



Deschutes County Solid Waste Management Plan

“Creating a Roadmap for a Sustainable Future”





Agenda

Purpose: *Review options for disposing of Solid Waste generated in the County and receive input*

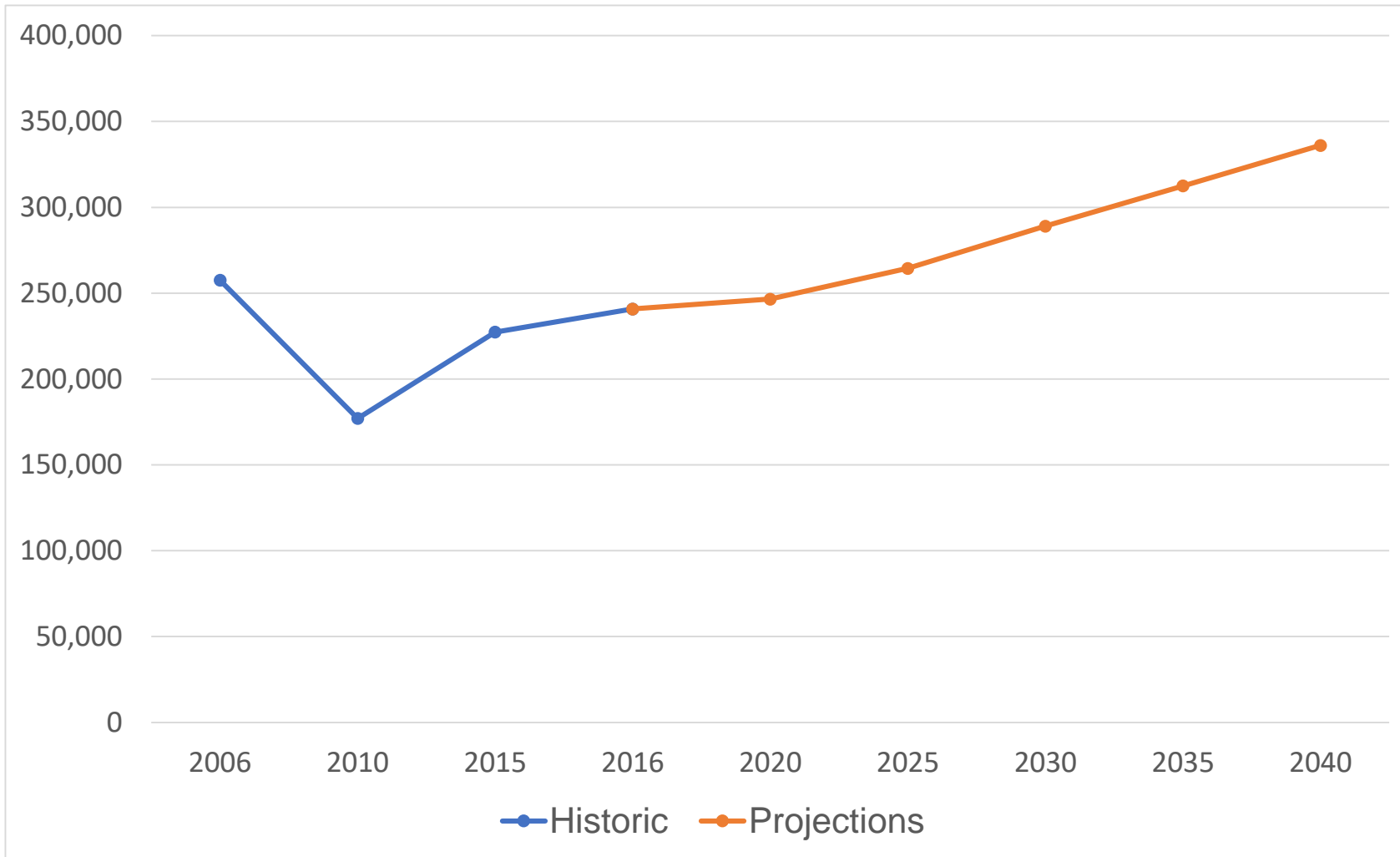
Presentation – Timm Schimke, Director of Department of Solid Waste (DSW)

- Statement of Issues
- Background - Solid Waste Management Plan (SWMP)
- Future Disposal Options
 - Transport to Out of County Landfill
 - Site new In-County Landfill
- Evaluation of Options

Questions / Comments



Total Waste Generated Historic and Projected





Purpose of SWMP

Primary Goal of SWMP

“To work cooperatively with Cities and service providers to offer citizens and businesses an integrated solid waste management system that delivers quality and cost-effective services while achieving the best use of our resources and reducing waste disposed in landfills.”



