Fall 2024
Solid Waste Forecast

November 2024
Metro Finance and Regulatory Services
Revenue and Analytics Division (RAD)

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EXECUTIVE SUMMARY

Tri-county garbage generation hit all-time highs in calendar year 2022 but saw declines in 2023 that came mostly from dry waste. Steep declines in regional construction activity, particularly in residential construction, led to the decrease. This year, growth has returned, with both the wet and dry sub-streams showing year-to-date gains. Growth is expected to continue in the years ahead, albeit at slower rates, bringing nearly 765,000 tons of allocatable wet waste in calendar year 2025 and 1.55 million tons of full-freight revenue tonnage in fiscal year 2026.

Risks to the forecast include higher than expected waste diversion, either from food waste, new mattress diversion, or among private facilities that recover waste after collection. In addition, several factors could impact the economy in unexpected ways, such as national policy changes, inflation, or the local economy diverging from the national economy in terms of growth, which can greatly influence the trajectory of waste generation in the region.

ROLE OF THE SOLID WASTE FORECAST

Metro's annual Solid Waste Forecast provides policymakers, the solid waste industry, and the public with insights into the types and quantities of waste that the greater Portland area is likely to generate in the next few years and the conditions that affect waste generation.

The Solid Waste Forecast attempts to model the solid waste disposal system for the region and assists in setting fees by estimating revenues and some of the costs of solid waste management activities. It also illustrates the impacts that different policy decisions and economic conditions can have on waste streams. Forecast inputs and outputs – all of which offer insight into regional solid waste dynamics – are described in more detail below.

KEY INPUTS

Garbage Forecasts

The Solid Waste forecast requires, as an input, forecast tonnage figures for wet and dry waste generated in the region. Key variables in these models include consumer sentiment, employment, housing starts and prices, GDP, and personal consumption expenditures. The Revenue & Analytics Division will publish a companion Fall 2024 Economic Summary describing broader economic trends, including those that affect waste generation.

Tri-county garbage declined between 2022 and 2023, attributed largely to a weakening of the construction sector. Home production declined sharply, constrained by high interest rates, and construction employment was relatively weak. However, interest rates are expected to ease going forward, and housing production should stabilize and then improve. As a result, the expectation is for a return to growth in both wet and dry sub-streams, shown in Figure 1. Total (wet and dry) tonnage should grow by around 25,000 tons (1.7%) this calendar year 2024, and another 15,000 tons (1.0%) next year in 2025 and grow moderately thereafter.

