RRS START CONSULTING

2025 SMMP TASK FORCE

Regional Sustainable Materials Management Plan

TASK FORCE RECOMMENDATIONS

BENTON COUNTY, OREGON, SUSTAINABLE MATERIALS MANAGEMENT PLAN

MAY 2025

Task Force Focus Area

Benton County initiated the SMMP Task Force to generate a collaborative approach to the region's materials management challenges. The are of focus includes(but is not strictly limited to):

- Benton County
- Clatsop County
- Columbia County
- Lane County
- Lincoln County
- Linn County
- Marion County
- Metro
  - Clackamas County
  - Multnomah County
  - Washington County
- Polk County
- Tillamook County
- Yamhill County

AREA OF FOCUS

SMMP Process:

Current State (Facilities status)

- Background and context
- Existing infrastructure and policies
- Glossary and definitions

Future State

- Desired outcomes
- Definition of success

Identify and Refine Strategies

- Policy approaches
- Investments
- Partnerships
- Case studies and research

Analysis of Benefits and Consequences

- Waste diversion
- Environmental impact
- Human health impact
- Economic impact

Governance and Timeline Considerations

- Who needs to act
- How it can be paid for
- Barriers
- Timeline

Recommendations

- Strategies in four high impact areas
- Proposed next steps and timelines to action
- Barriers that will need to be addressed

Task Force Timeline:

October 2024

- Task Force Kick off
- Goals and purpose
- Background and context

December 2024

- Initial “current state” research
- Selection of subcommittee focus areas
- Discussion of benefits and consequences matrix

January 2025

- Final “current state” research
- Adopt benefits and consequences matrix
- Begin subcommittee work

March 2025

- Subcommittees present draft findings
- Initial discussion of synergies
- Sustaining support for SMMP recommendations