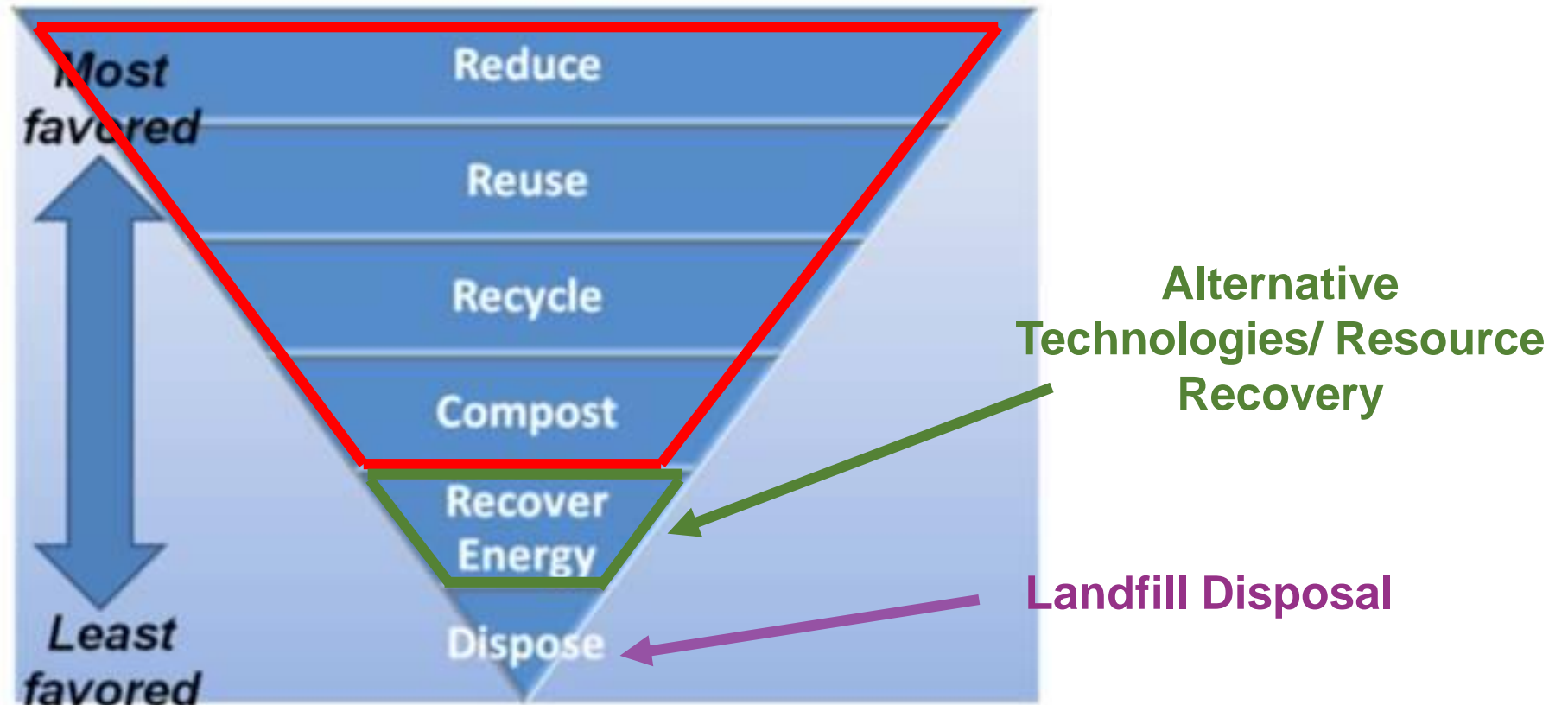
Primary Issues for SWMP

1. Current recovery rate is 33%. New goal is 45% by 2025.
What can be done to meet this goal?
2. Consider strategies to extend the site life of Knott Landfill?
3. Where do we dispose of solid waste that cannot be recycled after Knott Landfill Closes in 10 years?



