Welcome

Reuse, Recycling and Garbage System Symposium

Workshop Discussion Guide
September 2023

Metro

Welcome | We're glad you're here.

We live in a place where people care deeply about protecting our lands and waters, conserving resources, keeping people healthy and ensuring that everyone has what they need to thrive. There is a strong connection between our ability to achieve these values and the decisions we make about managing waste.

Four years ago, our region adopted the 2030 Regional Waste Plan, an exciting and ambitious blueprint for how the region plans for and manages the impacts of the products we consume throughout our lives and when we throw them away. The plan is the result of a community-driven process that centered racial equity, collaboration and partnership. It sets the direction for how we reduce the impacts of products in the region for the next decade plus.

Today we ask: what facilities do we need to provide excellent garbage and recycling services for everyone, and how can we build and operate those facilities to reduce the amount of materials sent to landfills? The Garbage and Recycling System Facilities Plan will identify the facility-based services needed to achieve the goals of the Regional Waste Plan.

Learn more about Metro's 2030 Regional Waste Plan.

About this guide

This document is designed to **spark conversation** around the future of the region's garbage and recycling facilities.

Table of contents

The Garbage and Recycling System Facilities Plan

Metro is convening local government, industry and community-based leaders to guide the development of the Garbage and Recycling System Facilities Plan. The purpose of the plan is to identify facility investments that reduce waste, increase access and keep ratepayer costs affordable. The plan will consider investment in current facilities – including Metro's two transfer stations – and new facilities like reuse and recycling centers.

Project need

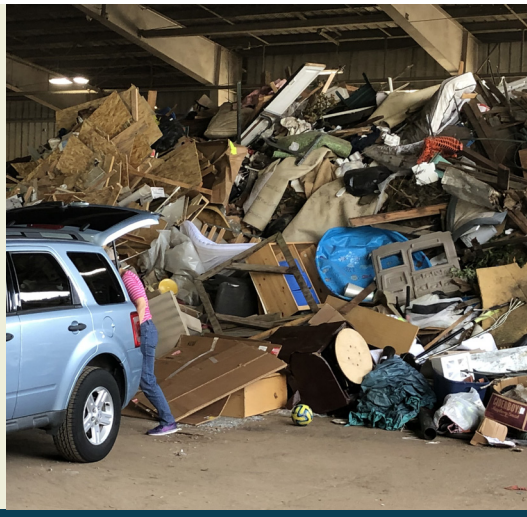
Today, significant gaps exist in the region's reuse, recycling and garbage facilities, and other waste-related services. Between September 2022 and June 2023, Metro used a combination of engagement activities and technical research to identify facility gaps in the regional reuse, recycling and garbage system. Some of the key gaps identified include:

- In certain parts of the region, like Washington County and east Multnomah County, people lack access to drop off recyclables, household hazardous waste, garbage and large household items that could be reused. And there are significant differences in the prices people have to pay for dropping off certain materials depending on where they are located within the region.
- For the companies that collect garbage and recycling from people's homes and businesses on behalf of cities and counties, there are facility gaps in terms of access, cost differences and disaster resilience for food waste, yard debris and garbage.
- Reuse and repair businesses and organizations told Metro they need more warehouse and flexible space to sort, repair and store items for reuse and that they need more consistent funding to be able to increase the collection and distribution of used items.

Additional gaps were identified by the community over the last year and are included in Appendix B.

Spotlight

When the Metro South transfer station opened 40 years ago, it was expected to handle up to 800 tons of waste per day. From June 2021 to June 2022, the facility processed more than 329,000 tons of waste. Learn more: Metro South celebrates 40 years of operation.



The Garbage and Recycling System Facilities Plan

The planning process

This project has five steps:

1. Identify the **values and outcomes** informed by the 2030 Regional Waste Plan into the facilities planning process.
2. Conduct a **gap analysis** to identify current and future facility needs and develop scenario evaluation criteria.
3. Develop and discuss **scenarios** and choose a preferred set of investments to address the gaps.
4. Create a **funding and implementation strategy** to pay for the selected investments.
5. Draft a **final plan** for Metro Council to consider for adoption.

The Garbage and Recycling System Facilities Plan aims to improve the garbage and recycling system – including public, private and non-profit facilities. While the main goal is to develop a comprehensive plan for investing in public infrastructure, Metro could influence what private and non-profit industry partners build and improve.

"There is inconsistent access to all of the region's garbage and recycling services, in part because facilities were developed to suit the region's needs many years ago. Today, facilities are not always located where they are most needed, nor are they scaled to meet community needs."
- 2030 Regional Waste Plan

Facilities overview

Metro operates five facilities that help manage waste in the region, alongside several private and non-profit facilities. The Garbage and Recycling System Facilities Plan will take a holistic view of the system and help clarify Metro's future role in providing facility-based services, including facilities to be built or renovated by Metro or in cooperation with public, private and non-profit partners.

Metro's existing facilities

Transfer stations

Modern transfer stations are designed to accept a broad range of materials for reuse, recycling and landfill disposal from all types of customers, from individuals and businesses like property owners and contractors, to hauling companies that provide curbside garbage and recycling collection services across the region. Transfer stations also often offer household hazardous waste collection, accepting materials like paint, batteries, sharps and aerosols from the public.

Metro Central and Metro South – These transfer stations accept garbage, yard debris, food waste, household hazardous waste and some materials for recycling. Both facilities face challenges, offer limited recycling and do not have reuse drop-off options for the public.

Metro Central

Metro South

Other facilities

MetroPaint – This leased facility on Swan Island recycles used paint into new paint that is sold through a retail storefront and distributed to other retailers.

RID Deployment Center – Metro's RID Patrol tackles the problem of dumped garbage on public property and provides other cleanup services. The facility provides parking and storage in addition to office and training space.

St. Johns Landfill – This site served as the region's primary garbage disposal site for 50 years. Since completing the final landfill cover system in 1996, Metro has spent nearly $20 million on landfill post-closure care and is obligated to continue managing this facility.

Facilities overview

New infrastructure for reuse and food waste

Reuse and repair centers provide a temporary home for items and materials that could still be useful but need to be repaired or redistributed.

