different remediation and enforcement approaches.

1. Large, bulky items. The greatest volume of illegally dumped debris consists of yard trimmings, furniture, mattresses, appliances, tires, demolition debris and other large bulky items. Large loads of dumped debris often appear to be the result of cleaning out basements or garages, or material cleaned out of a house in conjunction with moving. Loads of demolition debris and construction waste also are common. These items are not included in regular garbage service. In some cases, the materials are forbidden to be disposed at the transfer station or through regular channels, or the dumpers seek to avoid paying the fee to dispose the items properly. Rarely does this type of debris yield evidence as to who dumped it.

2. Improper disposal of regular household garbage presents a different set of problems.

- A large but unknowable amount of household and business garbage is deposited in dumpsters and drop boxes at apartments, retail and industrial enterprises, construction sites, etc. The best indicator of the magnitude of the problem is that considerable dumping—several cubic yards per week—continues to occur after a supermarket closes.
- People without regular garbage service may accumulate garbage on their property, and even in their houses, creating serious health hazards. Individual cities can require the removal of garbage through a Nuisance Code and can require that residential rentals have garbage service through a Housing Code—but the County has no such requirements, and no nuisance code. There currently is no requirement that owner-occupants have garbage service.
- Some household garbage is dumped on vacant lots, at vacant houses, on remote turnouts, ravines, alleys and streets. These quantities tend to be small, although

popular sites accumulate a significant amount over time. Incidents of garbage dumping tend to increase in lower income areas and in proportion to increased costs of garbage service and disposal.

- An unknown number of unlicensed haulers may be responsible for part of the problem. Some cut-rate hauling services (landclearing, roofing, construction, demolition, moving) probably try to avoid paying disposal fees. Some use their own property for disposal, without authorization and without observing legal standards and procedures.

Some individuals/companies bury or burn their own garbage on their own property. As presently set forth in the Columbia County solid waste ordinance, they can do so within the terms and conditions of State law (ORS 459) and regulation promulgated by the Board of County Commissioners. The County ordinance provides that they not use or permit to be used any land within the County as a public or private disposal site without approval of the Board of County Commissioners. The material disposed must not present hazardous threat or use limitations to neighbors or future occupants.

8.2.EXISTING CONDITIONS

8.2.1 Complaints and enforcement

The Columbia County Enforcement Ordinance and Solid Waste Ordinance designate the Solid Waste Administrator, if different from the Land Development Services Administrator, or any Solid Waste Planner, to enforce violations. County enforcement does not extend within city limits, but there is provision for interlocal agreements between cities and the County by which the County could enforce nuisance and illegal dumping laws.

The County can act when the complaint concerns a known person and site, such as garbage accumulating on private property. However, when garbage is disposed on private property by someone other than the owner or renter of that property, it becomes the responsibility of the property owner. If a complaint ensues and the owner does not remedy the problem, the owner then may be notified, warned, cited and subject to penalties.

When garbage is disposed on a public right of way, it is typical for the County Roads Department to remove the accumulation. This is done most quickly if the garbage constitutes an obstacle or is damaging the right-of-way, such as by causing flooding or erosion. An effort can be made to find evidence of ownership, e.g., an envelope with the perpetrator's name and address. Such evidence is seldom found, but it can lead to a court citation, penalties if the person is found guilty, and assessing clean-up costs to the violator. There is no recent record of a violator convicted in this fashion in Columbia County.

The County and DEQ to date have not explored the extent to which burning—a common disposal method—constitutes or can be identified as harming public health, safety and well-being. In a related issue, the County has no means to assess whether nuisances trespass offsite, e.g., in water or as migrating odors and vectors. There have been several claims regarding septage.

8.2.1.1 Enforcement Process

The process that takes a complaint through to remediation and legal action in Columbia County is as follows (*Columbia County Solid Waste Ordinance*):

1. **Receipt of complaint** at Land Development Services.
2. **Investigation** (visit site, assess whether a violation has occurred). The Administrator *may* investigate upon his/her initiative, but *shall* investigate and make determination upon receipt of a written complaint.
3. **Mail or post a letter of request** to abate the nuisance within 30 days, or some reasonable time at the discretion of the Administrator (or, if toxic or hazardous waste, to comply immediately). The request shall include clear statement of the property, the nuisance, the time allotted for abatement, and the County's intention, if no abatement occurs, to clean up and collect costs of doing so, and, if necessary, to make a lien against the property.
4. If the violator does not abate the nuisance as requested, the Administrator notifies **the Board of Commissioners to issue a notice requiring the owner to appear before the Board** at a specified time and place, to show why a nuisance should not be declared to exist. The time for appearance shall not be less than ten (10) days after service of the notice. The Board has power to subpoena witnesses to compel their attendance.
5. If it determines at its hearing that a nuisance exists, **the Board shall declare the existence of a nuisance** by order entered in its Journal, and shall order the nuisance abated within 30 days after entry of the order.
6. If the owner or occupant of the property fails to abate the nuisance within 30 days, the Board may (A) direct the Administrator to do **remediation cleanup and file for recovery of costs** from the violator, as a lien if necessary; or (B) have **County Counsel institute suit** on behalf of the County.
 - A. The Board may direct the Administrator or his representative to **have the solid waste nuisance removed and associated costs assessed to the property owner**. Unless public bidding is required, the Administrator shall give the local franchised hauler the option of removing the nuisance. If the collector accepts, he shall charge an approved hourly rate for cleanups. The Administrator must keep accurate record of expenses incurred by the County in abating the nuisance and submit a copy of this record to the County Clerk for filing in a lien docket. The Administrator or his representative shall forward to the property owner by registered or certified mail a statement of total cost for the nuisance abatement; that the cost will be assessed to and become a lien against the property unless paid within 30 days; and that **the property owner may file a notice of objection with the Board** not more than 10 days from the date of notice. The Board shall hear such objections to the cost, if properly filed, and may reduce, modify or approve the assessments.

The amount of the charge and expenses, when properly docketed as specified in the ordinance, constitutes a **first lien upon the property except for taxes**. If the charges and expenses are not paid by the owner or occupant within 90 days from the date the lien is docketed, the County Clerk shall certify this failure to the County tax collector, who shall extend the amount upon the current tax rolls and collect in the same manner as taxes are collected.

The ordinance protects the County, its officers and employees involved in remediation clean-up from liability for trespass or conversion of any real or personal property.

- B. The Board may refer the matter to County Counsel to **institute suit** on behalf of Columbia County, for offenses occurring in unincorporated County or in any city that has consented to application of the County ordinance within its boundaries. The County's Enforcement Ordinance permits civil fines to be imposed by Circuit or District Court in an amount up to \$500 but not exceeding \$1,000 for continuing infractions. (Section 23 of the Enforcement Ordinance). However, the total amount of the civil penalty may be increased to include all costs incurred by the city and County in removing the refuse/substance and eliminating its effects. Bringing civil suit obliges the County to refrain from criminal prosecution for the same infraction.

7. The County also can bring criminal action, a ***misdemeanor citation through the Circuit court***. The citation sets a court date, describes penalties and provides warning of County cleanup and property liens. County Counsel reports that, in 1996/97, three court misdemeanor warrants were issued, with a potential penalty of \$500 per day. All warrants related to accumulation on the violator's own property. Viewing first offender cases, the Court was lenient, suspending the fine if clean-up occurs. Violators did, however, have to pay court costs of \$500 each. Two liens were assessed amounting to \$59,000, with \$15,000 collected upon sale of one property.