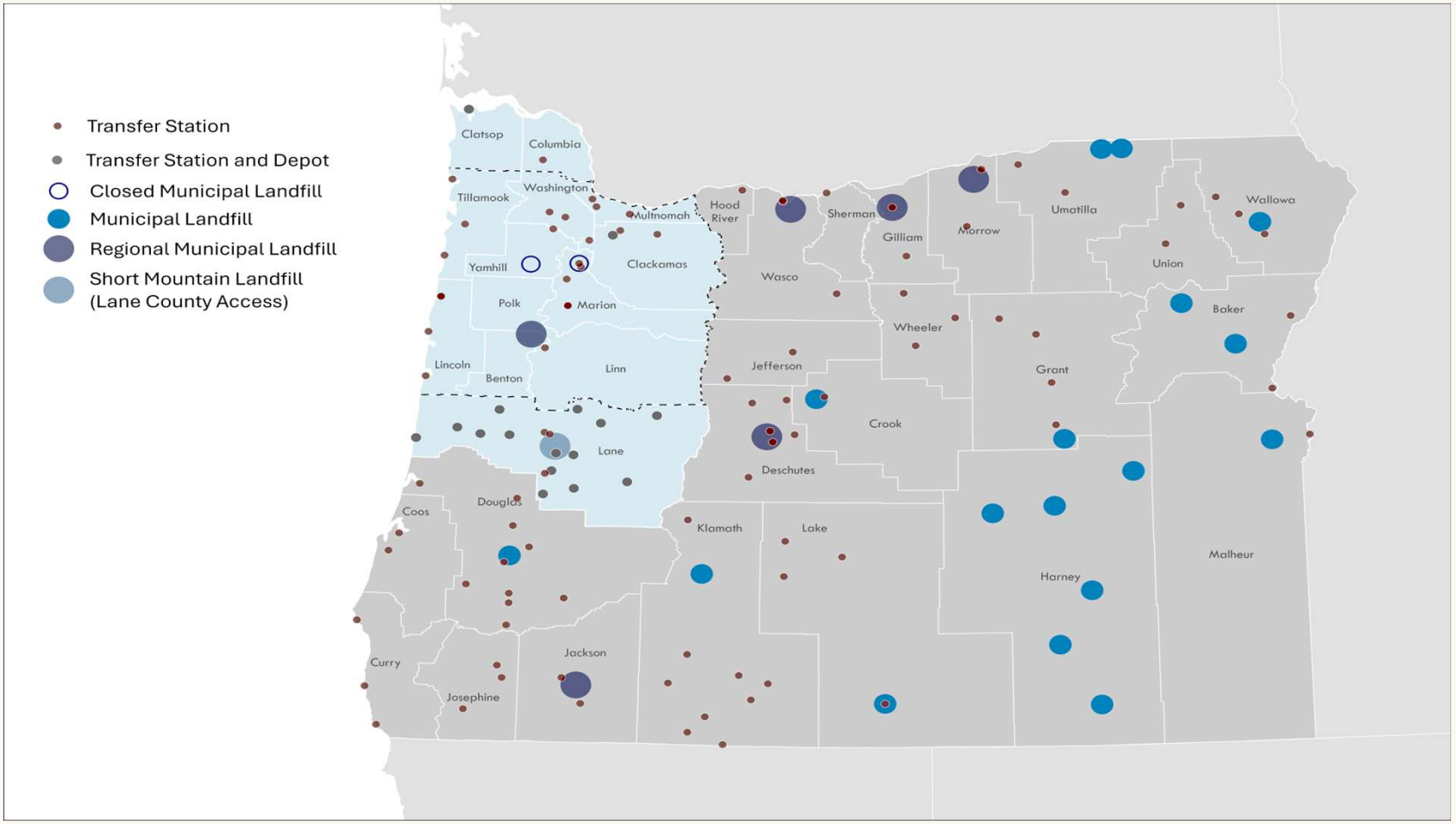
Subcommittee Meetings 1 and 2

Subcommittee Meetings 3 and 4

May 2025

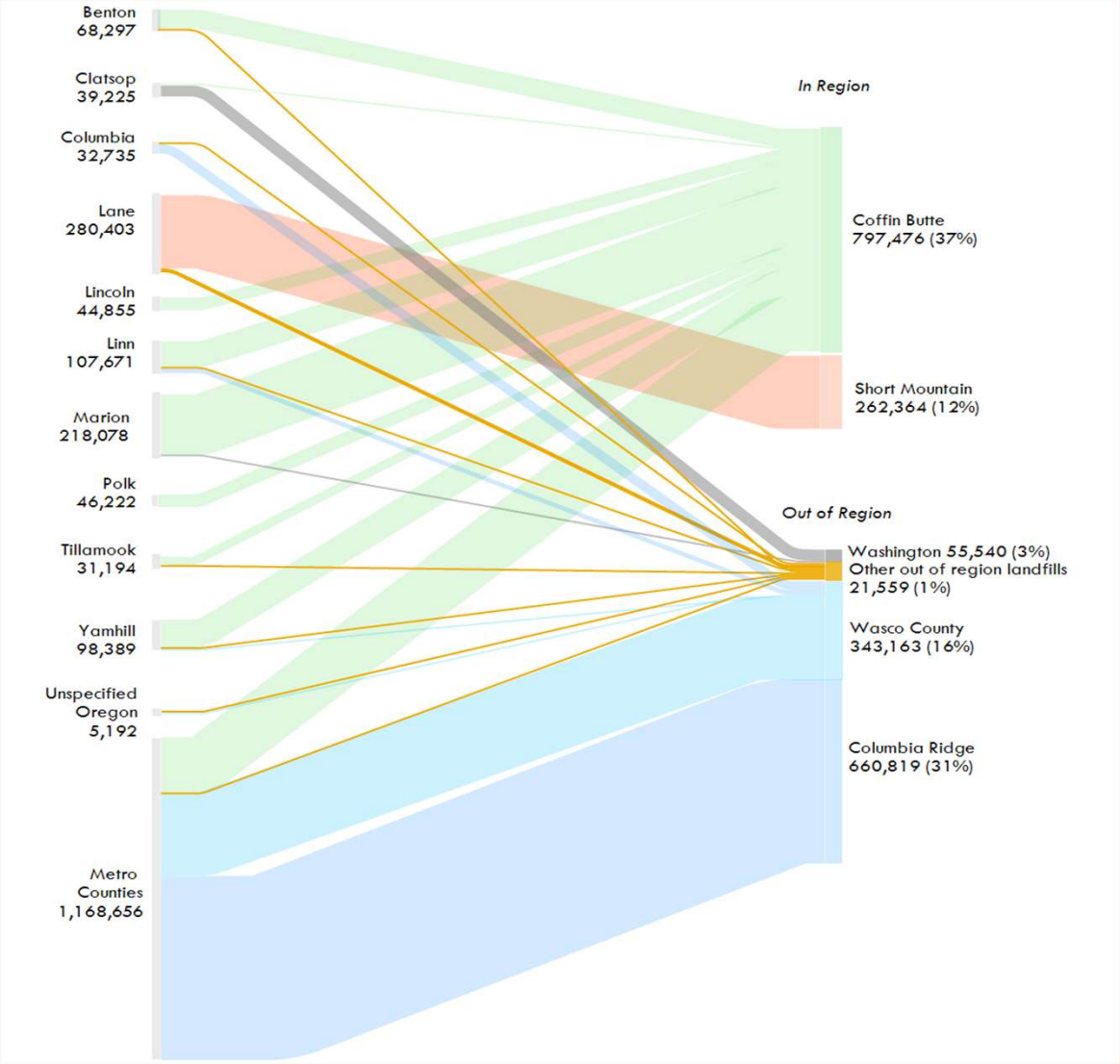
- Adopt final recommendations
- Discussion: Working toward implementation

Statewide Disposal Infrastructure



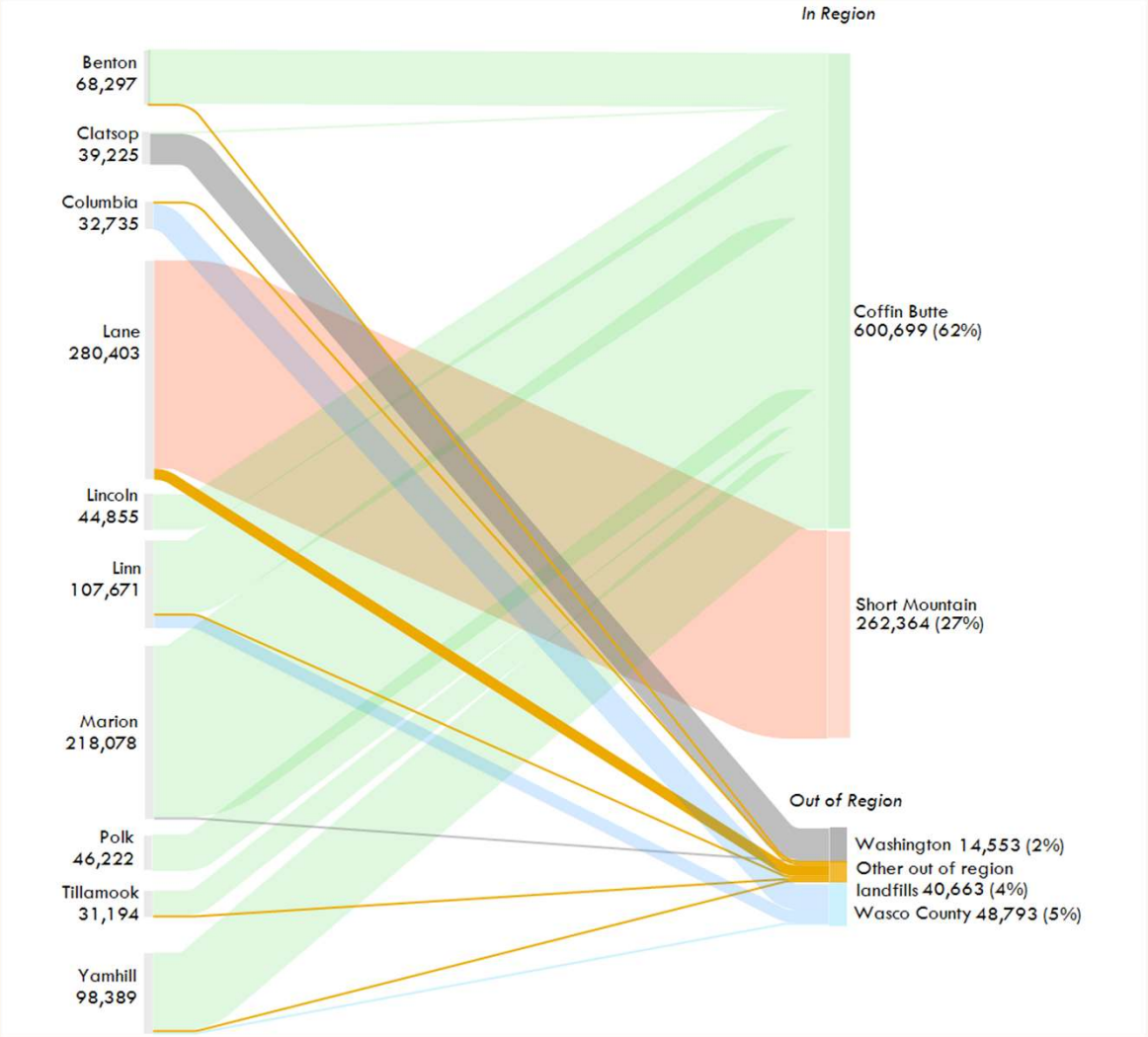
Waste Destination by County: Metro *Included*

- **48%** of regional waste transported out of region.
- **37%** of regional waste including Metro, delivered to Coffin Butte.