Figure 1: Regional Garbage Outlook

Declines in regional tonnage last year have stabilized and moderate growth is expected moving forward
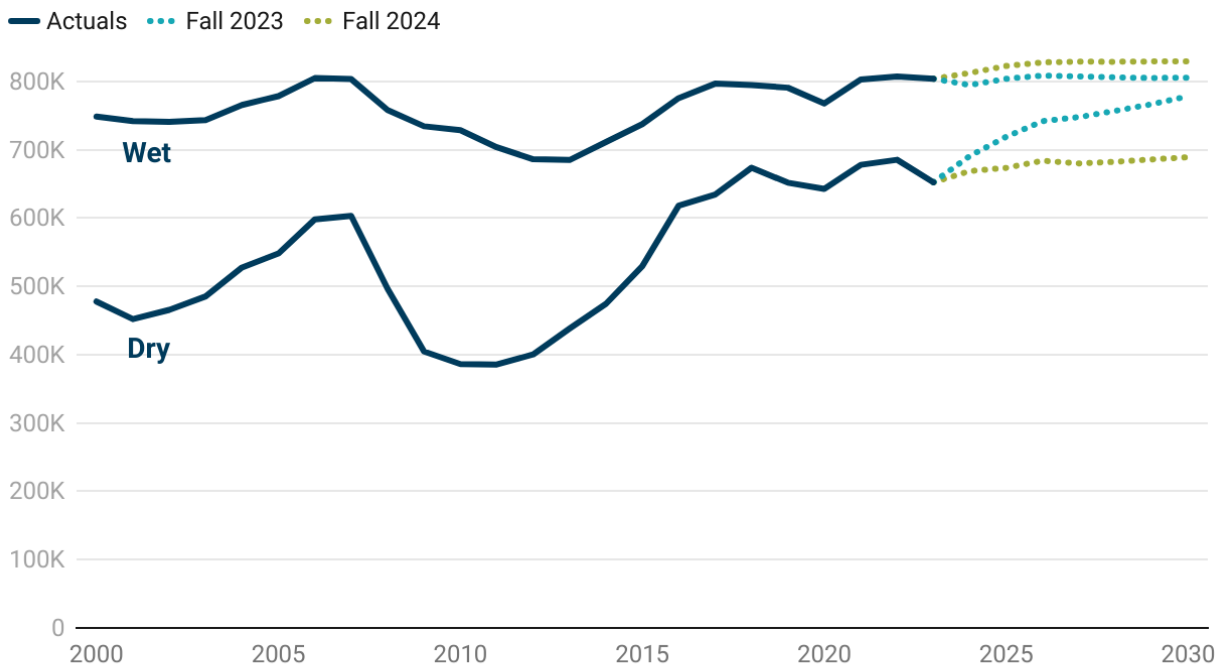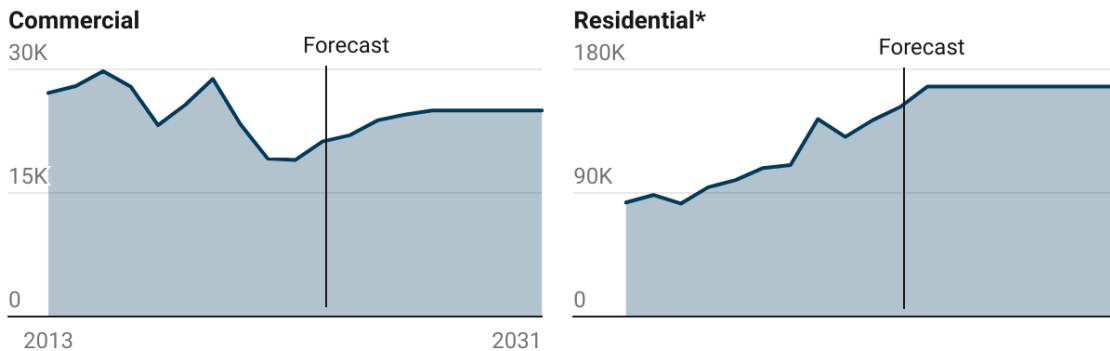

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Source Separation

The amount of regional waste that generators divert from garbage to recycling (also known as source separation) has important impacts on the forecast. The most significant sources of diversion of material from the wet sub-stream come from residential and commercial food waste capture, shown in Figure 2. While commercial sources of food have been flat due to low compliance rates with the business food waste requirements, the forecast anticipates an increase in tonnage over the next few years as the program matures and compliance rates improve. On the residential side, most jurisdictions in the region have

implemented curbside food and yard debris collection programs, which have helped drive those tons to all-time highs. But with most of the programs now fully implemented, this stream should move sideways for the foreseeable future.

Figure 2: Source-separated Regional Food Waste

Commercial food waste tonnage diversion from wet waste should increase slightly resulting from increasing compliance from the business food waste program. On the residential side, most large jurisdictions^ have already implemented curbside programs, and there are no expectations for additional programs.

^ *Unincorporated Clackamas County, Gresham, Fairview, Troutdale and Maywood Park do not yet have or have plans for programs; * Residential food waste is mixed with yard debris; food is estimated to be about 6% of the total weight.*

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Aside from food, mattress diversion from the dry sub-stream could be another source of garbage diversion, but since tonnage amounts and timing are uncertain, the forecast takes a wait-and-see approach. If diversion ends up being significant, the dry waste forecast could be significantly lower.

Waste Distribution

The amounts and types of waste that are delivered to the public and private facilities in the hybrid system is another important input to the forecast and determines which tons incur Metro fees and taxes. For dry waste and source-separated food waste, the forecast model is based on recent market share trends. Public transfer stations' market share of dry waste has been relatively stable, at about a third of the regional total. Public stations take in a little over a quarter of residential food waste and over two-thirds of commercial food waste. With no major interruptions of the system expected, these shares are expected to persist at the same percentages moving forward.

The distribution of regional wet waste to facilities is governed by Metro waste allocations, and the forecast makes two important assumptions. First, it assumes that Metro will

allocate 60 percent of the available wet waste to private transfer stations that serve the region (Figure 3). Allocations are determined according to Metro Administrative Rule which describes the goals-based allocation program and may change during the calendar year in which they are awarded, so it is not possible to use final allocations in the model. Metro has allocated 60% of the available tonnage most years since program inception, and the forecast assumes this will continue.