The Garbage and Recycling System Facilities Plan considers two new types of facilities to support reuse in greater Portland:

Reuse hub – Regional facility for multiple reuse organizations and businesses to store, process, and repair used items collected from residents or businesses at the same facility or elsewhere.

Reuse mall – Regional facility for multiple organizations and businesses to sell used, upcycled and refurbished items. The facility could provide space for community gatherings and sustainability events and for food vendors focused on sustainably-sourced ingredients and low-carbon food options. The facility could also sell MetroPaint and offer areas for the public to drop-off recyclables not accepted at the curb, like film plastic.

Food waste processing facilities use food scraps to make compost or biogas, keeping materials out of landfills and reducing our impact on the environment.

Three of the scenarios in this guide propose adding equipment at Metro Central that would signficantly increase Metro's capacity to accept food waste and send it to different types of composting and biogas facilities.

Scenarios overview

Planning for the future

A scenario-based approach

Scenario planning is a practice that helps people think about the many ways the future could unfold. It supports decision-making about projects, policies and investments in an accessible way. In this guide, we present four scenarios for the future of facilities in our region. The preferred scenario may be one of these four scenarios, a modified scenario or a combination of elements from two or more scenarios. The evaluation criteria and analysis included in this guide provide additional information to understand the potential impacts of each scenario.

Building the scenarios

There are three main types of tools Metro can use to address facility gaps:

- **Building new Metro facilities and renovating existing ones:** Metro could build new facilities and/or renovate its existing transfer stations to address specific facility gaps in different parts of the region.
- **Direct investments in private and nonprofit facilities:** Metro could provide funding to businesses and nonprofits to increase the collection of items for reuse and recycling using their own facilities, equipment and methods.
- **Policies and programs:** Metro could implement a range of options such as increasing requirements on private garbage and recycling facilities and/or city and county collection programs. Metro could also create programs to encourage – rather than require – cities, counties and private facilities to expand services.

Scenarios overview

The scenarios on the following pages apply three main tools in different ways to address facility gaps that were identified through engagement and analysis.

Scenarios

This guide shows four potential scenarios: Baseline, Full-Service, Distributed and No-Build. As you look through the scenarios, make note:

- What are the potential challenges and opportunities within each scenario?
- Is there a combination of the scenarios that would best advance the project's values and outcomes for greater Portland?

Your input during the Reuse, Recycling and Garbage System Symposium and the preferences you share in the survey will help inform Metro Council's decision this winter on a preferred scenario. The preferred scenario or combination of scenario components will move forward into phase four of the System Facilities Plan for more analysis, including developing a detailed funding and implementation strategy.

Baseline	Full-Service	Distributed	No-Build
			
Metro does not build new facilities or address facility gaps, but maintains current facilities	Metro builds four large transfer stations and two new reuse facilities	Metro builds a network of distributed mid-sized facilities across the three counties	Metro increases requirements, invests in private facilities and renovates existing facilities

Baseline

Metro maintains current facilities and does not build new facilities.

Evaluation
How well the scenario meets criteria

Environment
★☆☆☆☆

Access
★☆☆☆☆

Jobs
★☆☆☆☆

Cost
★★★★★

Environmental Justice
★½☆☆☆

Resilience
★★½☆☆

Cost impact to households

Under this scenario, the average monthly garbage collection bill for single-family households would be about $39.00 in 2040, which would be $1.30 more than it is today (in today's dollars).

Metro maintains current transfer stations by:

- Making only essential capital improvements to Metro Central and Metro South.
- Continuing to provide transfer and household hazardous waste services to both self-haul and commercial customers.

Other facilities

Metro sells the Cornelius site, makes improvements to the RID facility and continues to lease the MetroPaint building.

Benefits

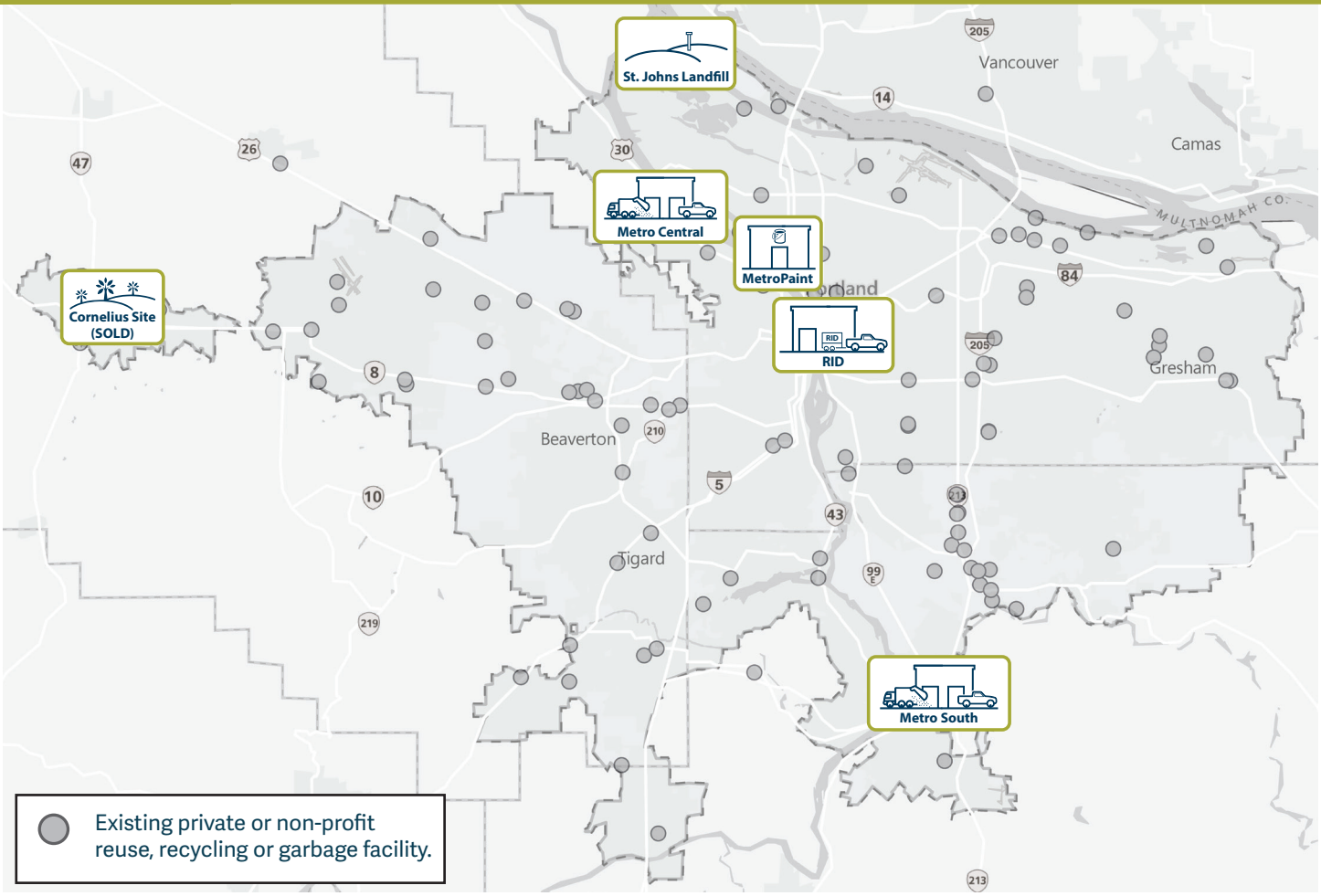
- Relatively easy to implement as no significant policy changes or property purchases are required.
- Metro continues operating facilities, ensuring that the facilities are subject to Metro policies and labor agreements in areas such as green building, wages and benefits.