Waste Destination by County: Metro *Excluded*

- **62%** of regional waste transported to Coffin Butte
- **11%** of regional waste transported out of the region
- **97%** of waste from 7 counties transported to Coffin Butte



Regional Policy and Planning Summary of Findings:

- **Not all counties have adopted current waste management plans**.
- About **half the counties have waste reduction and reuse *goals***, but **few have enacted *requirements,*** mandates, or other supportive policies
- State leadership provides a **strong foundation for increased recovery**
  - > Existing product stewardship programs may **increase opportunities to recover materials**
  - > **State leadership on food waste and built environment**
- **Rapidly evolving context:**
  - > Implementation of RMA
  - > Closure of waste incinerator
  - > New facilities in progress such as
    - Clean Lane
    - Metro Regional System Facilities Plan
  - > Funding opportunities for food waste recovery
  - > Likely to be active 2025 legislative session for waste and recycling

Task Force Recommendations

Regional Waste Subcommittee

Recommendation Package

Regional Waste Recommendation Summary

DESIRED FUTURE STATE: THE MID-NORTHWEST REGION HAS A PUBLICLY OWNED TRANSFER INFRASTRUCTURE NETWORK DESIGNED FOR RECOVERY AND WITH ACCESS TO INTERMODAL TRANSPORT.

Strategy components	Establish mechanism for lasting regional collaboration and decision making.
	Develop hub and spoke transfer network and infrastructure plan.
	Focus on areas with limited transfer infrastructure - Benton, Linn, Marion, Tillamook, Lincoln, Yamhill.
	Design transfer facilities for recovery including comprehensive recycling drop off and a reuse center (cross over with other subcommittees).
	Update logistics to be compatible with intermodal transport.
	Use facility upgrades and new publicly-owned infrastructure. Phase upgrades first while planning for new infrastructure is executed.
	Establish mechanism to guarantee inbound material to new infrastructure – necessary to secure funding.
	Target infrastructure to be operational by 2035.

Regional Waste Recommendation Package

Phase 1: Create Regional Waste Authority

Phase 2: Study and Adopt a Regional Intermodal Hub and Spoke Network Plan

Phase 3: Finance and Develop Publicly Owned Transfer Infrastructure

Recommendation #1

Establish Mechanism for Regional Collaboration and Decision making

PHASE 1 INCLUDES DEVELOPMENT OF A REGIONAL BODY WITH DECISION MAKING AUTHORITY TIED TO AN ENTERPRISE FUND.

- Description
  - > Establish a collaborative waste “authority” to adopt and implement a regional sustainable materials management infrastructure network plan.
  - > Recommend common service standards, contracting tools, and directives on the movement of materials, provide best practice guidance and resources, and develop regional education and communication campaigns.
  - > The regional body could be established through legislation or through direct intergovernmental agreements (IGAs).
- Who Acts
  - > Core of the regional body would be counties with limited transfer or disposal infrastructure - Benton, Linn, Marion, Polk, Tillamook, Lincoln, Yamhill.
  - > It could include all 13 counties in the region, with a distinction between “owners” and “members”.
  - > Authority is led by county solid waste directors in the region and maintains a practical and operational focus.
  - > Each county contributes to the collective plan and executes county-specific components.
  - > Cities within the counties continue to execute their own service agreements
  - > Legislators enable authority.
- How is it Funded
  - > Initial funding to establish provided by each county and potentially the state.
  - > Tip fees provide source of ongoing funding through an enterprise fund.
- Barriers
  - > Requires significant coordination and political undertaking locally.
  - > Cities and service providers may have concerns about loss of local control.
  - > Private service providers will be concerned with how this may impact their service contracts and facilities and could put up opposition.
- Timeline
  - > Q4 2025 – Q2 2026: Regional governance structure and funding mechanisms explored further.
  - > Q1 2026: Begin tangible partnership conversations / negotiations
  - > End of 2026: Regional “Authority” Established.

Recommendation #2

Develop an Intermodal Hub and Spoke Transfer Network Plan

PHASE 2 IS THE STUDY AND ADOPTION OF AN INFRASTRUCTURE SYSTEM PLAN THAT WOULD GUIDE DEVELOPMENT OF TRANSFER / RECOVERY IN THE REGION.

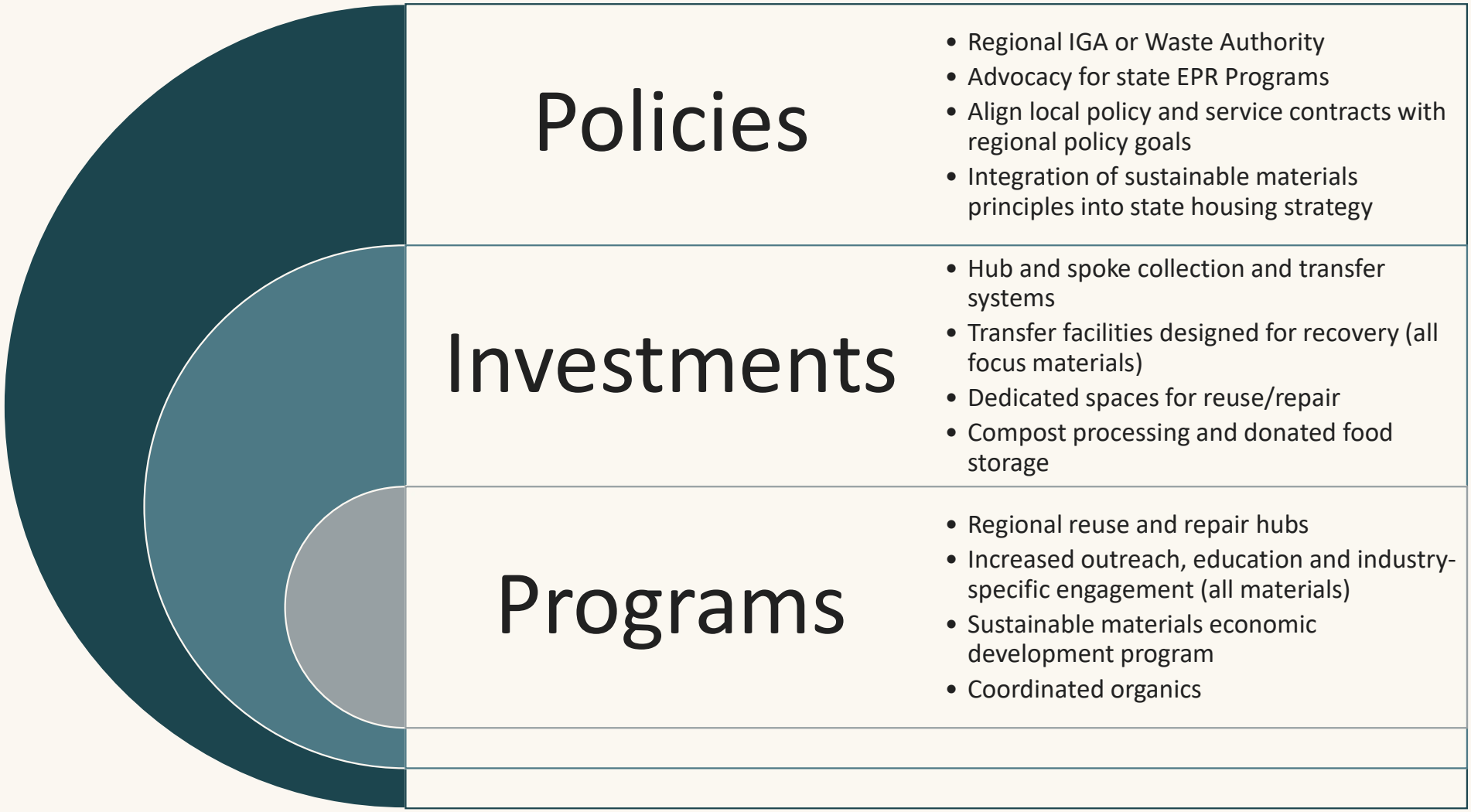
- Description
  - > Comprehensive transfer network plan (feasibility, cost, and network design) with Regional Intermodal Center as a central hub and county transfer sites as spokes.
- Who Acts
  - > The Regional Waste “Authority” (RWA) would lead the development and adoption of a plan.
  - > If a RWA is not established this could be led by a less formal regional collaboration.
  - > County staff participate and contribute data and input on their respective needs.
  - > Local jurisdictions, haulers and other stakeholders provide input through an engagement process.
- How is it Funded
  - > All involved counties contribute.
  - > State and federal grant programs would be explored (e.g. SWIFR related) to study feasibility and network design.
- Barriers
  - > Regional planning is inherently complex and requires timely input from many parties.
  - > Timeline is limited.
  - > Potential opposition from haulers, neighboring communities and those sensitive to rate impacts.
- Timeline
  - > Q1 2027: Issue RFP to study and design a hub and spoke network.
  - > Q1 2028: Plan is “adopted” and moves on to the development phase.