8. Accused violators have several **means of appeal, depending on the action taken**. They can appeal to the County Board of Commissioners as described above; or they can appeal to the Circuit Court for Columbia County. The Court can review on record as a matter of process law.

8.2.1.2 Recent Enforcement History

From 1994 to mid-1997, Columbia County:

responded to 153 complaints about illegal dumping and unauthorized accumulations of waste;

of which 11 were on public property/right-of-way;

3 were on private property, dumped by non-owners;

and 139 were on private property owned/rented by offenders (and most properly should be classified as nuisances or unlawful accumulation).

The County sent 153 warnings; made 382 personal visits for inspection;
achieved 146 compliance/remediation cases;
issued citations to 14 violators;
brought about 24 court visits;
was involved in 24 court hearings;
collected \$4,640 in fines;
did 3 County-authorized clean-ups, costing \$42,880 total;
resulting in \$42,880 of liens assessed to cover County clean-up costs;
of which \$8,120 have been collected (\$34,760 not yet satisfied).

8.2.1.3 Other Legal Authorizations

Dumping is illegal under ORS 164.805, "Offensive Littering." This is a Class C misdemeanor, punishable by a maximum \$500 fine when prosecuted through the State courts. Only the person who actually dumps is subject to prosecution, which is difficult to enforce unless the act was witnessed by a police officer. Even successful prosecution does not get the debris removed. A new State law (HB 3391–1991) lowers the standard for evidence of dumping, creating a "rebuttable presumption" that a person whose mail is found in dumped garbage is guilty of the dumping. Columbia County's Enforcement Ordinance includes an earlier version of the "rebuttable presumption" that imposes more stringent standards of evidence.

8.2.1.4 Clean-up Events

Several clean-up events, usually annual, have offered citizens the opportunity to dispose bulky items and hazardous materials. These events tend to center around the Scappoose/St. Helens corridor, which limits their convenience to other areas of the County. These events result in removal or reduction of certain nuisances such as tire piles, and potential nuisances such as old appliances, furniture and yard debris. They also reduce government costs for enforcing the ordinance and removing accumulated garbage. Such events have been sporadic and infrequent, however, and none is scheduled at the time this plan is being written.

Household hazardous collection in the County has involved directing individuals to bring materials to the Metro Central Transfer Station at NW 61st Avenue between Front Avenue and Highway 30. Promotion of this opportunity has been sparse, and utilization is unknown.

Several volunteer organizations such as Kiwanis and SOLV have sponsored other clean-up events, with paid help from haulers. County staff has helped coordinate, pay for and promote these events.

8.3.NEEDS AND ISSUES

Illegal dumping is an issue that must be managed; it won't go away.

Illegal dumping is a complex problem of long standing. Enforcement will not prevent dumping, any more than it prevents drug use or speeding. Education alone will not eliminate dumping or nuisance/unlawful accumulation. Management of this problem requires a coordinated system of mechanisms that address most of the problem. It needs to be cheaper and easier to get rid of large items. People need to learn about responsible options and about the social and personal costs of irresponsible behavior. Remediation should be swift and sure, so people do not grow accustomed to and come to tolerate eyesores and infractions.

The County must meet responsibilities for public health, safety and welfare.

Cities and the County have legally recognized and described police powers to protect public health, safety and welfare. Illegal dumping/accumulation health issues relate to rats, mosquitoes, germs, feces and putrescible or toxic household garbage, as well as stagnant water and other nuisances caused by garbage accumulation. Public safety issues may include accessible child-traps such as refrigerators and junked cars. Public welfare can be viewed in terms of maintaining vital, stable neighborhoods that look nice and don't smell bad, where people like to spend time outside. Health and safety are the most clear-cut issues.

Conditions for exemptions should be spelled out as far as possible.

People cited for nuisance accumulation tend to claim the items have value. Standards for accepting such claims may include that

- the item can be used on the property (firewood);
- the item is stored in a manner that protects it from the weather and preserves its utility (e.g., a washing machine in the yard is not a washing machine stored under a tarp in the carport or shed).
- disabled cars on right-of-way have not been moved for two weeks.

Notice and enforcement should be consistent, reliable and effective.

Posting of a first notice is sufficient under common law; mailing to the owner of record is better. Notices should be issued promptly as required in the ordinances, and should fully inform the owner/occupant about all consequences and procedures. Proof should be clear and convincing: Polaroid pictures help estimate problem quantity and character. The County should not hesitate to impose civil or criminal complaints.

The County needs to minimize its costs.

Prequalified contractors should be selected by competitive bid. Bids should include cost specifications per cubic yard. Contractors should document costs with disposal receipts that include date, weight and time delivered. County oversight of clean-up should include direct observation and review of documentation, with formal notice for unusual/excessive items.

The County needs to fund enforcement and clean-up.

Currently, the County lacks funds and a position to perform these functions. Costs of clean-up have been established as liens against property, but have not been collected due to lack of property sale and/or indigence of the owner. The County's budget does not include sufficient means to handle complaints or enforcement. Solid waste franchise fees go largely into the general fund. Enforcement has declined in recent months. Accounts receivable consistently outpace revenues for this type of enforcement.

County personnel need training in how to handle complaints/enforcement.

Enforcement should be incremental, aimed at gaining voluntary compliance. The County does not want to use the resources necessary to provide all remedies (e.g., clean-up, hearings, etc.). Staff should exercise courtesy and restraint with complainants and accused violators. They should inform accused violators of appeals processes, penalties and schedules involved. Appeals should be expedited so all issues can be resolved. Field personnel should make it clear that they, themselves, have no authority, but are acting on behalf of clear County authority and process. Interaction should focus on a plan for remediation. The more formal, exhaustive, consistent and complete the process, and the better staff understand it, the less likelihood of clashes or irrelevant problems. Most violators consider the complaint, citation and penalties to be unfair and unnecessary. Often the person responsible for a mess did not create it. The entire process can be very frustrating for all concerned, and every effort should be made to minimize the frustration.

The County needs to facilitate collection of large bulky items.

It is difficult and expensive to dispose of such items. People often are unaware of their best disposal options. Clean-up events should be more frequent, more local, and better promoted. Semi-annual free or low-cost curbside or depot collection would be effective approaches. Haulers could be required to provide this service as part of their franchise agreements.

People need to know about their disposal options and responsibilities.

Education should increase awareness of recycling and low-cost disposal options. The public needs to know that unlicensed haulers are contributing to the dumping problem. The County needs to educate people about costs, health and safety issues, and other public concerns. The County could post and publicize one region-wide phone number to report dumping activity.

Increased legal options may be needed.

In some communities, landlords are required to provide garbage service for rental units. Bureaus of police, haulers and land development services can cooperate in identifying rental units that lack garbage service. Universal service imposes collection fees on all residents and businesses, making it less "profitable" to dump on someone else's property.

Roles and responsibilities for clean-up need to be clarified.

It needs to be clear that owners are responsible for removing nuisance accumulations up to the midline of adjacent rights-of-way; or that the County or city will provide for such clean up out of general revenues.