Challenges

- The gaps identified in this project, including lack of access and resiliency, are unlikely to be addressed.
- The risks and challenges with the high volume of traffic at Metro's transfer stations, particularly at Metro South, remain unaddressed.
- Facilities focus on transferring materials to landfills rather than promoting more reuse, recycling and composting.
- Flooding, earthquake and other disaster-related risks faced by Metro facilities remain unaddressed.
- Metro continues to operate existing equipment and buildings that are aging and increasingly costly to maintain.

Baseline

Metro maintains current facilities and does not build new facilities.



Scenario highlights

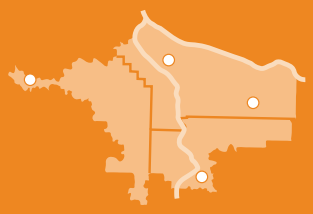
Metro Central and Metro South – Continue routine maintenance of buildings and equipment. Retain current services.

RID facility – Continue program operations.

MetroPaint – Continue leasing current facility.

St. Johns Landfill – Continue operations.

Cornelius site – Sell existing property.



Full-Service

Metro builds four new transfer stations and two new reuse facilities.

Evaluation
How well the scenario meets criteria

Environment ★★★★★

Access ★★★★½

Jobs ★★★★★

Cost ★☆☆☆☆

Environmental Justice ★☆☆☆☆

Resilience ★★★☆☆

Cost impact to households

Under this scenario, the average monthly garbage collection bill for single-family households in 2040 would be about $41.80 which would be $4.10 more than it is today (in today's dollars).

Transfer stations

Metro builds four full-service transfer stations across three counties by:

- Redeveloping Metro Central and Metro South.
- Building a new facility on the Metro-owned Cornelius site.
- Acquiring a site and building a new facility in east Multnomah County.

Reuse facilities

Metro builds or leases two new regional reuse facilities:

- Reuse hub – A warehouse that reuse businesses and organizations can use to sort, store and repair reusable items.
- Reuse mall – A retail space where folks can drop off and purchase reusable items.

Other facilities

Metro improves existing facilities by:

- Redeveloping the RID facility to house the program office and vehicles, a modern MetroPaint processing facility and a small reuse and recycling center.
- Investing in equipment to pre-process food waste at Metro Central.

Benefits

- New, full-service transfer stations can be planned and designed for their intended use and customers from the start.
- One-stop shop for numerous services.
- Metro builds, owns and operates facilities, ensuring that the facilities are subject to Metro policies and labor agreements in areas such as green building, wages and benefits.

Addresses the gaps in West and East of the region

Reuse supported more fully, based on stakeholders stated needs.

Generally more capacity and more ability to make best use of materials (sort out organics for composting, recycling, reuse)

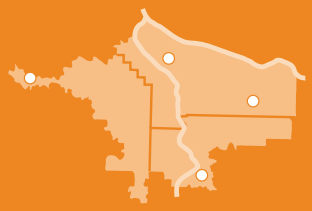
Challenges

- There are limited sites in industrial zoned land that are large enough.
- No improvement in access for people who cannot take materials to a facility, such as people with limited mobility and people who don't own a car or drive.
- Construction of each new full-service transfer station could take four to six years from start to finish.