Recommendation #3

Develop / Upgrade Publicly owned Transfer Stations Designed for Recovery

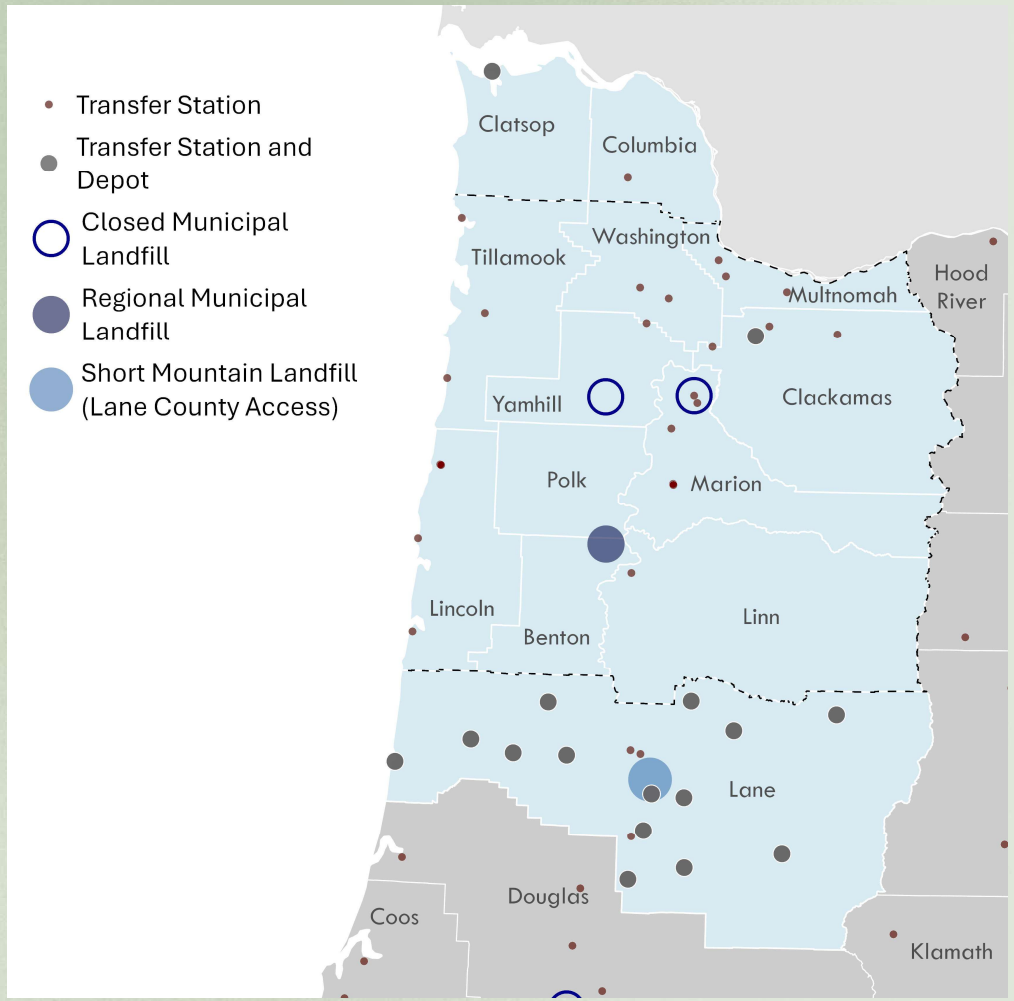
PHASE 3 IS THE DEVELOPMENT OF INSFRASTRUCTURE AND POTENTIAL CONTRACTING OF OPERATIONS

- Description
  - > Designated space for other recovery and reuse activities
  - > Ability to transload into intermodal containers.
- Who Acts
  - > RWA or host county would develop the regional Hub and own the facility, while collecting tip fees.
  - > Local jurisdictions would develop and own the county transfer spokes, and upgrade service agreements to guarantee tons.
  - > Operations could be public or private depending on circumstance.
- How is it Funded
  - > Public revenue bonds and/or other low interest infrastructure finance options.
  - > RMA funding could contribute to portions related to capture of USCL and PRO list materials.
- Barriers
  - > Infrastructure could cost $100 million or more (~$2-$5 million for small rural, $10-$20 million for medium, and could be $25 million or more for the large Hub).
  - > Impacts to rates will be a key issue.
  - > Inbound tonnage guarantees are essential for securing financing and covering operational costs and are politically tenuous.
  - > Development timeline is tight.
  - > General opposition to new infrastructure investment is possible from incumbent industry and neighboring communities.
- Timeline
  - > Q1 2028: Procurement issued for preliminary feasibility and design of facilities
  - > Q1 2029: Procurement issued for design, build and potentially operate the facilities
  - > New infrastructure should begin development by 2030 and be operational by 2035 at the latest.