8.4. EVALUATION OF OPTIONS

8.4.1. Improved Enforcement Funding

Current County ordinances and processes are sufficient. County staffing and funding are not adequate to respond to complaints swiftly or fully. Consistent, persistent, timely and complete response is lacking. In the absence of funds and collection of liens, the County is reluctant to pursue illegal dumping or accumulation cases to the full extent. Stronger penalties (e.g., jail time, higher fines) likely would be no more effective, and may not be legal under current practice and code. People in jail can't earn money, and people who just paid \$1,000 to the court can't pay it for clean-up. A rule-of-thumb goal should be for lien revenue to equal the amount spent on enforcement each year--not including salaries for enforcement personnel.

8.4.2. More Clean-up Events

Clean-up events are infrequent and often inconvenient for many of the County's residents. The County and its Cities should consider requiring curbside bulky-item collection at least twice yearly as part of franchise agreements. Depot-oriented clean-up days in all urban areas at least twice yearly would help eliminate nuisance accumulations and could work in coordination with volunteer clean-up of ravines and other areas. Depots would consist of walk-in roll-off boxes provided by the hauler in a church or community center parking lot. Users could pay a nominal fee (\$5 per load) to bring materials. Recyclable items could be separated at the site.

Toxic disposal events should be more accessible and frequent in most urbanized parts of the County, possibly with grant funding from DEQ.

8.4.3. Universal Service

Universal service requires all residents and businesses to have garbage collection. Billing can be handled by the hauler or local government, but often it is most effectively administered in conjunction with a water bill, tying it to a clearly essential service. If people are paying for a service, they tend to use it. They are unlikely to see a cost-avoidance benefit by illegally dumping their garbage. Unit costs typically are lower than average for communities that have universal service. However, strong opposition to universal service has been voiced in Columbia County. Opponents of this option argue that required service would impose hardships on low and fixed income households, and would restrict choice for county residents.

8.4.4. Require Landlords to Provide Garbage Service

Many cities require landlords to provide garbage service, as a preventive measure against illegal dumping and accumulation. Coordination through Chambers of Commerce, local cities and apartment owner associations will help expedite this type of ordinance. Opposition may be fierce in spots, but it is a known effective measure. State law requires landlords to provide refuse containers. In Portland, renters of property are required to furnish refuse collection service, although they can recover costs in rental charges.

8.4.5. Increase Education and Promotion

People need to learn about responsible options and about the social and personal costs of irresponsible behavior. Print, radio and video media can tell the public about punishment, show the impacts of illegal dumping and accumulation, and present health, safety and livability issues. Some staffing and production/distribution costs could be involved, but effective presentation of the cause to community leaders could bring in significant volunteer and in-kind help. In addition, staff themselves should have good training in how to enforce and market the County's standards.

8.5.RECOMMENDATIONS

Some options may be implemented more easily than others. Funding of education and enforcement would require additional service/disposal/district fees dedicated to these purposes. Recommendations consist of policy decisions for which the County and cities need to establish programs and funding sources:

Recommendation 8-1. Clarify enforcement process, consequences, roles and responsibilities within and among local jurisdictions. Ensure that the process is pursued in the same manner for all cited parties. Train staff appropriately.

Recommendation 8-2. Develop public awareness campaign. Conduct awareness campaigns, enlisting local media and associations. Inform people about the potential loss of environmental, recreational and economic resources. Work with local companies that have expressed concerns.

Recommendation 8-3. Make it easier and cheaper to dispose of bulky items and toxics. Incorporate bulky waste pickup days in franchise agreements. Provide convenient, well-promoted and (to the public) inexpensive collection events at least twice yearly.

Recommendation 8-4. Establish reasonable, predictable costs for the services needed. Ensure reasonable cost for cleaning up illegal accumulations of garbage. Develop cost and performance standards and lists of pre-approved terms and contractors.

Recommendation 8-5. Require property owners to make provisions for garbage service for their rentals. Make it less attractive/possible to avoid garbage collection fees.

Recommendation 8-6. Ensure sufficient funding and recovery of costs for clean up. Identify annual clean-up budgets and revenue sources. Follow up on filing to collect through liens, garnishings, tax collection and penalty fees. Ensure that County legal staff pursue outstanding debts. Consider covering costs year-to-year with a fund that draws on repayments, district service fees, franchise fees, collection event fees, and corporate donations.

8.6 IMPLEMENTATION

1998

1. Clarify enforcement roles/responsibilities among local jurisdictions.
2. Incorporate bulky waste collection into franchise agreements.
3. Include costs and performance standards for clean-up in franchise agreements.
4. Evaluate mandatory garbage service for rentals. Coordinate with cities.
5. Explore clean-up funding and cost recovery options.

1999

1. Implement public awareness campaign.
2. Implement bulky waste and clean-up efforts.
3. Establish requirement for mandatory garbage service for rentals.
4. Establish clean-up funding and cost-recovery system.

2000-2005

1. Ongoing enforcement of illegal dumping and accumulation system, including notifications, clean-ups, mandatory garbage service for rentals.
2. Ongoing public awareness campaign.
3. Ongoing bulky waste collection and other agreed franchise services.
4. Ongoing funding and recovery of clean-up costs.

CHAPTER 9. SPECIAL WASTE MANAGEMENT

Two special waste handling issues are addressed in the 1998 SWMP. The first considers alternatives and preferred methods for collecting and disposing of Household Hazardous Waste (HHW). The second issue is what approach the County should take regarding waste generated from catastrophic events. The 1996 flood sparked the need to address this issue when the upper Nehalem River overflowed its banks. As a result the City of Vernonia and parts of Columbia County had to clean up and dispose of large quantities of flood debris.

This chapter presents current conditions, identifies needs, discusses alternatives and makes recommendations for addressing these issues.

9.1 HOUSEHOLD HAZARDOUS WASTE (HHW)

9.1.1 Introduction

The need to collect and manage household hazardous waste (HHW) in Columbia County reflects increased public awareness and desire to dispose of this material in an environmentally safe manner. HHW includes materials such as paints, pesticides, dyes, solvents and household cleaners used by people each day that contain low levels of toxic chemicals. Segregating these materials and sponsoring special collection events allows people to dispose of HHW materials properly and keep them out of landfills.

This section discusses existing collection programs and presents alternatives for managing these wastes in the future.

9.1.2 Existing Conditions

Each residence in Columbia County generates some form of household hazardous waste, primarily by purchasing products that contain small amounts of toxic substance. Most of these products are purchased without any knowledge of the contents. There are five categories of HHW:

- paint
- pesticides
- household cleaners
- automotive products (brake/transmission fluids, coolants, batteries)
- other (ammunition, computer screens, diesel fuel, explosives, household batteries, solvents, pharmaceuticals, and pool cleaners and chemicals)

The average household generates more than 20 pounds of this waste each year. Because of the risk of handling these materials, many communities have developed special collection programs for removing them from the regular garbage system. Households participating in special

collection events sometimes bring in more than 100 pounds of HHW. Since 1994, Columbia County has provided two programs for collecting and disposing of HHW. The two programs are as follows:

1. **Metro Program.** The HHW Metro Program allows residents of Columbia County as well as the rest of the state to dispose of HHW materials at either of the Metro Transfer Stations located in Portland. To use the program, County residents only need to indicate the origin of the waste and pay a \$5.00 fee. The program allows the resident to dispose up to 35 gallons per visit of paints, oils, solvents or any other household chemical. Metro confirms that the user is from Columbia County and verifies that the source is not a business or industry.
2. **Annual Collection Event.** Columbia County has hosted HHW collection events sponsored by DEQ, since 1994. These collection events can range in cost from \$25,000 to \$50,000. In the past these events have been funded through a grant by DEQ. It is uncertain whether DEQ will continue to fund this event.