Likely high cost

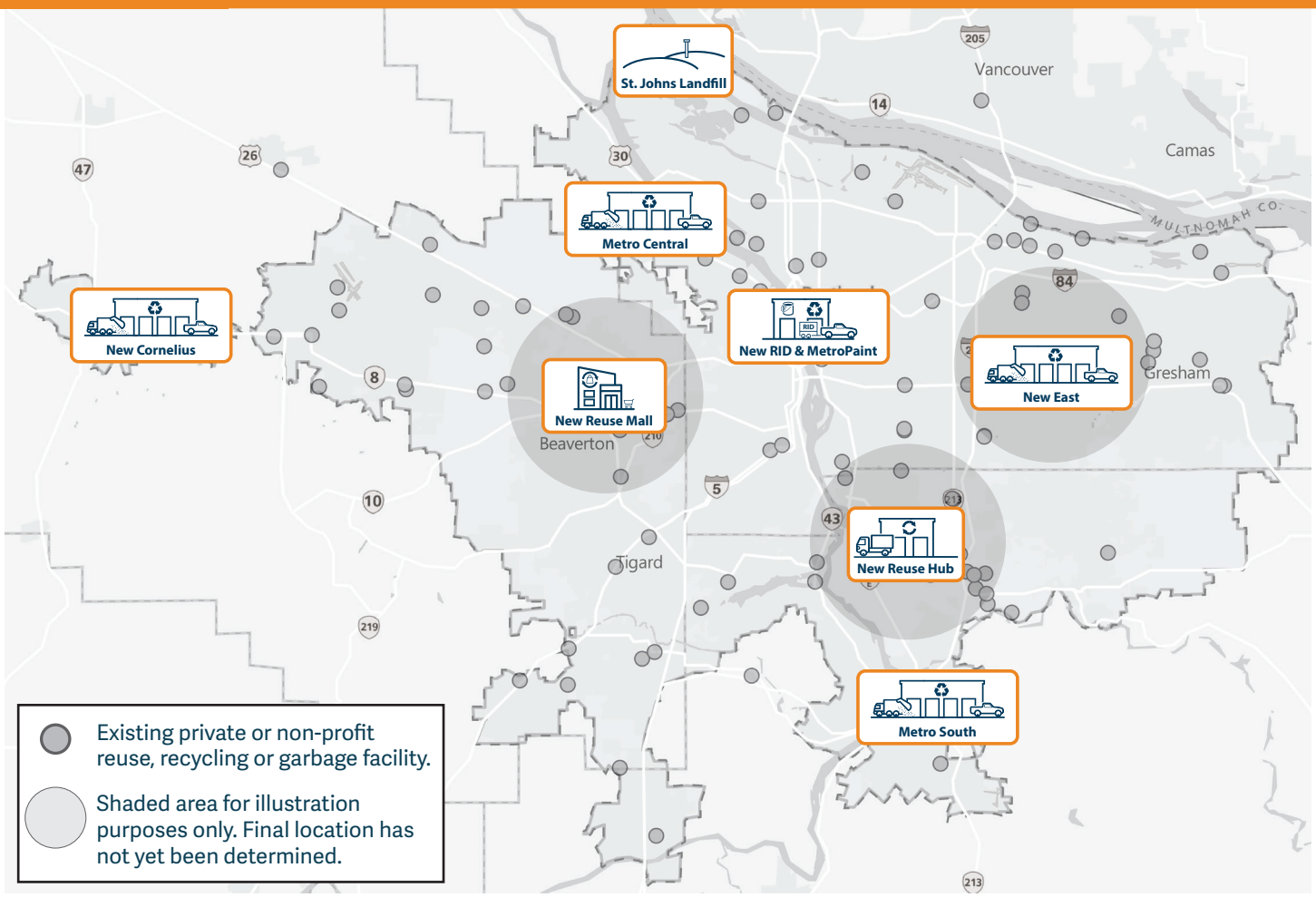
Are reuse businesses willing to partner with Metro in operating facilities?

— Advisory committee feedback



Full-Service

Metro builds four new modern transfer stations and two new reuse facilities.



Scenario highlights

Full-service transfer stations – Redevelop Metro Central and Metro South, and build two new facilities (New Cornelius and New East) that accept materials for reuse, recycling, compost and garbage from commercial and public customers, as well as household hazardous waste.

New RID and MetroPaint facility – Redevelop current site to include RID Patrol, MetroPaint and a small reuse and recycling center.

New reuse hub – Warehouse for tenants to store, process and repair used items collected from residences or businesses.

New reuse mall – Facility for tenants to sell used items collected at the same facility or elsewhere.

St. Johns Landfill – Continue operations.

New reuse facilities

Example: Resource Central in Boulder, CO

Distributed

Metro builds a network of distributed mid-sized facilities across the three counties.

Evaluation
How well the scenario meets criteria

Environment ★★★★½

Access ★★★★★

Jobs ★★★★½

Cost ★★★☆☆

Environmental Justice ★★★★★

Resilience ★★★½☆

Cost impact to households

Under this scenario, the average monthly garbage collection bill for single-family households in 2040 would be about $40.70 which would be $3.00 more than it is today (in today's dollars).

Public facilities

Metro builds four reuse and recycling centers with warehouse hubs by:

- Redeveloping Metro South and building new facilities in Washington County, Clackamas County and east Multnomah County.
- Adding a small facility at the existing RID Deployment Center that accepts only some reuse, recycling and household hazardous waste.

Commercial facilities

- Building two mid-sized transfer stations for commercial haulers that also process household hazardous waste. This includes renovating Metro Central and adding a new facility in Clackamas County.
- Metro builds one mid-sized transfer station for commercial haulers in Cornelius, co-located with a public facility.

Other facilities

Metro improves existing facilities by:

- Making a long-term investment in MetroPaint by purchasing a permanent building to house the program and ending the current lease.
- Investing in equipment to pre-process food waste at Metro Central.

Benefits

- Reuse and recycling centers not only offer people a place to drop off items, but also to shop for used and refurbished goods, access repair services and have space for meetings.
- Facilities could be designed for more flexibility to accommodate changing material markets.
- Metro owns and operates facilities, ensuring that the facilities are subject to Metro policies and labor agreements in areas such as green building, wages and benefits.

Challenges

- Will require locating and purchasing industrial zoned sites for three new facilities.
- Construction of each site may take three to five years from start to finish.
- No improvement in access for people who cannot take materials to a facility, such as people with limited mobility and people who don't own a car or drive.

Better distribution of services throughout the region

Better access - more, smaller centers to bring materials to.