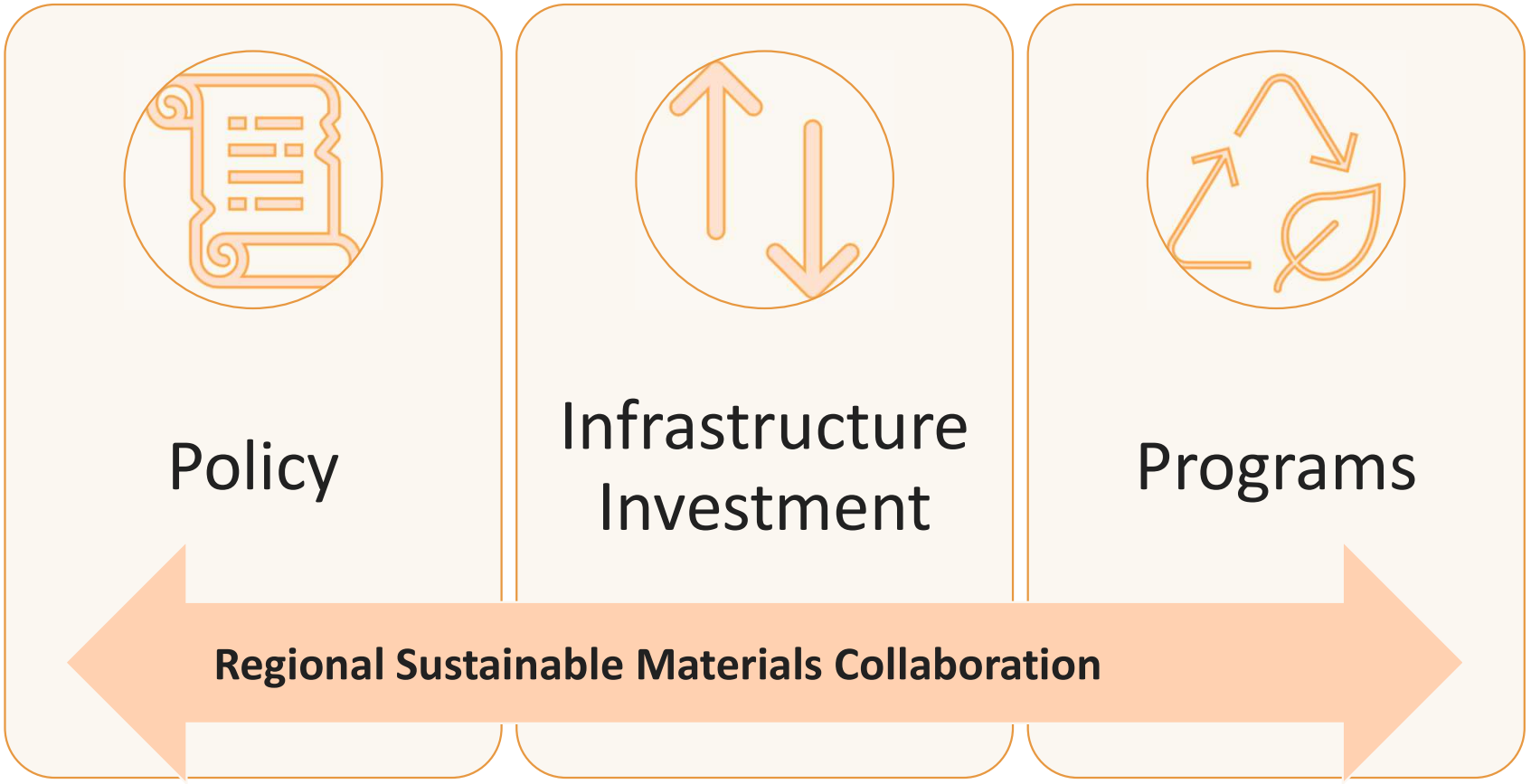

Policies
• Regional IGA or Waste Authority
• Advocacy for state EPR Programs
• Align local policy and service contracts with regional policy goals
• Integration of sustainable materials principles into state housing strategy
Investments
• Hub and spoke collection and transfer systems
• Transfer facilities designed for recovery (all focus materials)
• Dedicated spaces for reuse/repair
• Compost processing and donated food storage
Programs
• Regional reuse and repair hubs
• Increased outreach, education and industry-specific engagement (all materials)
• Sustainable materials economic development program
• Coordinated organics

Sharpening the Focus

- Ten NW Oregon counties rely on one regional municipal landfill.
- Regional collaboration for the purposes of:
  - > Long range planning
  - > Shared funding of regional infrastructure
  - > Policy leadership
  - > Programmatic support
- Regional resilience
  - > Potential benefits for 13 counties, and the state



Scenario: Formalized Regional Collaboration



Appendix: Regional Waste Subcommittee

Research and Case Studies

FOCUS AREA #1: TRANSFER STATION DESIGN

- **Goal:** Plan for and invest in facilities that meets the region's future needs for materials recovery and transfer.
- **Strategies:**
  - Deploy technologies such as AI, optical sorting, and robotics to improve efficiencies at existing facilities.
  - Build new facilities that meet the region's need to manage waste material and have capacity for material recovery operations.

START CONSULTING RRS

TRANSFER STATION DESIGN BENEFITS AND CONSEQUENCES

Strategy	Partners	Cost	Waste Impact	Timeline	Economic Impact	Human Health Impact	Environmental Impacts
Mini-MRF Installation(s)	The Recycling Partnership, local municipalities.	Low cost (estimated $100,000–$300,000)	• High Diversion • Low Prevention • High efficiency for waste reduction relative to low cost.	1 year (Pilot phase, could expand further).	High economic return due to increased revenue from recyclables and lower operational costs.	Positive impact due to reduced worker exposure to hazardous waste and improved sorting conditions.	Positive environmental impact from recycling large volumes of materials. High GHG reductions from diverting materials from landfills and reducing transport emissions.
AI & Optical Sorting Technology	The Recycling Partnership, AI technology providers.	High cost (estimated $1M–$5M)	• High Diversion • Moderate Prevention • Moderate efficiency, high-cost relative to waste reduction.	2 years (from planning to operational).	Moderate economic impact, high return due to improved sorting efficiency and higher quality material sales.	Positive health outcomes with safer workplace conditions and less exposure to harmful materials.	Positive impact from enhanced sorting capabilities, leading to better material recovery and environmental benefits. Moderate GHG reductions.
Automated Balers	Private equipment suppliers, public sector waste management agencies.	Moderate cost (estimated $500,000–$1.5M)	• Moderate Diversion • Low Prevention • Moderate efficiency, returns good results but not as efficient as higher-cost solutions.	1.5 years (fast implementation due to existing infrastructure).	Moderate economic impact due to labor savings and improved material density for higher resale value.	Positive worker safety impact by reducing physical strain and handling risks.	Positive impact from reduced material sent to landfills and enhanced sorting for better recovery. Moderate GHG reductions through greater efficiency and less transport.
On-Site Integration of Reuse	Monroe County, local non-profits focused on reuse, state environmental agencies.	Low cost (estimated $200,000–$500,000)	• High Prevention • Moderate Diversion • High efficiency with reuse reducing waste at a low cost.	1 year (modest due to existing infrastructure and reuse focus).	Very positive economic impact: community cost savings, increased local reuse market, and job creation.	Very positive health impact: preventing hazardous waste and reducing illegal dumping risks.	Very positive environmental impact from the diversion of reusable items from landfills. Very high GHG reductions from reuse and preventing the need for new production.