Participation in these programs has been somewhat limited. In 1995 fewer than 100 people obtained vouchers to take HHW to the Metro facility. (Vouchers are not necessary to use the Metro program.) Less than 9% of all households participated in three different collection events in 1996. The total disposal cost for these events was in excess of \$35,000.

9.1.3 Needs and Opportunities

Citizens of Columbia County need to have an alternative for disposing HHW materials. Many of these wastes are prohibited from being placed in household garbage containers. Without such collection programs, HHW materials might be placed in with household garbage, which could create health risk to collection workers or workers at the transfer station. Also, there is a greater potential that these materials could be discarded on vacant land throughout the County.

The County needs to establish a program that provides routine or regular service for handling HHW materials. The program needs to be dependable and provide certainty that citizens can dispose of these materials safely. The public also needs to be made aware of the importance and opportunities to dispose of HHW properly.

9.1.4 Alternatives

Several alternatives can be considered for providing collection and proper disposal of HHW in Columbia County. Following is a description of these alternatives, with a brief analysis provided for each option.

9.1.4.1 Promotion and Education

The general public of Columbia County need to be made aware of the risk posed by toxic materials; the importance of disposing these items properly; and opportunities to do so. Citizens also should know about alternatives to products that contain toxics and be encouraged to use them. This type of information is already available through DEQ, Metro and the U.S. Environmental Protection Agency. In this alternative, the County would engage in a short-term project to adapt existing language into locally targeted fact sheets; and create an ongoing campaign to make HHW a general concern and to increase the number of people who dispose HHW properly. The strategy would be to use multiple channels, including posters, brochures, mail-out sheets, newspapers, school handouts, and delivery of information by collection companies.

Costs for the short-term project to develop and produce information materials could be paid in part or whole through a DEQ grant, but would require dedication of County staff time. The ongoing promotion/education campaign would require County staff time to enlist multiple outlets to cooperate in circulating information. Costs of printing and distributing information to every household could amount to as much as \$0.50 per household/year, or up to \$8,000. However, these costs could be reduced or shared by use of public agency newsletters, media, utility mailings, and school publications. Doing large-scale campaigns every other year could further reduce costs while maintaining awareness.

9.1.4.2 Promote the Metro Program

The County would continue to advertise and promote the Metro drop-off program. This alternative would require minimal resources of the County. The County would develop a brochure or pamphlet and provide a mechanism to inform each household of the option. There would be no additional administrative expenses.

The County should consider whether the program could be effective in serving the entire County. The Metro Transfer Station is 30 miles from the City of St. Helens. Citizens in Rainier, Clatskanie and Vernonia in particular are not well served by this program. It will require the County to advertise and promote the program. The primary advantage of the Metro program is its availability to all citizens. Disposal of HHW materials is available during operating hours at Metro transfer stations 7 days per week. It is dependable and a cost-effective alternative for managing HHW.

9.1.4.3 Conduct HHW Collection Events

Collection events are planned to occur annually or semi-annually on a certain day. Often communities offer collection of used oil, household and automotive batteries, and oil and latex paints at transfer stations or recycling centers. The County could continue to sponsor special collection events at the St. Helens Transfer Station or another convenient site in the County. The collection event should be held annually at the same time of year so that people can anticipate and plan to bring these materials to the site. The program would also need to be advertised throughout the County.

HHW collection events can be effective in providing a convenient alternative for managing these materials. However, cost to sponsor HHW collection events can range from \$25,000 to \$50,000 per event. The high cost is due to paying the transportation and disposal of hazardous waste in processing and/or special landfill sites. DEQ will offer Columbia County the use of their contractor to handle, transport and dispose of HHW materials. This eliminates the need for the County to contract these services independently.

This program can be very effective in providing a safe and convenient alternative for managing HHW. Like the Metro program, collection events need to be promoted and well advertised, so people can take advantage of the event. However, it would be cost-prohibitive to sponsor more than one event per year. Therefore, a single event would need to be held at some central location for the entire County. No matter where it is held, certain communities would need to drive as much as 30 miles to take advantage of the service. This may be more acceptable than driving to Portland. Households would need to store up material until the collection event is held. An education program to inform households how to store and handle these materials should be part of the promotion program.

9.1.4.4 Mobile Collection Trailers

Mobile units are available that can be transported to different portions of the County to collect HHW. These specially equipped trailers can be purchased for about \$10,000 to \$15,000. The County would need to train staff to handle materials. Some communities use personnel at the local fire district to staff these facilities. The mobile vehicle allows for temporary storage of HHW until sufficient material is collected to transport to a disposal site. The cost to dispose of materials is added onto the operating cost. Disposal cost varies with the type and quantity of material, but would be similar to other alternatives.

This alternative requires a low capital investment to make HHW collection convenient and would increase proper disposal. However, cost to maintain and train staff is a significant operating cost. Operations cost will vary depending on how frequent the facility is open. It may cost between \$3,000 to \$5,000 per year to operate one day per month or as much as \$10,000 to \$12,000 per year on a one day per week basis. This does not include the cost to dispose of HHW materials.

9.1.4.5 Permanent HHW Facilities

Another approach would be to install a HHW collection trailer at the St. Helens Transfer Station. These units can cost between \$10,000 and \$40,000 depending on the number of materials the County wishes to handle. These units are similar to the mobile units but are designed to handle a wide range of toxic chemicals. These facilities come equipped with safety features such as

eyewashes and medical supplies. Containment berms are constructed around the facilities to prevent impacts on soils and groundwater from spills.

Operating cost for a permanent facility would be slightly less than the mobile unit. Therefore, it can be assumed to cost about \$10,000 per year to operate the facility one day per week, excluding disposal cost.

By having a permanent facility at the transfer station, people would have a convenient place they could count on to handle HHW materials. Because of the special handling requirement the HHW facility may be open once per week or even less. However, this program could be beneficial to the entire County, as it would give each citizen a somewhat convenient place to bring materials.

9.1.5 Recommendations for HHW

Recommendation 9-1. Prepare and distribute a brochure or other media to inform residents of the types of household hazardous waste (HHW) and to promote disposal at Metro's facilities.

Recommendation 9-2. Consider contracting with franchised haulers or purchase a mobile collection trailer for processing HHW materials. The facility would be located at the St. Helens Transfer Station and used for collection events throughout the County.

9.2 WASTE FROM CATASTROPHIC EVENTS

9.2.1 Introduction

In 1996, Oregon experienced the worst flooding in nearly 40 years. Columbia County suffered major damage when the upper Nehalem River overflowed its banks. The flood uprooted trees, destroyed buildings, and ruined public infrastructure such as roads and drainage ways.

The City of Vernonia and County officials all worked to clean up the debris. More than 4,000 tons of debris had to be gathered and temporarily stored at a site near downtown Vernonia. Arrangements were made with local collection companies to haul the waste to landfills in Washington and Yamhill Counties. The cost to transport and dispose of the waste was over \$1,000,000. Financial and technical assistance from the Federal Government helped offset this cost. However, Columbia County, like other communities, had no real plan for dealing with this type of event.