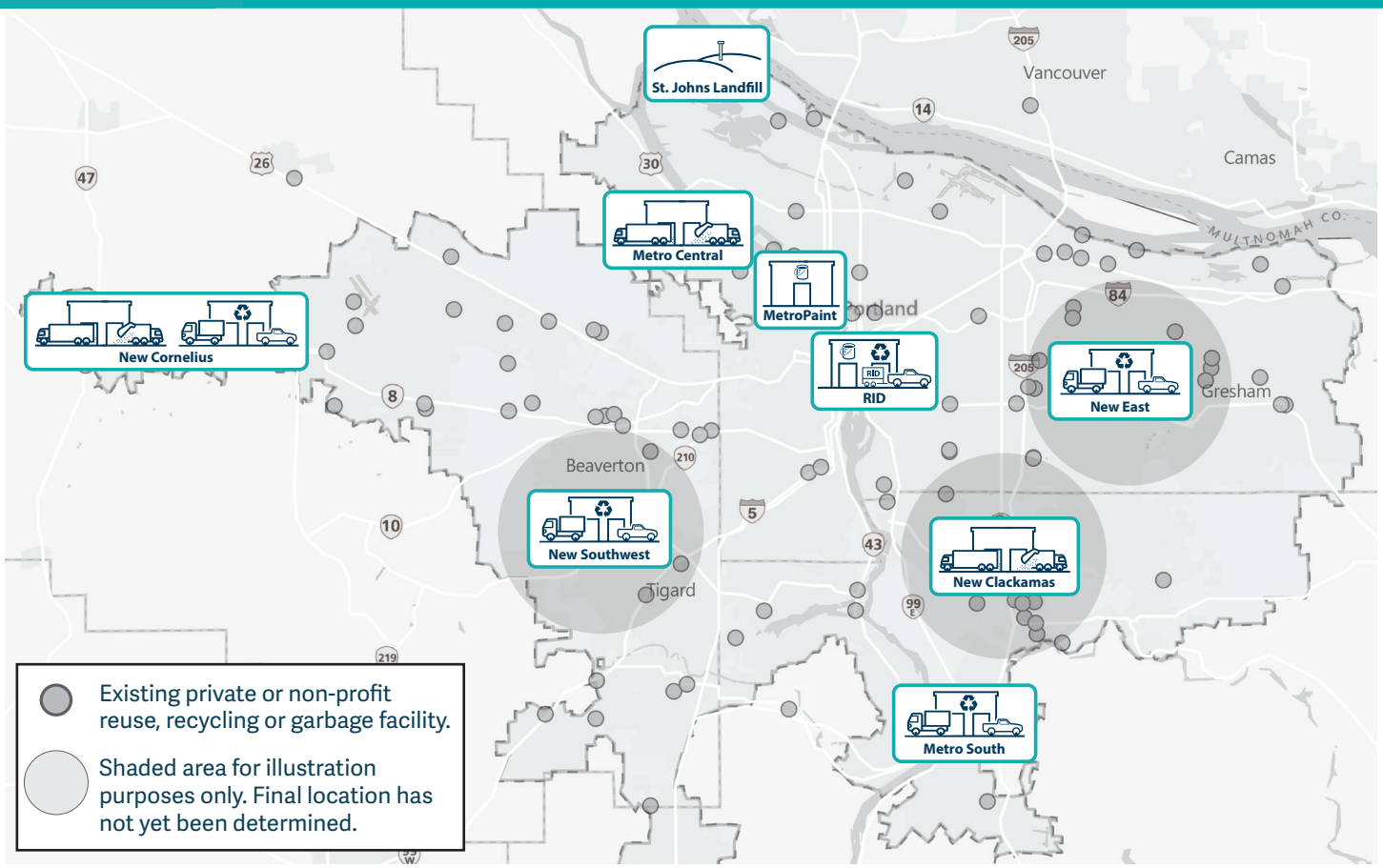
Transitioning customers to two types of different facilities will take a lot of coordination

A lot of new construction; assuming this takes time and cost is substantial.

— Advisory committee feedback

Distributed

Metro builds a network of distributed mid-sized facilities across the three counties.



Scenario highlights

Public facilities – Four new facilities (Metro South, New Cornelius, New East, New Southwest) that serve the public with a reuse and recycling center, reuse retail space and reuse warehouse hub. Accept garbage and some household hazardous waste.

Commercial facilities – Three new facilities (Metro South, New Cornelius, New Clackamas) that serve commercial haulers for food waste, yard debris, clean wood, garbage and other materials. Include full household hazardous waste facilities.

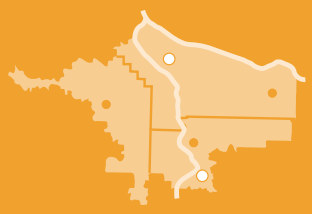
New RID facility – Redevelop current site to include RID Patrol and a small reuse and recycling center.

MetroPaint – Purchase new building and end current lease.

St. Johns Landfill – Continue operations.

New facilities

The scenario proposes to build a network of facilities that are specific to different types of customers – separating businesses and the public – to increase accessibility, on-site safety and recovery of materials.



No-Build

Metro increases requirements on local government and private facilities, funds the expansion of services at private and non-profit facilities, and renovates Metro's existing facilities.

Evaluation
How well the scenario meets criteria

Environment ★★★½☆

Access ★★★½☆

Jobs ★★½☆☆

Cost ★½☆☆☆

Environmental Justice ★★★½☆

Resilience ★★½☆☆

Cost impact to households

Under this scenario, the average monthly garbage collection bill for single-family households would be about $49.40 in 2040, which would be $11.70 more than it is today (in today's dollars)."

Regulate

- Require local governments to add new materials and services to curbside collection programs, and require all residents to subscribe to curbside collection.
- Regulate the rates that private facilities charge commercial customers for accepting mixed garbage and mixed construction waste.

Invest

- Establish a new fee to support reuse organizations to recover more materials for reuse and repair.
- Provide financing to expand or add services at private facilities to fill gaps in recycling, composting and garbage services.

Renovate

- Redevelop Metro South to add a separate recycling drop-off area, improve traffic safety and reduce flood damage risks.
- Renovate Metro Central to add food waste processing equipment and make upgrades to enhance customer and staff safety.

Benefits

- With new regulations and investments in private and non-profit facilities, Metro can address facility gaps without building new facilities.
- By requiring local governments to add more materials and services to curbside collection programs, this scenario reduces – but does not fully eliminate – the need to build facilities that accept materials from the public.

Metro Central and South are known places - public doesn't need to learn a lot to continue using these sites.

Potentially better transparency of private transfer station rates.

Invites exploration of evolving services at private transfer stations as well, that's potentially helpful for everyone.