TRANSFER STATION DESIGN CONSIDERATIONS

Essential Details	Who Needs to Act	How it is Funded	Known Barriers
• Design for recovery in the future, even if you can't do it in the moment. Plan for end in mind. Create footprint for sorting, larger tip area for triage. Scaled large enough, flexible. (~50 acres) • Prioritize problematic materials for transfer or landfilling (larger furniture, mattresses, C&D, any regulated (e-waste, USCL / PRO list, HHW). What's next from the regulated stream? • Set up for both public and commercial – focus on traffic flow – separate section for recycling / trash. Maybe a third for reuse? • Multi-modal (see following strategies) • Publicly owned (individual or collection of counties) • Even while landfill is open could still make it more efficient to transfer smaller route trucks into larger trailers • Retrofits can happen sooner – e.g. Tillamook (evaluate who can retrofit – future project focus) (first phase)	• Due to economies of scale – focus on mid valley "cooperative" effort / joint power authority (Benton, linn, Marion, Tillamook, Lincoln, possibly Yamhill). These counties don't have infrastructure • Polk is already putting in transfer station. Metro, Lane already has made investment. • Counties operate independently but with common goal and potentially common facility • All the cities within the county - Franchise arrangements with cities – affects flow?? • Legislative authority to guarantee tons to the facility – able to raise capital (how WtE was funded)	• Tip fees • Grants / state funding • Consider lodging tax funding, something that supports other utilities / critical services • Revenue bond (depends on material in-flow)	• Public opposition • Industry opposition (haulers, vertically integrated waste companies, new groups formed) • Landfills are distant, Markets for recyclables are closer (relates to hub and spoke) • Cost • Time – need solutions prior to 12 years. Solution operational in 10 years. Organize partners, procure design build, build, begin operations

START CONSULTING RRS

FOCUS AREA #1: BIBLIOGRAPHY/CASE STUDIES

- Penn Waste + The Recycling Partnership Mini-MRF pilot (York, PA) installed at a transfer station (Recycling Partnership, 2020).
- Rumpke Recycling (Cincinnati, OH) installed AI and optical sorters at transfer-connected MRF (Rumpke Recycling, 2021).
- Recology (San Francisco, CA) uses automated balers at its transfer station to handle cardboard, plastics, and metals efficiently (Recology, 2022).
- EcoPark (Monroe County, NY) co-locates reuse, HHW drop-off, and swap stations at a public transfer station (Monroe County, 2021).

START CONSULTING RRS

FOCUS AREA #2: TRANSFER NETWORK

- **Goal:** Develop transfer infrastructure network designed for recovery and efficient material transfer.
- **Strategies:**
  - Ensure Shortest Hauling Distance
  - Partner with Non-Profits
  - Develop a Hub & Spoke model network

START CONSULTING RRS

TRANSFER NETWORK BENEFITS AND CONSEQUENCES

Strategy	Timeline	Costs to Implement	Economic Impacts	Human Health Impacts	Equity/Community Impacts	Environmental Impacts
Zoning (Geographic Service Areas)	1–2 years	$500K–$1M (planning & admin costs, borne by local governments and haulers)	Stabilizes collection markets	Reduces exposure to unmanaged waste	Neighborhood disparities possible	Lower landfill rates Reduces transport emissions
Franchise Agreements	2–3 years	$100K–$300K (legal/admin and contract compliance, shared by gov't and haulers)	Predictable costs & service	Safer waste processing	More uniform services	High diversion rates Lower methane from organics
Permit Conditions Requiring Nearest Facility Use	1–2 years	$50K–$200K (policy development & oversight, paid by governments)	May raise hauler costs	Prevents illegal dumping	Can support equitable oversight	Boosts processing rates Cuts hauling emissions
Financial Incentives/Penalties	6 mo–1 yr	$50K–$150K (admin, enforcement, funding reserves; gov't and ratepayers)	Encourages compliance	Reduces landfill exposure	Smaller haulers may be burdened	Less landfilled material Fewer landfill emissions
Real-Time GPS & Route Verification	6 mo–1 yr	$100K–$500K (tech setup, data infra; haulers and city IT departments)	Long-term efficiency gains	Improves oversight	Transparent operations	Efficient routing lowers impact Less fuel use
Government Contract Requirements	1–2 years	$200K–$500K (contract dev & enforcement; paid by city, partially recoverable)	Cost-effective control	Safer, verified processing	Ensures service access	Reduces waste leakage Directs organics to compost
Central Coordination by Waste Management District	1–3 years	$500K–$1.5M (inter-agency admin, staff, IT systems; regional agencies)	Regional efficiencies	Public health planning	More uniform access regionally	Region-wide benefits Lower per-ton emissions
State/Local Waste Diversion Regulations	2–5 years	$500K–$2M (policy writing, compliance programs; states & localities)	Compliance can be costly	Less waste exposure	Broad mandate helps coverage	High diversion Organics & recycling emissions cut
Material-Specific Disposal Bans	1–2 years	$100K–$500K (rulemaking, outreach, monitoring; state/local gov't)	Hauler/business adaptation costs	Reduces exposure to harmful waste	May need better outreach to all groups	Keeps toxics & organics out of landfill Lowers methane & GHGs

TRANSFER STATION NETWORK CONSIDERATIONS

Essential Details	Who Needs to Act	How is it Funded	What are the Barriers
• Something guaranteeing inbound tonnage to newly capitalized destination facilities. If its publicly owned it has more legal precedent. • Some type of coordinated decision-making body (authority) – either through legislation or through direct IGA agreements. In Marion county "flow control" is set in state statute (legislative approach) • LG still have their own franchise agreements for collection and can use the fees to fund services • Allow (require?) non-profits on-site at the TS to "intercept" waste that can be reused – could be articulated in – infrastructure has to be there first to allow them there to be safely (part of ts design). X%? – could be trailers to divert and store. Rotating ngos on different days. • Sizing even smaller facilities to store enough to access markets.	• Due to economies of scale – focus on mid valley "cooperative" effort / joint power authority (Benton, linn, Marion, Tillamook, Lincoln, possibly Yamhill). These counties don't have infrastructure • Polk is already putting in transfer station. Metro, Lane already has made investment. • Counties operate independently but with common goal and potentially common facility • All the cities within the county - Franchise arrangements with cities – affects flow?? • Legislative authority to guarantee tons to the facility – able to raise capital (how WtE was funded) • Non-profits	• Is there a way to monetize avoided costs to provide service fee for non-profits to operate reuse – (contract with them)? Could be overlap with products and packaging.	• potential opposition to "flow control" • Local governments reluctant to give up control of services (garbage), which funds other services. • Safety – if reuse is happening. Keeping that activity separate from other traffic flows, etc. • So much "stuff" hard for non-profits to manage the scale

START CONSULTING RRS

FOCUS AREA #2: BIBLIOGRAPHY/CASE STUDIES

Ensuring Shortest Hauling

- **Zoning (Geographic Service Areas)** Los Angeles, CA – RecycLA
- **Franchise Agreements** San Jose, CA
- **Permit Conditions Requiring Nearest Facility Use** King County, WA
- **Financial Incentives/Penalties** San Jose, CA
- **Real-Time GPS & Route Verification** Toronto, ON
- **Government Contract Requirements** Austin, TX
- **Central Coordination by Waste Management District** Metro (Portland, OR)
- **State/Local Waste Diversion Regulations** Oregon SB 2639, CA AB 939
- **Material-Specific Disposal Bans** MA Waste Bans, OR Depave