This section discusses several actions the County may consider to better prepare for these events in the future. Since the material that is generated from this event is governed under solid waste regulations, it is appropriate to discuss management strategies that could be employed.

9.2.2 Existing Conditions

Waste generated from catastrophic events such as floods, earthquakes and excessive winds is generally classified as solid waste. It consists of wood, tree branches, dirt and other inert materials (brick, mortar, rocks, glass, sheet rock, insulation, tires, and small quantities of hazardous waste, i.e. paint, batteries). Depending on the type and extent of the event it can contain large quantities of organic waste such as food spoils and waste paper. By law this material needs to be placed in a landfill for proper disposal. Since there are no landfills in the County, this material must be transported to a landfill outside of the County, which greatly adds to the cost of cleanup.

In 1996 when the February flood occurred and the water receded, the City of Vernonia and other areas of the County experienced a wide range of debris. The waste blocked roadways, lay spewed upon private properties and clogged drainage ways and sewers. Work forces gathered up material and trucked it to a temporary storage or staging areas. From there the material was loaded into larger trucks and hauled to the landfill. About 4,000 tons of debris was handled during this event. This is equivalent to one-fifth the amount of waste generated by the entire County over a one-year period.

There were no contracts or pre-arranged agreements for transporting and disposing of the waste. The County used its solid waste authority to execute agreements with local collection companies. However, because of the urgency and lack of a formal plan the County was limited in its ability to bid out transportation and disposal services.

As a result of this event, the City of Vernonia has prepared a Hazard Mitigation Plan. The Plan was prepared under the guidelines of the Federal Emergency Management Agency (FEMA). The plan contains both preventative and remedial actions to be taken by the City when catastrophic events occur. The County also is in the process of completing a Hazard Mitigation Plan.

9.2.3 Needs and Opportunities

Catastrophic events, such as the 1996 flood, are rare events and occur once every 40 to 50 years or less often. It is difficult to plan for such an event. It is more likely that high winds or minor flooding could cause damage that may result in minor cleanups. There is a need to develop a coordinated approach for managing cleanup and disposal of waste resulting from such events. A plan should be prepared that delineates the responsibilities of each party. Because the County depends on resources outside its jurisdiction, having agreements for handling special waste events is desirable. Basically, the County should be able to respond to community needs when

excessive waste is generated from these incidents. The County should provide agreements with service providers capable of responding on short notice.

9.2.4 Alternatives

The alternatives for managing waste from catastrophic or other weather-related events are limited. To address the needs of Columbia County the following alternatives could be considered.

9.2.4.1 Prepare a "Special Waste Emergency Action Plan"

The County is in the process of completing a Hazard Mitigation Plan. The plan will contain preventive measures to limit damage caused by floods and other weather-related events. As part of this Plan, the County could include a plan of action for managing solid waste from such incidents. The plan would include at a minimum the following items:

- Designate lead agency and key personnel.
- Establish role of each agency and key contact person.
- Identify responsibilities of franchise haulers or other contractors.
- Establish conditions in franchise agreements for providing services for such events.
- Identify temporary storage sites for waste materials.
- Develop agreements with disposal sites for special rates under these conditions.
- Establish emergency plan to finance cleanup actions.

Including this information as part of the Hazard Mitigation Plan would establish pre-determined conditions as to what franchise haulers or other agencies would do. Having a special collection and disposal rate for such events also would be desirable. These rates may be negotiated as part of the collection franchise agreements and the disposal contract. It may be desirable to meet annually to discuss the arrangements and responsibilities of each party to make sure the plan is up to date on procedures and key contacts. It is assumed however, that such an annual review will be part of the Hazard Mitigation Plan.

Having a plan with this information will aid in making sure each jurisdiction understands its role and responsibilities. Since the County is the lead for solid waste activities, the plan would help make sure that solid waste programs work as a system by taking advantage of existing contracts and services. It would give the County Emergency Services Director, who is responsible for carrying out this element of the Hazard Mitigation Plan, that the tools to implement remedial actions in response to such events.

9.2.4.2 Include Services in Franchise Agreements

As part of updating existing franchise agreements, the County and cities could establish a basic level of services to be provided by franchise companies. The services could include cleanup, processing, storage and transport to a designated landfill facility. If a franchise collection company cannot perform certain functions pertaining to their service area, perhaps the franchisee would be willing to contract for such services. For these situations another franchise company might provide the needed services for that area.

Having such arrangements with predetermined responsibilities defined in these agreements would allow the County to expedite cleanup actions and eliminate the time required to bid out services or procure contractor services. This would allow the County to focus on coordinating with the community in need of assistance. The collection company could be responsive to performing the cleanup actions.

Also, having a special rate in franchise agreements and disposal contracts would be desirable. As part of signing a long-term contract to supply waste, the County should establish a rate for disposing of waste under these conditions. By having a predetermined rate, the County can better plan financially for such events.

9.2.5 Recommendations for Catastrophic Events

Recommendation 9-3. The County should include in franchise agreements a fee for providing collection and hauling services for special events such as handling of waste from weather-related events.

Recommendation 9-4. The County should obtain a special rate for disposal of waste generated from weather-related events when the County renegotiates or bids out disposal services.

9.3 IMPLEMENTATION

Implementation of Special Waste Management recommendations is scheduled to coincide with other components of the solid waste system. Specifically, when modifying franchise agreements the County needs to consider the recommendations regarding household hazardous waste and approaches for handling waste from catastrophic events.

Household Hazardous Waste (HHW)

1998-Ongoing

1. Distribute information about types of HHW and promote use of Metro Transfers Stations.

1999

1. Consider contracting with franchise companies for HHW collection events OR purchase mobile trailer for processing HHW.

2000-Ongoing

1. Conduct HHW collection events through contracts OR at transfer station using mobile trailer unit.

Waste from Catastrophic Events

1998-Ongoing

1. Include a fee for transport and cleanup of waste from weather-related events in franchises.

1998-Ongoing

1. Develop a special disposal rate for waste from weather-related events as part of a new disposal contract.

CHAPTER 10.ADMINISTRATION AND ENFORCEMENT

10.1INTRODUCTION

The Administration and Enforcement Chapter examines existing practices and policies for managing solid waste activities in Columbia County. This chapter presents the responsibilities of the County to manage the solid waste system, ordinances, enforcement mechanisms and funding sources currently in place. The Chapter further presents deficiencies and needs for meeting goals of the solid waste system in the future. Based on these needs, alternatives are discussed and evaluated, and recommendations made to improve the overall management system.

The following goals are designed to provide guidance for managing Columbia County’s solid waste system and meeting its administrative and enforcement requirements in the future.

- *The solid waste system should have flexibility to respond to changes in disposal alternatives, new technologies and new regulations.*
- *The system should provide for uniform level of services to all constituents.*
- *Rates should be established to encourage participation and utilization of services.*
- *The County should encourage waste reduction and recycling of materials to minimize the cost of disposal and the cost to users.*
- *Funds generated from the solid waste services should be dedicated to the greatest extent possible to administer and manage solid waste programs.*
- *The County should coordinate with local governments to standardize recycling programs and services and to streamline the rate review process.*

By examining these goals in relationship to existing administrative and enforcement practices and procedures, a determination can be made about whether changes are needed. The recommendations will address the management requirements needed to support the implementation of recommended programs.