Challenges

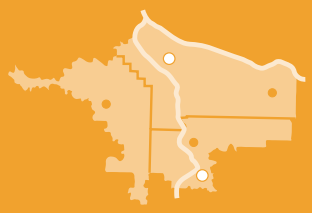
- Requires implementation of new regulations on local governments and private facilities.
- Grants and loans require significant administrative time to implement.
- Adding new materials and services to curbside collection programs significantly raises average garbage and recycling service bills for homeowners and many renters.
- Shifting collection of materials to curbside programs and to private and non-profit facilities reduces flow to Metro facilities and significantly increases the costs of operating them.

How will Metro be able to compel local governments to take on additional requirements for collection?

Service gaps for items like bulky self-haul and household hazardous waste continue.

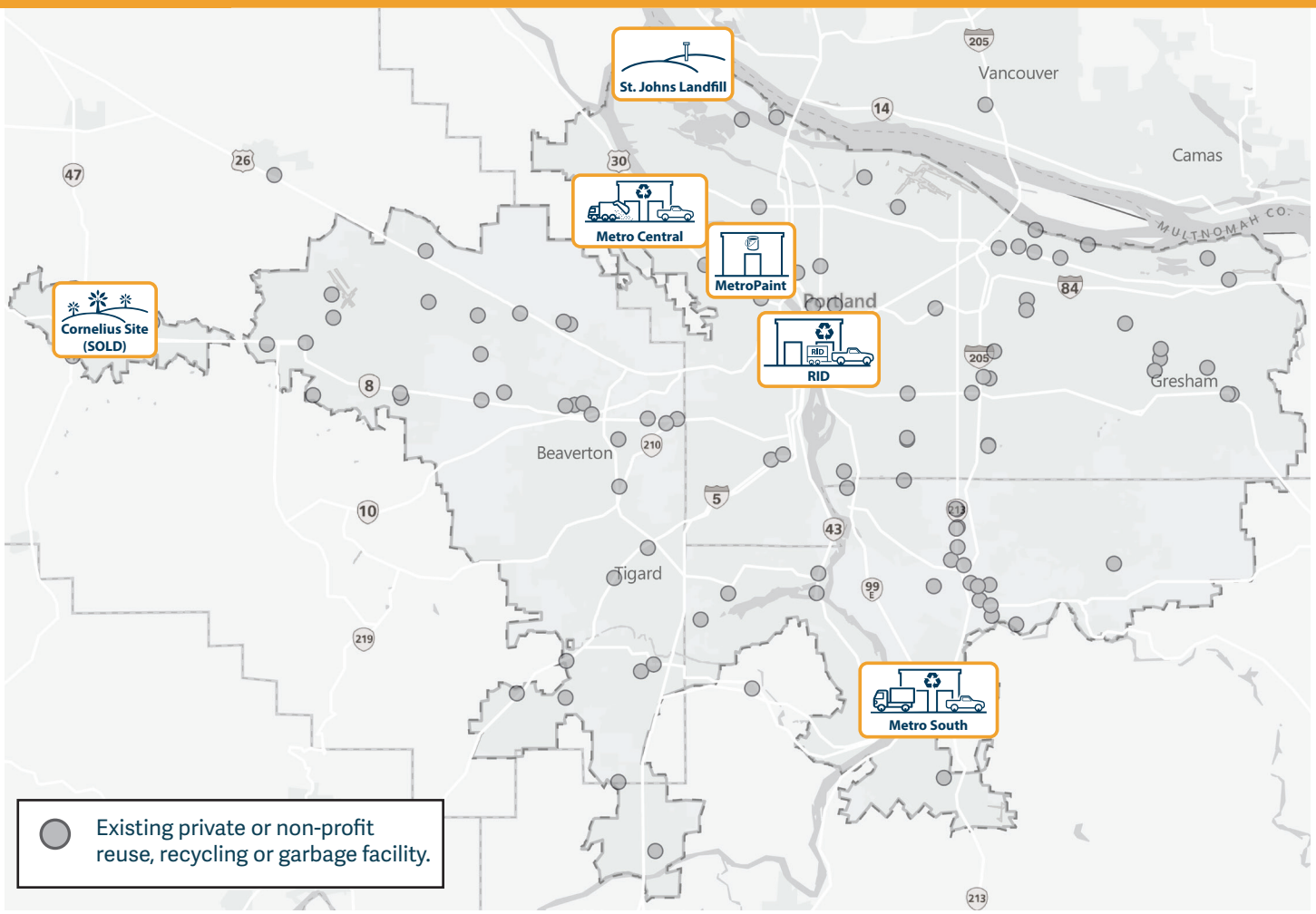
Requirements for curbside garbage pickup on low-income populations.

— Advisory committee feedback



No-Build

Metro increases requirements on local government and private facilities, funds the expansion of services at private and non-profit facilities and renovates Metro's existing facilities.



Scenario highlights

Metro Central and Metro South – Both transfer stations are renovated or redeveloped to add equipment, increase space for recycling and mitigate the risks from climate change and natural hazards.

RID facility – Expand to include small reuse and recycling drop-off.

MetroPaint – Continue leasing current facility.

St. Johns Landfill – Continue operations.

Cornelius site – Sell existing property.

Private Facilities

Other private and non-profit facilities in the region include: repair and reuse facilities; recycling, composting and biogas facilities; material recovery facilities; recycling depots; and transfer stations.

Of the eight transfer stations serving the region, six are privately owned. Like Metro Central and Metro South, these facilities accept garbage, yard debris and food scraps and consolidate materials for transfer. Unlike Metro's facilities, not all private facilities offer public self-haul services.

Comparing the scenarios

Scenario planning is all about sparking conversations. The scenarios represent different ways of responding to the gaps identified through engagement and technical analysis. Here are some of the ways to compare the scenarios.