Figure 3: Solid Waste Transfer Stations in the Region
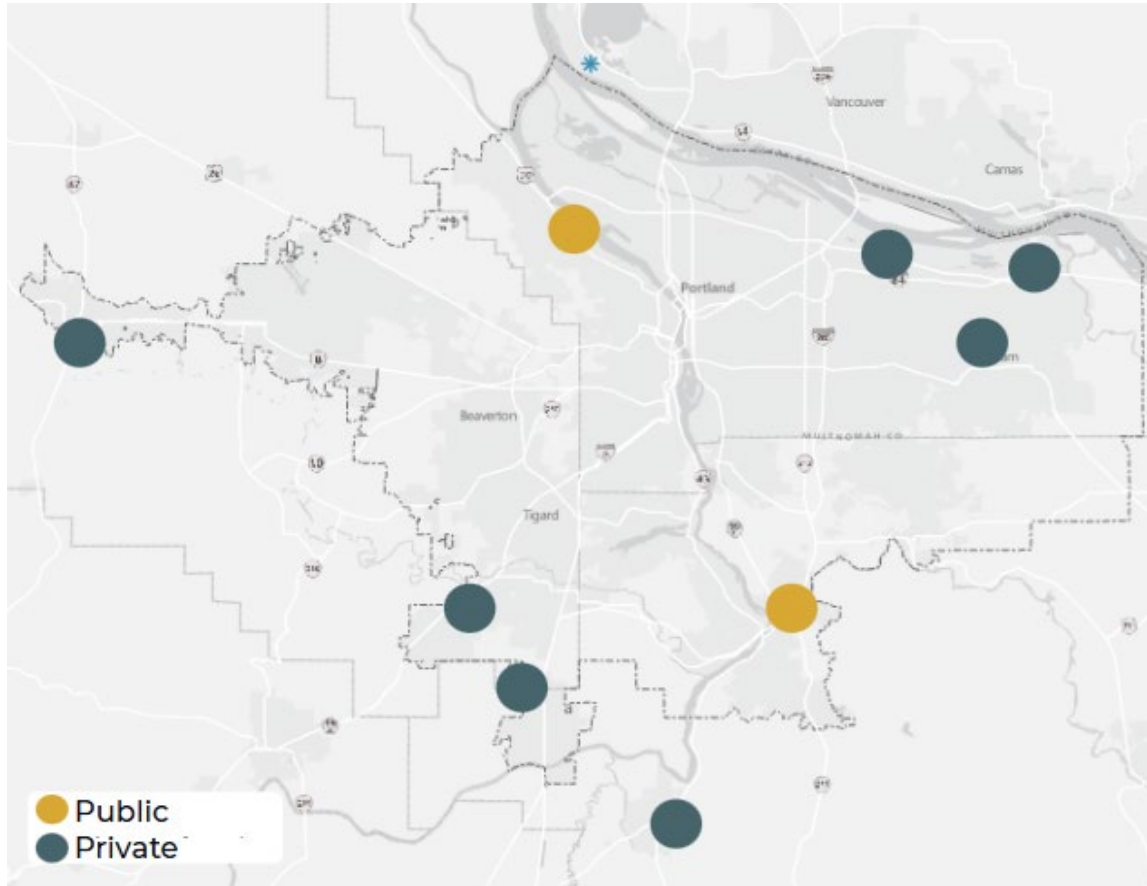
Second, the forecast assumes that private stations will collectively use 95.5% of their allocations, which is based on historical patterns. The amount of tonnage received by public stations depends on total regional tonnage actuals and the amounts and utilization of private station allocations. Public station tonnage assumptions in previous forecasts are shown in comparison to actuals in Figure 4.