10.2 BACKGROUND AND EXISTING CONDITIONS

10.2.1 Existing Solid Waste Administrative Agencies

Several public agencies are involved in oversight of solid waste programs and activities. The primary solid waste management authority is the County. Through an Intergovernmental

Agreement the County acts on behalf of the Cities to manage certain elements of the solid waste system. Also, each City is responsible for providing collection and recycling services. The Department of Environmental Quality (DEQ) is responsible for permitting and enforcement. The following is a discussion of each agency's role in managing solid waste activities in Columbia County.

10.2.1.2 Solid Waste Management Ordinance (No. 89-8)

The operating authority and policy directives for managing solid waste are contained in the Solid Waste Management Ordinance. The original Ordinance was adopted on August 3, 1977 and amended June 1989. The purpose of this ordinance is “ *to protect the health, safety and welfare of the people of Columbia County and to provide a coordinated solid waste management program . . .* ”. To accomplish this mission the ordinance provides directives for each element of managing solid waste. These elements include:

- _ Establish and manage a Solid Waste Advisory Committee or SWAC;
- _ Franchise collection, disposal and transfer services;
- _ Establish rates for collection and disposal;
- _ Administer and enforce nuisance abatement and illegal dumping;
- _ Health and safety requirements.

This ordinance is comprehensive and provides specific standards and requirements. It clearly sets the policy framework for providing all services.

10.2.1.3 Columbia County, Department of Land Development Services

In the State of Oregon the primary responsibility for managing solid waste is assigned to Counties (ORS Section 459.125). Under this law, counties have a broad range of authorities to design, construct and operate facilities and to generate revenue to service the needs of the county. They also may contract out collection, transportation, and disposal of solid waste.

In Columbia County the Department of Land Development Services (DLDS) is responsible for administering franchise agreements and contracting for disposal services. The County does not operate any facilities or deliver services directly. DLDS currently performs the following activities:

1. Administer collection franchises for the unincorporated areas. This includes:
 - _ Establish service standards;
 - _ Review and set rates;
 - _ Coordinate waste reduction and recycling services.

2. Administer the franchise agreement for the St. Helens Transfer Station.
3. Administer the disposal contract with Riverbend Landfill.
4. Respond to illegal dumping and enforce the County's ordinance.
5. Coordinate with local government to respond to emergency events.
6. Conduct special events such as Household Hazardous Waste (HHW) collection programs.
7. Manage and coordinate the Solid Waste Advisory Committee (SWAC).

Because the County has limited resources it must set priorities for managing solid waste. It must allocate between enforcement, franchise regulation, waste reduction and recycling, promotion and education and special events. In past years the Department had a half-time staff position to implement waste reduction and recycling promotion and education. More recently the DLDS had a full-time staff position responsible for recycling education, franchise administration and enforcing the ordinance to respond to illegal dumping. However, due to budget reductions, this position was eliminated in fiscal year 1997-98. DLDS continues to perform minimal planning, franchise administration and enforcement as needed.

10.2.1.4 Cities

There are seven incorporated areas in Columbia County. These include St. Helens, the largest city, Scappoose, Vernonia, Clatskanie, Rainier, Prescott and Columbia City. According to state law, cities may license, contract, or franchise with private companies to collect garbage and recyclables. Their authority allows them to set standards for service, establish collection boundaries and set rates. Cities can determine what services and recycling programs to implement consistent with state law. For cities with population over 4,000, specific recycling programs and standards must be met as discussed in Chapters 3 and 4. Cities charge a franchise fee to fund the administration and regulatory oversight activities required to manage these services.

In Columbia County, six cities administer franchises. The cities of St. Helens, Scappoose, Vernonia, Rainier, Clatskanie and Columbia City each administer franchise agreements. The County is responsible for franchising the other cities and the unincorporated areas. Each of the cities set rates and service standards for their respective jurisdictions.

Cities also have the authority to operate disposal facilities and/or contract or franchise for disposal services. In Columbia County the cities through an intergovernmental agreement have assigned to the County the responsibility of providing transfer and disposal facilities.

In summary, the current administration/enforcement responsibilities of each city in Columbia County are as follows:

- Franchise collection and recycling services;
 - Set policies and procedures;
 - Set rates (service fees);
 - Establish service standards.

- The cities of St. Helens and Scappoose must provide the required minimum waste reduction and recycling services.

None of the cities has full-time staff resources dedicated to waste reduction and recycling or solid waste activities.

10.2.1.5 Oregon Department of Environmental Quality

The State of Oregon through the DEQ provides and maintains funds to financially assist local governments in planning and implementing solid waste management activities. Pursuant to ORS Section 459.015, DEQ is responsible for assuring that effective programs are in place and that local governments coordinate solid waste programs and services. DEQ provides technical and educational assistance to government agencies, community and business groups and citizens. The types of assistance include informational materials, workshops and seminars. Financial assistance is provided through grant programs primarily aimed at helping local governments prepare management plans and implement recycling programs.

DEQ also is responsible for regulating solid waste facilities. Each solid waste facility is required to have a permit. The permit stipulates minimum standards for handling and managing solid waste. Facilities that do not comply with minimum standards and/or conditions stated in the permit are subject to enforcement. And, as stated in ORS 459.047, the DEQ can lend assistance to local governments to plan, locate, acquire, develop and operate a new landfill. Columbia County is serviced by the Northwest Regional office of DEQ located in Portland.

10.2.1.6 Columbia County Solid Waste Advisory Committee

The Solid Waste Management Ordinance states that the Board of County Commissioners will create a Solid Waste Advisory Committee (SWAC). This committee is appointed to provide oversight and guidance in developing and implementing solid waste programs. Specific duties contained in the ordinance include:

1. Making a report to the BOC containing recommendations on development and implementation of the SWMP and any regulations and amendments to this ordinance;

2. In consultation with responsible public officials and with persons providing service:
 - Develop and periodically review SWMP including regional disposal and recycling sites and necessary disposal systems for review and adoption by the BOC;

- Develop and recommend to the Board minimum standards for location and operation of disposal and recycling sites, etc.

3. Perform such other duties as directed by BOC or as the Committee may find necessary to effectively carry out the purposes of this ordinance.

The Ordinance specifies that the SWAC be comprised of five members. The makeup of the SWAC includes three members at large and two franchisees or representatives of such franchisees. The Board may appoint ex-officio members to the committee to advise but not to vote.

10.2.1.7 Intergovernmental Agreement

In January 1991 the cities and the County entered into an agreement, the primary purpose of which was to define the responsibilities of each party in managing the various components of the solid waste system. In the agreement the cities specify that the County shall be responsible for providing transfer and disposal facilities. The Cities remain responsible for operating collection services. The agreement states that the county shall ensure that all fees assessed shall be equitable among all user classes.

As part of this agreement the County shall prepare a SWMP financed out of the County's base rate. The updated SWMP shall not be in effect until it is approved by BOC and the City Councils representing at least two-thirds of the incorporated population.

This agreement represents a commitment of each of the local jurisdictions to cooperate in a County-wide solid waste program. It allows the County to implement a uniform level of service and set rates for transfer and disposal services. It also commits the Cities to supply waste to County facilities or facilities which they may contract and/or franchise. The term of the agreement is for twenty years.