Services available to the public:

	Baseline	Full-Service	Distributed	No-Build
Self-haul garbage	No service improvements.	Drop-off available at four new full-service transfer stations.	Drop-off available at four new public facilities. Some customers with large amounts may need to use one of three new mid-sized commercial transfer stations.	Garbage collection becomes mandatory for people living in single-family homes throughout the region.
Household Hazardous Waste	No service improvements.	Drop-off available at four new full-service transfer stations for all household hazardous waste currently accepted at Metro facilities.	Drop-off available at five new reuse and recycling centers for common items currently accepted at Metro's mobile collection events – like paint, sharps and batteries. Other items including asbestos accepted at three new mid-sized commercial transfer stations.	Collection remains available at Metro Central and Metro South and at mobile collection events. Some items including batteries collected curbside.
Reuse	No service improvements.	Drop-off available at four new full-service transfer stations, a reuse warehouse and a reuse mall where people can also purchase items.	Drop-off available at five new reuse and recycling centers.	Drop-off available at reuse organizations and businesses; some items collected curbside.
Hard-to-recycle items	No service improvements.	Drop-off available at four new full-service transfer stations.	Drop-off available at five new reuse and recycling centers.	Drop-off available at some private and non-profit facilities; some items like plastic clamshells collected curbside.

For more information view the Gap Analysis and Detailed Scenarios.

Comparing the scenarios

Improvement to processing facilities:

	Baseline	Full-Service	Distributed	No-Build
Commercial organics processing	Invest in organics processing equipment at Metro Central, and accept organics at both Metro Central and Metro South.	Invest in organics processing equipment at Metro Central, and accept organics at four new full-service transfer stations.	Invest in organics processing equipment, and accept organics at three new mid-sized transfer stations.	Invest in organics processing equipment at Metro Central and some private facilities to facilitate commercial organics processing within the region.
Warehouse and retail space for reuse and repair sector	No infrastructure improvements.	One large warehouse space for repairing and storing materials available for lease to organizations (reuse hub). One large retail space for selling and collecting materials available for lease to organizations (reuse mall).	Four new small to medium reuse and recycling centers with dedicated retail, storage and repair space available for lease to organizations.	Grant program for reuse and repair organizations to address specific gaps related to reuse and repair in the region.

For more information, view Appendix C.

Comparing the scenarios

How the scenarios performed in Metro's evaluation criteria:

	Baseline	Full-Service	Distributed	No-Build
Each scenario was scored using a set of 15 criteria grouped into the six categories below.				
Environment	1.00	5.00	4.50	3.50
Access	1.00	4.50	5.00	3.25
Jobs	1.00	5.00	4.25	2.50
Cost	5.00	1.00	2.75	1.25
Environmental Justice	1.50	1.00	5.00	3.25
Resilience	2.25	3.00	3.25	2.50

For more information, view Appendix D.

How the scenarios meet Metro Council's policy priorities:

	Baseline	Full-Service	Distributed	No-Build
Waste Reduction Tons of materials recovered in 2040 for reuse, recycling and composting.	1.13 million	1.29 million	1.23 million	1.22 million
Access Percentage of the population in 2040 who live within 20 minutes of the nearest self-haul facility.	78.7%	93.8%	98.7%	87.5%
Affordability Average single-family garbage and recycling collection bill in 2040 (shown in today's dollars).	$39.00 per month	$41.80 per month	$40.70 per month	$49.40 per month

For more information, view Appendix D.

Your turn to weigh in

Consider the "Rose, Bud and Thorn" discussion prompts below for each scenario.

Rose

What aspects of each scenario do you like most and why?

Bud

What changes would you make to improve each scenario?

Thorn

What aspects of each scenario do you like least and why?

After seeing and discussing the scenarios, what is your preferred scenario?

Is there a combination of the scenarios that would best advance the project's values and outcomes for greater Portland?

Take our online survey.

Appendix A: **Values and outcomes**

What is guiding the development of this plan?

The Garbage and Recycling System Facilities Plan is guided by the 2030 Regional Waste Plan values and racial equity principles, as well as one new value to reflect Metro's commitment to Tribal nation consultation. Within each of these values are desired outcomes for the plan.

The values and outcomes were shaped with input from Metro Council and advisory groups in fall 2022. They have guided the evaluation of facility and service gaps as well as investment options and will help identify the right plan to move forward.

Learn more about the values and outcomes.

Healthy people and environment

- Minimize the negative health and environmental impacts of facilities by incorporating innovative sustainability practices as outlined in Metro's green building policy
- Develop good neighbor agreements between communities and facilities

Resource conservation

- Identify the items the plan needs to target for reuse, repair, recycling or composting – and the infrastructure needed to manage them
- Increase access to donate and buy used items
- Provide workspace, reclaimed materials and other types of support to regional reuse and repair initiatives

Environmental literacy

- Provide learning opportunities at facilities through tours, displays, exhibits, viewing rooms
- Develop programming with organizations focused on waste prevention and environmental justice

Economic well-being

- Provide jobs with living wages, benefits, and safe work environments
- Recruit and retain workers who are underrepresented in the garbage and recycling industry
- Create opportunities within the garbage, recycling, reuse and repair sectors for people with barriers to employment

Excellent service and equitable system access

- Develop a network of facilities to provide equitable system access
- Establish direction for Metro transfer stations and Metro solid waste facilities
- Keep facility-based services affordable for low-income customers
- Make public facilities accessible for people with disabilities and people who rely on transit
- Develop multilingual and culturally relevant communication tools for facilities

Operational resilience, adaptability, and sustainability

- Develop funding options that advance waste reduction and affordability goals
- Design efficient facilities to serve people quickly and recover useful materials
- Identify facility investment needs for natural hazard resilience
- Shape garbage and recycling system with key elements from regional transportation and land use planning efforts

Community restoration

- Evaluate potential facility benefits and burdens using a climate justice lens
- Incorporate the needs of marginalized communities in the planning process

Community partnerships

- Create a Community Advisory Group that works with staff to develop the plan
- Involve community-based organizations in decision-making of facility projects
- Partner with Black, Indigenous, People of Color Communities and immigrant-led organizations to support reuse and repair projects at new facilities

Community investment

- Develop Community Benefits Agreements to ensure benefits are equitably shared and address community needs
- Provide community gathering spaces such as parks and meeting rooms at public facilities that serve residential customers

Tribal consultation

- Seek to consult with Tribal governments to advance shared priorities such as cultural and historic resource protection, environmental protection and resources conservation.
- Establish partnerships with Tribes through government-to-government engagement

Appendix B: **Gap analysis**

Between September 2022 and June 2023, Metro used a combination of engagement activities and technical research to identify facility gaps in the regional reuse, recycling and garbage system.