State Hierarchy for Managing Waste

First Step
Reduce Waste and
Recycle (Chapters 3 & 4)



From Oregon DEQ



Recommendations to Increase Recovery Rate

SWMP provides roadmap for enhancing services, making capital investments in infrastructure and addressing long term disposal of waste

Changes to collection programs /services – **Goal to increase recovery rate from 33% to 45%**

- *Expand residential food waste collection*
- *Development multi-family programs*
- *Expand recycling for businesses – food waste/recyclables*
- *Establish uniform/standardization for programs and services*
- *Develop alternative for construction/demolition (C/D) waste*

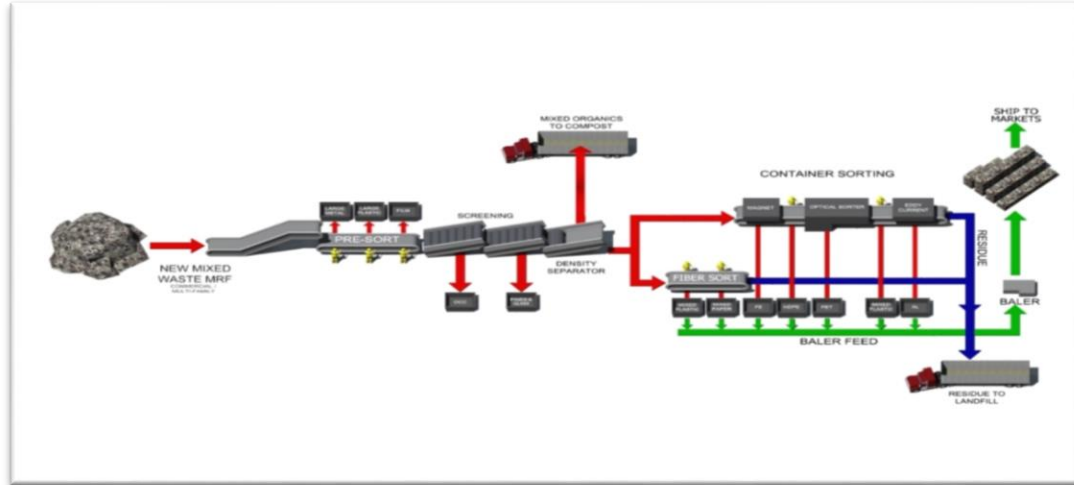
Changes / Improvements for facilities

- *Evaluate options/upgrade compost facilities*
- *Upgrade transfer stations – capacity/efficiencies/future disposal system*
- *Develop facilities for managing C/D waste*
- ***Implement new disposal system***



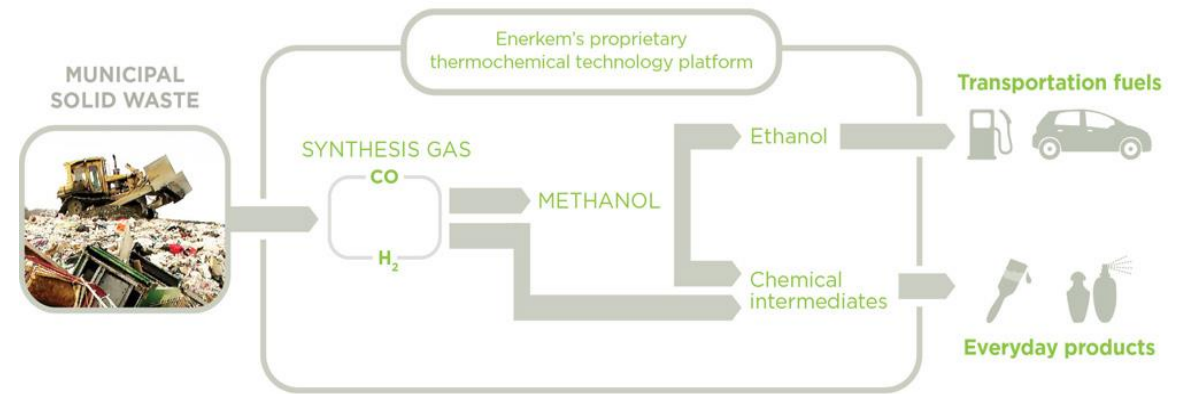
Alternative Technologies

Advanced Materials Recovery Facility



Convert MSW to Biofuel /Renewable Energy (Ethanol)