Figure 4: Public transfer stations' wet tonnage assumptions vs actuals

Public stations receive more tonnage than assumed when actual tons exceed the forecast and/or private stations underutilize allocations
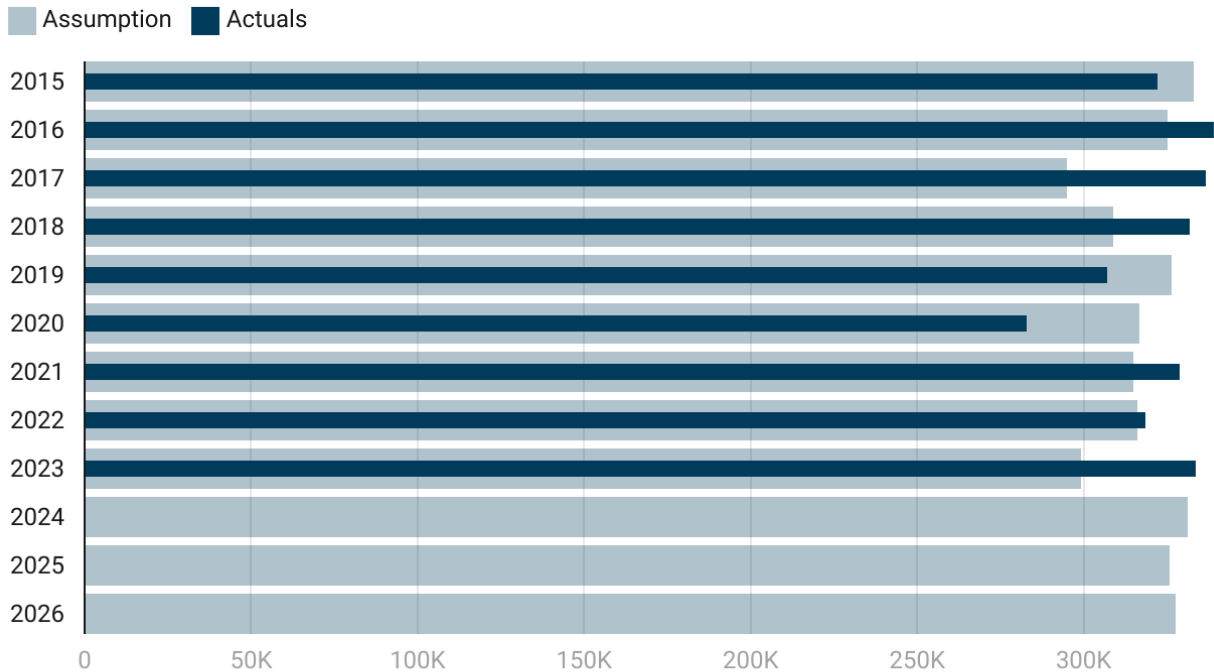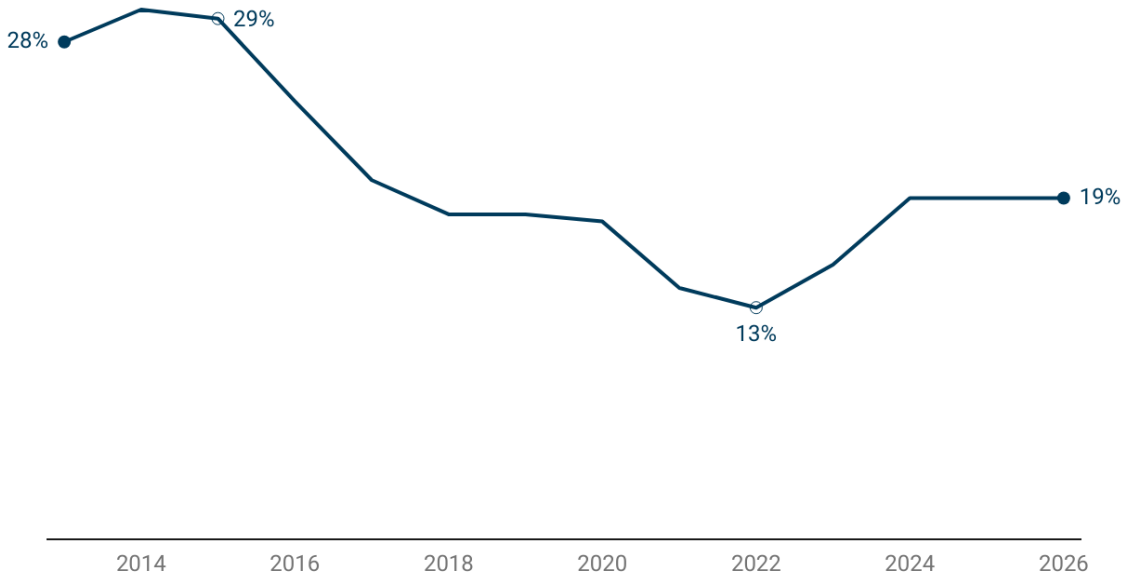