Engagement efforts gathered input from local government partners, representatives from the garbage and recycling industry, reuse and repair organizations, and community members.

The technical analysis focused on transfer facilities. These facilities accept materials from the public or garbage and recycling companies, consolidate loads and transport the materials to other facilities to be process for reuse, recycling, composting and landfilling. For example, most curbside trash is taken to a transfer facility before it ends up in a landfill.

Metro looked at 14 groups of facilities, organized by the materials they process and what customers they serve. The technical analysis assessed gaps in three main areas:

- Access – How long does it take to drive to facilities and how close are they to public transportation, walking and biking infrastructure?
- Cost differences – How consistent are disposal costs throughout the region?
- Disaster resilience – Are facilities located in areas at high risk of flooding or earthquake damage?

The interactive images below summarize the gaps identified through the engagement and technical analysis work done during phases 2 and 3 of the Garbage and Recycling System Facilities Plan effort.

Learn more about the gap analysis.

Gaps for residential and small business customers

Gaps for commercial customers

Appendix C: **Scenario elements and tools**

There are three primary tools Metro can use to address identified facility gaps:

1. Develop policies and programs
2. Make investments in private and non-profit facilities
3. Build new or renovate existing Metro facilities

The table below summarizes how each scenario proposes to apply the different tools to improve facilities and infrastructure.

View a detailed comparison of the scenarios.

Scenario elements and tools	Baseline	Full-Service	Distributed	No-Build
Develop policies and programs	Metro could implement a range of options from increasing requirements on Metro-regulated private garbage and recycling facilities and on cities and counties.			
Regulation of rates charged by private facilities for commercial wet and dry waste				✓
Wet waste tonnage allocations	✓	✓	✓	
New requirements on local governments to expand curbside collections services				✓
Direct investments in private and non-profit facilities	Metro could provide funding to businesses and non-profits to increase the collection of items for reuse and recycling using their own facilities, equipment and methods.			
Dedicated fee to support increase in recovery for reuse and repair				✓
Grants or low-interest loans to fill gaps in facilities that accept materials for recycling, composting or landfill disposal from the public and/or commercial customers				✓
Invest in Metro facilities (build new and/or renovate existing)	Metro could build new facilities and/or renovate its existing transfer stations to address specific facility gaps in different parts of the region.			
Public facilities (aka reuse and recycling centers with reuse warehouse hubs)			✓	
Commercial facilities			✓	
Full-service transfer stations		✓		
Reuse mall		✓		
Reuse warehouse hub		✓		
Regional Illegal Dumping (RID) facility	✓	✓	✓	✓
MetroPaint		✓	✓	
St. Johns Landfill	✓	✓	✓	✓

Appendix D: **Evaluation results**

The four scenarios were assessed using evaluation criteria developed in phase 2 of the project. The planning horizon for this evaluation goes through the year 2040.

The following six categories of evaluation criteria were developed and assessed: Environment, Access, Jobs, Cost, Environmental Justice and Resilience. Each of the criteria has one or more sub-criteria which were based on the values and outcomes developed in phase 1 of the project and are explained in more detail in this summary flyer. Complete results with detailed descriptions of the evaluation methodology can be found in the Evaluation Criteria Results Memo.

Environment

This category has three sub-criteria that measure anticipated greenhouse gas emission reductions under each scenario: Criterion 1 estimates greenhouse gas emissions reduced by diverting materials for reuse and repair. Criterion 2 estimates greenhouse gas emissions reduced by recovering materials for recycling and composting. Criterion 3 estimates greenhouse gas emissions reduced by decreased travel to and from facilities as well as onsite. The Full-Service scenario showed the greatest reduction in greenhouse gas emissions primarily due to increased recovery of organic materials for composting.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★☆☆☆☆	★★★★★	★★★★½	★★★½☆

Access

This category has two sub-criteria that quantify access to solid waste management facilities within greater Portland under each scenario: Criterion 4 measures the percentage of the population within 20 minutes of the nearest self-haul facility. Criterion 5 measures the percentage of the region's area within 20 minutes of the nearest commercial hauler facility. The Distributed scenario showed the most improved access to facilities.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★☆☆☆☆	★★★★½	★★★★★	★★★½☆

Jobs

This category has two sub-criteria that evaluate employment opportunities under each scenario: Criterion 6 estimates the total number of new jobs including positions within Metro and the private industry. Criterion 7 captures the potential employment and workforce development opportunities for historically marginalized communities. The Full-Service scenario scored the highest in this category.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★☆☆☆☆	★★★★★	★★★★½	★★½☆☆

Appendix D: **Evaluation results** (continued)

Cost

This category has four sub-criteria that consider potential costs associated with each scenario: Criterion 8 evalutes the estimated increase to the Regional System Fee, Criterion 9 evalutes the estimated increase to the average curbside rate, Criterion 10 evaluates the estimated increase to the tonnage charge at Metro facilities and Criterion 11 evaluates the estimated percentage of monthly median income associated with increases to curbside rates. The Baseline scenario showed the least increase to overall costs, followed by the Distributed scenario.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★★★★★	★☆☆☆☆	★★½☆☆	★½☆☆☆

Environmental Justice

This category has two sub-criteria that evaluate environmental impacts under each scenario: Criterion 12 represents burdens to communities in the region, and Criterion 13 represents benefits to communities in the region. The Distributed scenario performed the best.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★½☆☆☆	★☆☆☆☆	★★★★★	★★★½☆

Resilience

This category has two sub-criteria: Criterion 14 evaluates the safety of Metro's solid waste facilities based on potential natural hazards like flooding and earthquakes. Criterion 15 evaluates the redundancy of the region's solid waste infrastructure for disposal of various materials. The Distributed scenario performed the best.

Overall Score	Baseline	Full-Service	Distributed	No-Build
	★★½☆☆	★★★☆☆	★★★½☆	★★½☆☆

View the summary flyer.

View the Evaluation Criteria Results Memo.