Non-Profit Partnerships

- **Collection and Redistribution of Donated Items** Diverts gently used items from landfills to nonprofits for resale or donation, Seattle, WA; Portland, OR
- **Specialized Waste Programs** Refurbishes bulky items (e.g., furniture, electronics) for resale, San Francisco, CA; Los Angeles, CA
- **Job Training & Community Engagement** Offers repair/reuse job skills tied to diversion. NYC; Bronx, NY; Chicago, IL
- **Zero-Waste Initiatives** Systemic, citywide reuse partnerships embedded in policy. Austin, TX; Boulder, CO
- **Education & Donation Drives** Campaigns + collection events to promote reuse, Minneapolis, MN; San Diego, CA

START CONSULTING RRS

FOCUS AREA #2: BIBLIOGRAPHY/CASE STUDIES

Hub & Spoke Model

Massachusetts Recycling, Food Waste (Organics) Springfield MRF; Composting & AD facilities, Dozens of municipalities. Dual hub system for both recycling & organics

Vermont Recycling, Composting, CSWD MRF (Williston), Regional facilities
Small towns & rural areas, Statewide coordination under Universal Recycling Law

Texas (Austin) Recycling, Hazardous Waste, E-waste, Centralized MRF; Specialized processors. Multiple drop-off points, Multi-stream waste collection & processing

Oregon (Portland Metro) Solid Waste, Recycling, Organics, Hazardous Waste, Metro Central & South Transfer Stations
Residential/commercial sources; drop-off locations
Comprehensive multi-waste system incl. hazardous

Colorado (Front Range) Recycling, Composting, Regional MRFs; Cherry Creek Drop-off Center. Multiple collection points, Regional coordination across Front Range

START CONSULTING RRS

FOCUS AREA #3: TRANSPORTATION MODALITIES

- **Goal:** Assess benefits of utilizing intermodal logistics (trucks, train, barge) to efficiently move materials. Consider role of Mid Willamette Valley Intermodal Center (MVIC) and benefits relative to uncoordinated direct trucking.
- **Strategies:**
  - Trucking
  - Rail
  - Barge
  - Intermodal Combo

START CONSULTING RRS

TRANSPORTATION MODALITY BENEFITS AND CONSEQUENCES

Mode	Strengths	Weaknesses	Best Use Case	Cost	Waste Impact	Waste Impact by Cost	Economic Impacts	Human Health Impacts	Environmental Impacts
Truck	Best for local diversion programs. Highly flexible.	Inefficient and environmentally costly for long-distance transport.	Local waste diversion programs, collection in urban areas.	High – Trucks can be costly due to fuel, labor, and maintenance costs.	High -Effective for local waste diversion, especially with frequent pick-ups.	Moderate - High cost but moderate efficiency in reducing waste per dollar spent.	Moderate - Trucks provide jobs but can have local congestion and inefficiencies.	Low - Diesel trucks contribute to local air pollution and associated health risks.	Low - High GHG emissions, especially from diesel fuel; poor fuel efficiency per ton-mile.
Rail	Cost-effective for long-haul waste transport. Environmentally friendly for long distances.	Limited reach. May require better sorting at transfer points.	Long-distance waste transport, especially for bulk waste across regions.	Moderate - Less costly than trucks for long-distance transport but needs significant infrastructure investment.	High - More efficient for long-haul waste diversion, reducing transport-related waste.	High - Lower costs per unit of waste diverted than trucks, making it highly cost-effective.	High - Job creation in rail operations but less direct community impact.	Moderate - Rail can be safer and cleaner than trucks for human health, reducing air pollution.	High - Very low GHG emissions per ton-mile, especially when electric-powered; good climate option.
Barge	Ideal for large volumes of waste. Environmentally sustainable for long-distance transport.	Requires access to waterways. Slower transport times.	Large volume, long-distance transport where access to waterways exists.	High - Barges are typically less expensive for bulk, long-distance waste transport but rely on specific infrastructure.	High - Effective for long-haul waste diversion, especially for large volumes.	Good - Barges are efficient for reducing waste over long distances, though slower than other modes.	Moderate - Limited impact on local economies unless associated industries (e.g., ports) are involved.	Moderate - Slower transport times and limited reach, which might delay waste reduction efforts in communities.	High - Extremely efficient per ton-mile; lowest CO_2 emissions among freight options when fully loaded.
Multi-Modal Systems	Offers flexibility by combining modes. Balances strengths and weaknesses of individual modes.	Complex coordination needed. Higher infrastructure costs.	Large-scale, integrated systems for complex waste management solutions.	Very High - Multi-modal systems require extensive infrastructure and planning, making them expensive.	Moderate - The effectiveness of waste reduction depends on integration but can be less efficient due to complexity.	Moderate - Coordination and infrastructure can decrease the overall cost-effectiveness of the system.	Moderate - Can create jobs, but the complexity could increase costs and reduce local economic benefits.	Moderate - The health impact is mixed depending on the modes used, but more complex systems might increase pollution.	Moderate - Complex systems can lead to inefficiencies and environmental harm if not optimized. Emissions depend heavily on the modes used; greener options can lower impact.

TRANSPORTATION MODALITY CONSIDERATIONS

Essential Details	Who Needs to Act	How is it Funded	What are the Barriers
• Potential to move waste longer distances • Could help with recycling markets, access further markets that pencil out by rail (back haul dynamic with MRFs?) • Have to retrofit transfer / reload equipment to containerize. Move away from walking floor / tipping container. Compactors work interchangeably. Containers could be provided by end user – could be as limited as just the chassis upgrade. • Need scale (multi-county effort) – if all diverted = 180 - 185 train cars (x2 30 ton containers) per week. Based on 570k tons. • Under 400 miles. It pencils out better for trucking?	• Same as above – need coordinated authority to get appropriate scale / compete for better tip fees / market opportunities • Haulers would need to retrofit reload equipment • Landfill operators (WM / Waste connections)	• Tip fees account for disposal fees	• Have to retrofit transfer / reload equipment to containerize. • Some TS too small, no room to reload to containers • Trucking could be cheaper for shorter distances. Other benefits to rail – less affected by weather, road safety, ghg, traffic congestion, wear and tear on road, etc.