10.2.1.8 Financing and Funding Sources

The primary source of revenue for this program is franchise fees. The County does not operate any direct services and therefore does not collect user fees. Franchise fees are paid by franchised haulers and by the operator of the St. Helens Transfer Station. The revenue from these fees is used to administer collection franchises, determine levels of service and to review and set rates.

The fees also pay for promotion and education for waste reduction and recycling services. These funds are used to pay the costs for administering the Solid Waste Management Ordinance which includes responding to illegal dumping. Dealing with illegal dumping and nuisance abatement can easily consume the limited resources of the County. One event may cost \$1,000 to \$3,000 to clean up. In some extreme cases the County has spent more than \$15,000 to clean up a site. Even though the County can place a lien on the property, they may not collect this lien until the

property is sold.

County revenue generated by franchise fees has grown from \$66,000 in 1990 to \$120,000 in 1996. This is the primary revenue source the County has to meet its responsibilities. The County also collects a surcharge on the disposal rates. This surcharge was created when Riverbend Landfill lowered its rates slightly. Rather than reducing rates, the County retained the previous disposal rate and used the revenue to pay for recycling services. This surcharge amounted to about \$16,000 in 1996. In the past, DEQ has provided some financial support. Specifically, DEQ has given the County grant money for HHW collection events. They also provided a grant to fund the SWMP update.

Because the County has limited resources for funding basic services, there is a demand on revenue from the franchise fees. Certain services are mandated and therefore the County has little discretion but to provide these services. During the budget process the BOC must choose what programs and services are a priority given limited resources. In preparing the 1997-98 budget, BOC decided to reduce staff and eliminated the position dedicated to solid waste. Since July 1, 1997, DLDS has managed these services with existing resources.

10.3 NEEDS AND OPPORTUNITIES

This section describes needs and opportunities of the solid waste management structure in Columbia County. It examines responsibilities of the County and considers the requirements for managing future programs.

10.3.1 Solid Waste Administration/Management

Columbia County has primary responsibility for ensuring that transfer and disposal services are provided in the County. The County must regulate these services as well as collection and recycling services. State law also makes the County the primary responsible agency to make sure minimum waste reduction and recycling services are in place and that the County meets its recovery goals. These responsibilities need to be evaluated and prioritized to make sure adequate resources are provided to manage the system.

Over the next three to five years the County needs to consider alternatives for transfer and disposal of waste. New facilities may be needed. Given current availability of landfill capacity, the County should consider disposal options. The County will require resources to plan and implement appropriate programs for waste reduction, recycling, transfer and disposal services.

Finally, to implement the recommendations of this plan will require a commitment of the County. These recommendations should be evaluated along with the base level of services to determine appropriate resources and funding level needed to ensure success.

10.3.2 Financing and Funding Considerations

The franchise fees provide a stable source of funds to finance the base level of services. These sources do not provide for any contingency if the County wishes to consider building other facilities or services. In fact, enforcement actions and catastrophic events such as the flood in Vernonia can put additional stress on these resources. Also, the County will need to provide added services to meet state recycling mandates. Many needed programs can be added through the franchise agreements. This will require more administration oversight by the County.

In conjunction with prioritizing its management responsibilities and future role, the County should evaluate funding requirements. As part of this process, the County can determine if it needs alternative funding sources to meet its management and administration responsibilities for implementing the SWMP.

10.3.3 Monitoring and Enforcement

The primary enforcement responsibilities of the County are to respond to illegal dumping and nuisance abatement. Illegal dumping occurrences are monitored by the Solid Waste Administrator or by DLDS. Over the past two- and-a-half-years the County has conducted 382 site visits or inspections or about 150 per year. Each occurrence may take an average of three hours, since most of them are in remote locations. This does not include follow-up time to issue citations or to remedy the occurrence. Thus, to monitor and enforce the illegal dumping ordinance takes about one-quarter of a full-time position.

Presently, the County does not have a solid waste coordinator; inspection and enforcement are being carried out by the planning staff. Building inspectors are used to follow up and pursue illegal dumping violators.

10.4 ALTERNATIVES AND EVALUATION

Columbia County and the Cities have developed a cooperative agreement that clearly defines roles and responsibilities of each agency. The agreement places the County as the agency that is principally responsible for managing transportation and disposal of solid waste. When considered along with the requirements to meet waste reduction and recycling goals, the County will need to put in place additional resources for managing solid waste programs. The alternatives presented in this section provide the County with the choices for meeting these management obligations in the future.

10.4.1 Management Alternatives

10.4.1.1 County Provides Minimal Services

Under this alternative the County would provide the minimum required services. To implement this approach the County would revise the current franchise agreements to include other services that might otherwise be performed by the County. This option entails the following:

- 1. Establish new franchise agreements for collection companies.** The agreements would place responsibility to implement a minimum level of recycling services with franchised haulers. The franchisee would perform promotion and education services and complete annual reporting to the County and DEQ.
- 2. Maintain enforcement of illegal dumping and nuisance complaints.** The County would budget limited resources to carry out enforcement for extreme cases only. A part-time enforcement officer could be hired to implement a program to reduce illegal dumping.
- 3. Oversee transfer station and disposal franchises.** The County would provide limited oversight of the franchise agreement for these operations.
- 4. Household Hazardous Waste collection events** would be conducted as part of the franchise agreements.

This approach would require additional regulatory oversight of franchised haulers by the County. An important element is to make sure recycling services are implemented and are directed at meeting the County-wide goals.

Resource Impacts –The County would manage this program with current DLDS staff. A part-time enforcement officer would be needed. All other administrative responsibilities would be divided among existing staff. The responsibilities include franchise administration and review of the cost of services and rate setting. The County may consider using outside resources to assist in completing certain projects or activities.

Financial Impacts –This approach would have minimal financial impacts on County resources. Some up- front costs would be incurred to develop new franchise agreements and to establish a rate review mechanism that allows the County to obtain information as to the effectiveness and cost of different services and programs. This review would be conducted in conjunction with each franchised hauler, to make sure recycling services are implemented according to the strategy adopted in the SWMP.

To implement recycling services, collection rates for certain franchised haulers may need to be adjusted. This would be accomplished through a new rate review process. The County's franchise fee revenues would continue to be budgeted from year to year based on program requirements.

10.4.1.2 County Provides Basic Services

The County has primary responsibility to make sure standards and programs are implemented for waste reduction and recycling. Under this approach the County would prepare a Waste

Reduction and Recycling Plan consistent with the direction adopted in the SWMP. As in the previous alternative, the franchise agreements would need to be revised to accommodate new services.

The County would hire a part-time Recycling Coordinator. The role of the coordinator would be to develop and implement a county-wide waste reduction and recycling program in conjunction with the cities and the franchised haulers. The coordinator also could support a public awareness campaign to educate people about illegal dumping.

The other responsibilities would be carried out as described in the minimal services alternative. All franchise agreements would be reviewed and revised to encourage recycling and materials recovery and to eliminate any conflicts with the County attaining increased recycling goals.

Resource Impacts –Existing DLDS staff would perform most responsibilities. A part-time enforcement officer would be hired to implement the recommendations in Chapter 8. A new part-time position would be hired to develop and implement a coordinated waste reduction and recycling campaign. The focus of the program will be to support existing collection and recycling programs to increase participation in these programs. The result is that DLDS would add one full-time equivalent (FTE) position to its staff.