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Mixed-waste Recovery

The last major input to the forecast is an assumption of private facility mixed dry-waste recovery rates. While Metro transfer stations collect their fees and taxes – including the Regional System Fee (RSF) and Solid Waste Excise Tax (ET) – on incoming tons, private stations are only required to remit RSF and ET on outbound waste that they send to landfill. To minimize these fees and generate additional revenue from the waste stream, facilities recover specific materials from dry waste which they can sell to recycling markets, convert to fuel, and otherwise salvage for another purpose. Waste recovery requires investment and labor costs. The percentage of incoming dry waste that these facilities recover has been collectively very low for some time, coming in between 10 and 15 percent most years. Since 2022, however, recovery rates have been on the rise, as shown in Figure 5, and the expectation is to see almost one in five incoming dry tons to private facilities recovered.

Figure 5: Private Facility Mixed Waste Recovery

Rates* moved higher in CY 2023, and are expected to move higher again this year to about 19%, where they should remain for a couple years

The percentage of incoming mixed dry waste tons that are recovered, at private facilities
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KEY OUTPUTS

The forecast model turns the inputs just described into 40 output series which are aggregated into key regulatory and financial quantities. The following section summarizes some of these outputs.

Regulatory

The key regulatory quantity produced by the forecast each year is the forecast of wet waste tonnage available for private facility tonnage allocations (Table 1). Driven primarily by the forecast of tri-county wet waste, these tons have exhibited a long-run trend that is flat, to slightly down. Most recently in calendar year 2023, tonnage declined by a little less than 1 percent, but is expected to recover those losses this year, when it should come in over 17,000 tons higher than we thought last fall 2023 and grow to about 765,000 tons in calendar year 2025. The outlook here is better than last year due to slightly better economic conditions supporting tri-county wet waste generation, but more importantly, significantly less food waste diversion from the Business Food Waste Program than was assumed in last year's forecast.

Table 1: Tonnage Available for Wet Waste Allocations

2023 AC	2024 BU	2024 FC	2025 FC	2024 FC/BU Variance	2023 YOY %Chg	2024 YOY %Chg	2025 YOY %Chg
746,269	737,713	755,227	764,639	17,514	−0.6%	1.2%	1.2%

Years are calendar years; AC = actuals, BU = budget (Fall 2023 forecast), FC = forecast (current outlook)
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Financial

The forecast produces several quantities of financial consequence, both for rate-setting and budgeting purposes for the following fiscal year and beyond. The most significant, from a revenue perspective, are the tons subject to the full RSF and ET (Table 2). Tons that incur Metro's RSF and ET include wet and dry waste delivered to Metro stations, as well as waste landfilled by private facilities and generators, including those of pre-consumer "special" waste. Tonnage exhibits a long-run moderate upward trend over the past couple decades, with a more pronounced upward trend since the end of the Great Financial Recession. Last fiscal year (ending) 2024, however, tonnage did fall by 4 percent to about 1.50 million tons, most of which was from a decline in tons of special waste being disposed. But wet and dry waste subject to RSF and ET also fell last fiscal year, particularly among private facilities. This year, while tonnage should rebound and hit about 1.55 million tons, these levels are nearly 51,000 tons below our budget forecast last year. Mixed waste recovery rates at private facilities are more than 3 percentage points higher than we thought they'd be, and special waste is much lower than we thought. Next fiscal year 2026, with the regional wet waste outlook up only a little, the dry waste outlook flat, and special waste down, total tonnage subject to RSF and ET should stay flat at about 1.55 million tons.

Table 2: Tonnage Subject to Full-freight RSF and ET

2024 AC	2025 BU	2025 FC	2026 FC	2025 FC/BU Variance	2024 YOY %Chg	2025 YOY %Chg	2026 YOY %Chg
1,503,702	1,597,260	1,546,533	1,546,763	−50,727	−4.0%	2.8%	0.0%

Years are fiscal year-ending; AC = actuals, BU = budget (Fall 2023 forecast), FC = forecast (current outlook)
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MORE INFORMATION

The Solid Waste Forecast produces 40 different forecasted tonnage and load series by month for the next 5 years. For more information and past forecasts, please visit the Metro website or contact Joel.Sherman@oregonmetro.gov or Molly.Vogt@oregonmetro.gov.