START CONSULTING RRS

FOCUS AREA #3: BIBLIOGRAPHY/CASE STUDIES

- **New York City**
  One of the largest barge/rail systems in U.S.; manages 12,000+ tons/day

- **Los Angeles County**
  Handles 30M+ tons/year; investing in rail for remote landfill transport

- **Seattle-King County**
  Barge-based long-distance waste hauling to Oregon landfills

- **Chicago**
  High rail reliance due to landfill scarcity; uses some barge

- **Washington, D.C. Metro**
  Contracts with intermodal facilities to reduce truck miles

START CONSULTING RRS

FOCUS AREA #4: OWNERSHIP MODELS

- **Goal:** Determine what ownership model is best for maximizing waste reduction efficiently
- **Strategies:**
  - Public ownership & operations
  - Public ownership & private operations
  - Private ownership & operations

START CONSULTING RRS

OWNERSHIP MODELS BENEFITS AND CONSEQUENCES

Ownership Model	Example & Location	Cost	Waste Diversion Impact	Waste Diversion Impact per Cost	Policy Support	Implementation Timeline	Economic Impacts	Human Health Impacts	Equity/Communities Impacts	Environmental Impacts	Climate Impacts
Publicly Owned & Operated	Metro – Oregon (Portland metro area)	High (public funding, large scale)	High (significant regional waste diversion)	High (due to direct public control)	Strong (regional planning and policies)	1-2 years	Positive (long-term sustainability, cost efficiency)	Positive (healthier waste management)	Positive (accessible to all communities)	Positive (meets regulatory goals)	Positive (lower emissions due to efficiency)
Publicly Owned, Privately Operated	Pierce County – Pierce County, WA	Medium (public funding + private sector efficiency)	Moderate (effective waste diversion, less control)	Moderate (private sector efficiency vs. public goals)	Moderate (some private company influence)	1-2 years	Moderate (private sector cost savings)	Moderate (depends on private company focus)	Moderate (impacts vary based on contract terms)	Moderate (regulated by public goals)	Positive (emissions controlled by public oversight)
Privately Owned & Operated	Columbia Resource Co. – Clark County, WA	Low (privately funded, limited oversight)	Moderate (commercial waste diversion focus)	High (cost-effective but less regional control)	Low (no direct public policy support)	1-3 years	High (private sector efficiency, cost reduction)	Low (depends on operations)	Low (may not target equity directly)	Moderate (dependent on private sector goals)	Moderate (depends on private sector policies)
Publicly Owned, Privately	Jefferson County – Jefferson	Medium (public funding + private	Moderate (focused waste diversion, less control)	Moderate (efficiency but mixed goals)	Moderate (policy may vary by	1-2 years	Moderate (private sector may reduce	Moderate (health outcomes depend on	Moderate (impacts may vary by private sector)	Moderate (aligned with public goals)	Moderate (depends on private sector

OWNERSHIP MODEL CONSIDERATIONS

Essential Details	Who Needs to Act	How is it Funded	What are the Barriers

• Ownership: Publicly owned – don't need to add margin, allows for more defensible flow control
• Operation: Could be case by case. Lean toward private operators.
	• How does regional "authority" / district interact?
	  • Letters of agreement
	  • Set service standards
	  • Outline system needs and requirements
	  • Directs materials
	  • Could own or not
		• Depends on model selected.
		• Jurisdictions provide staff time to evaluate and support creation of selected model.
			• Potential concerns from service providers.
			• Potential community concerns.

START CONSULTING RRS

FOCUS AREA #4: BIBLIOGRAPHY/CASE STUDIES

- **Publicly Owned & Operated:**
  Metro – Oregon (Portland metro area)

- **Publicly Owned, Privately Operated:**
  Pierce County – Pierce County, WA
  Jefferson County – Jefferson County, OR

- **Privately Owned & Operated:**
  Columbia Resource Co. – Clark County, WA

START CONSULTING RRS

ADDITIONAL BENEFITS AND CONSEQUENCES: NON-PROFIT PARTNERSHIPS

Strategy	Partners	Cost	Waste Impact	Implementation Timeline	Economic Impact	Human Health Impact	Environmental Impacts
Collection and Redistribution of Donated Items	Goodwill, Salvation Army	Low ($50k–$150k/year per city) – mostly logistical and outreach costs	High—promotes reuse over new purchases, avoiding waste generation Excellent efficiency; high waste prevented at low cost	6–12 months	Revenue from resale supports nonprofits and local economy	Low direct health impact; some indoor air quality gains	Prevents landfill use; reduces resource extraction and emissions via avoided manufacturing
Specialized Waste Programs	Habitat ReStores	Medium ($150k–$400k/year) – includes repair staff, space, and logistics	High—extends lifespan of large goods High value per cost unit; costly but deep impact	12–18 months	Creates green jobs, boosts reuse markets	Minimal but positive (indoor air, safer disposal)	Preserves materials, prevents landfill strain; avoids emissions from production
Job Training & Community Engagement	Goodwill, local orgs	Medium ($200k–$600k/year) – includes wages, trainers, facilities	Moderate—emphasizes repair and skill-building Medium efficiency; higher cost per waste ton reduced	9–18 months	Trains local workforce, reduces unemployment	Strong—healthier living conditions via stable jobs	Moderate—less waste, more reuse
Zero-Waste Initiatives	Goodwill, city reuse networks	High ($500k–$1.5M/year) – large-scale coordination, staff, infrastructure	Extensive—aims to prevent most types of waste Strong overall impact despite high cost	12–24 months	High market development and circular economy benefits	Strong public health gains from less dumping	Very strong—multiple waste streams prevented; Substantial long-term emissions reduction
Education & Donation Drives	Goodwill, Salvation Army	Low ($20k–$100k/year) – primarily outreach, signage, coordination	Moderate—helps prevent consumer waste Low cost, decent impact = very efficient	3–9 months	Low-cost strategy with local economic benefits	Moderate—educational health components	Good—reduces disposable goods usage; Modest reduction in transportation and landfill emissions

ADDITIONAL BENEFITS AND CONSEQUENCES: HUB AND SPOKE MODELS

Strategy	Partners	Cost	Waste Impact	Economic Impact	Human Health Impact	Environmental Impacts
State-led, Rural + Urban Mix	Strong **public-sector leadership** (state agencies, solid waste districts), regional planning bodies, nonprofits	Moderate to High – due to need for regional coordination & rural logistics	High – long-standing organics bans and diversion mandates drive strong performance	Steady economic benefit, especially for local reuse and compost industries	Indirect but positive – through food recovery and reduced landfill dependence in rural areas	High – Emphasis on landfill diversion, GHG reduction, soil health from composting
Metro-led, Urban Innovation Hubs	**City-led coalitions**, innovative partnerships with private haulers, tech firms, startups	Variable – often **pilot-heavy** with startup costs, but some cost savings through efficiency	High – city programs target waste prevention and organics with advanced metrics	High – often includes green job creation, circular economy pilots, and local business development	Moderate – improved air quality and exposure mitigation near transfer/processing facilities	High – aggressive climate goals, methane reduction, and closed-loop systems
Rapid-Growth, Regional Scaling	Emerging regional coordination among **counties, MPOs, utilities**, private haulers	Mixed – lower per capita investment but high scaling costs expected	Moderate – strong potential, but often lacks statewide mandates or consistent metrics	Growing – focus on market development for compost and recyclables	Localized – improved service access in underserved and fast-growing areas	Moderate – depends on success of scaling infrastructure and regional policies