Financial Impacts –The County may be able to fund this part-time position with existing resources. However, given the competition for these resources, it probably is a better approach to consider dedicated funds. The options for funding these activities include using current franchise fees or possibly raising franchise fees or tip fees.

One approach that should be considered is to make everyone pay for this basic service. Everyone benefits when less waste is discarded and the County avoids transport and disposal cost. Tillamook County charges each household \$1.00 per month to pay for basic recycling services. Another approach is for the County to reach agreement with the cities of Scappoose and St. Helens to provide basic recycling promotion and education programs consistent with State requirements. A cost sharing arrangement could be worked out to help pay for these services. As part of the agreement the cities would receive a certain level of service. The current Intergovernmental Agreement could easily be amended to accommodate this approach.

The estimated cost to hire two part-time positions is about \$50,000 per year. To initiate and maintain on-going promotion and education programs would require funds to pay for materials and services. This will vary each year depending on program requirements. The materials and services budget may range from \$10,000 to \$30,000 for any one year, not including the cost to perform cleanups. Total cost of this option is about \$60,000 to \$80,000 per year.

10.4.1.3 Dedicated Solid Waste Fund

Under this option the County would establish a dedicated solid waste fund and commit staff resources to a solid waste program. The primary functions would include:

1. Franchise administration and review of rates. The County would assist the Cities to ensure services are uniform and rates are equitable.
2. A county-wide waste reduction and recycling plan would be prepared as outlined in Chapters 3 and 4, and carried out by a solid waste coordinator and/or a part-time staff dedicated to this program. These services could be part of the interlocal agreement with the cities.
3. A proactive campaign would be conducted to reduce illegal dumping and enforce the nuisance abatement ordinance. The program would encourage more people to utilize existing disposal and recycling services.
4. Special projects would be identified each year consistent with implementing the SWMP or other actions needed to provide adequate service. Special projects may include conducting HHW collection events, bulky waste or spring clean drop-off programs. Other projects may include siting a new transfer station and locating temporary storage and dump locations for catastrophic events.

Having a dedicated budget and staff for solid waste management would provide more certainty that the County can meet its commitments to its constituents and meet the mandates of State law. As the County grows, the need to provide these services will increase. The County can play a more active role in directing and managing the programs needed to meet the demand. Also, under this approach the County would work closely with the Cities to support their programs from a standpoint of administering franchises and providing basic services. This would help these other local jurisdictions that also have limited resources to meet State mandates.

Resource Impact—Under this approach the County would hire a solid waste coordinator position as part of DLDS. Depending on whether this position was fully responsible for managing the recycling programs, the position may be available for other duties. In this case the County would hire a recycling specialist to work part-time on this program. A total of 1 to 1.5 FTEs (full time equivalent staff positions) would be dedicated to managing and coordinating solid waste activities.

Financial Impacts—The current franchise fees may provide sufficient revenue to meet the program needs. About \$60,000 would be required to meet staffing requirements of 1.5 FTEs. This would include benefits and overhead. A materials and services budget would be developed each year and would vary depending on the program objectives for that period. This could range from \$10,000 to perhaps as much as \$50,000 for any one year. The estimated cost of this option could range from \$70,000 to about \$110,000 per year.

The County has no contingency budget for meeting their basic service requirements. Considering other approaches to generate revenue for this program is desirable. Methods may include raising tip fees or creating a universal fee per household as discussed under the minimum service alternative.

10.5 EVALUATION

The County has managed solid waste programs and carried out enforcement using minimal but adequate resources. In the past these resources have been dedicated to carry out promotion and education programs for schools and civic events primarily. The 1998 SWMP identifies a number of actions and programs that need to be implemented and coordinated with other service providers. The alternatives presented in Section 9.4 of this Chapter are aimed at ensuring the success of these programs and for meeting the objectives of 1998 SWMP.

10.5.1 County Resources

Over the next 3 to 5 years the County, Cities and service providers will need to address some important issues. These relate to making decisions regarding the location of the transfer station, determining the vendor for disposing of the County waste for the next 20 years, and enhancing the current waste reduction and recycling program. Additionally, the plan suggests developing franchise agreements that permit the County and cities to establish policy and program direction while adopting a standardized rate review process.

To meet these challenges, the County should dedicate resources to fund a solid waste program. Because of limited staff resources, the County integrates staff functions. For instance, DLDS trains environmental specialists to carry out enforcement procedures for nuisance abatement. In keeping with this approach, a part-time recycling coordinator also could develop a public awareness campaign to educate people about illegal dumping. Regardless of the staffing approach used, dedicating funds to support a solid waste program each year will create certainty that required actions will be performed and the program will be maintained at a certain level.

Another way to coordinate and optimize resources is to have cities and the County share resources. Since both jurisdictions need to implement programs to meet State mandates, sharing staff resources would increase efficiencies and reduce resources required of each agency. This is consistent with developing a coordinated waste reduction and recycling approach.

The commitment of resources to carry out basic services is estimated to range from \$60,000 to \$110,000 per year. Currently, franchise fees and the surcharge generate over \$130,000 per year. This amount will increase as new customers subscribe to collection services. The monies required to fund solid waste programs will vary from year to year. In these first few years program costs may be higher, but they should decrease as the system evolves and standard procedures are in place. Both St. Helens and Scappoose have some incentive to help fund a waste reduction and recycling coordinator position, assuming that the funds are dedicated to this program and provided the cities receive appropriate services in return. If additional funds are needed, the County can consider raising franchise fees or adding user fees at transfer stations.

Using dedicated funds is consistent with the principles and values established in this 1998 SWMP. It will accomplish several objectives to:

1. Provide dedicated resources for managing solid waste.

2. Promote coordination of waste reduction and recycling programs and perhaps to streamline the rate review process.
3. Allow the County to ensure that the solid waste system encourages waste minimization and takes advantage of avoided cost.
4. Ensure uniform level of services are provided throughout the County.

By accomplishing these objectives, the County will enhance the level of services and develop a more coordinated approach for managing waste for the next 10 to 20 years.

10.6 RECOMMENDATIONS

In order for the County to meet the challenges of implementing the 1998 SWMP the following actions are recommended.

Recommendation 10-1. The County should have a dedicated fund for solid waste activities. The level of funding will vary depending on program requirements and materials and service needs for each year.

Recommendation 10-2. The County should hire additional resources to implement a coordinated waste reduction and recycling program. It is assumed that a part-time employee could perform this function, but this may vary with program requirements.

Recommendation 10-3. The County and the Cities of St. Helens and Scappoose should consider sharing staff resources and funding to develop and implement a coordinated waste reduction and recycling program. The Intergovernmental Agreement should be modified to implement this arrangement.

Recommendation 10-4. The County should dedicate staff resources for managing solid waste activities. An evaluation of current staff skills and resources should be performed to determine if additional resources are needed. The evaluation should be performed prior to the next fiscal year to facilitate hiring appropriate staff, should this be determined necessary.

10.7 IMPLEMENTATION

1998-Ongoing

1. Develop a budget and resources to meet basic service requirements.

2. Consider hiring additional resources to implement and coordinate waste reduction and recycling program.
3. Explore sharing resources with cities to implement a coordinated waste prevention program.