Enerkem Process



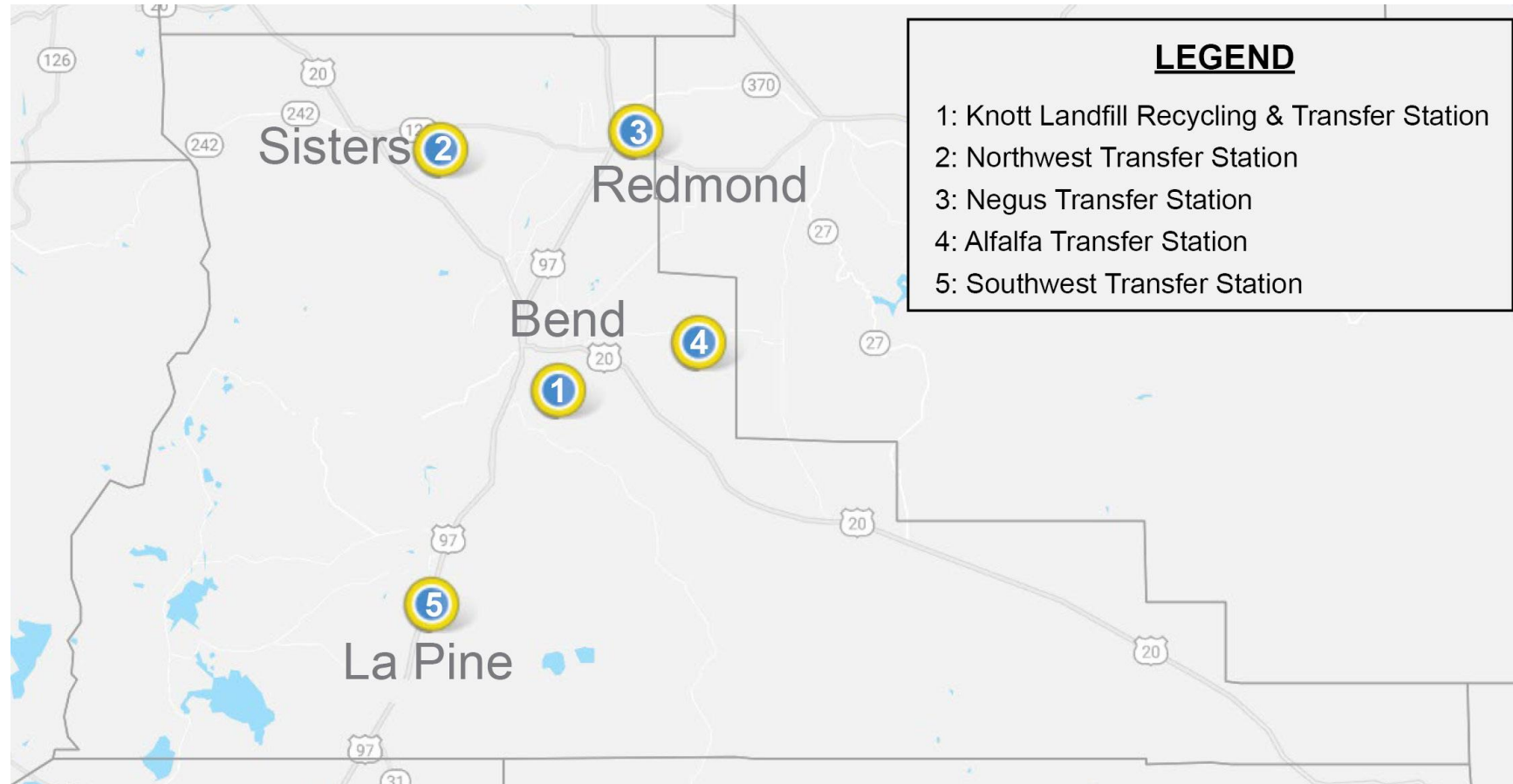
Findings

1. Cost to process and convert is not feasible at this time (\$60-\$70 per ton)
2. Markets for renewable energy not readily available in Deschutes County
3. County can monitor progress and development of technologies and consider in the future



Transfer Stations

Transfer Station Locations





Cost to Operate Knott Landfill

Current Disposal / Ton Cost

| Total Annual Operating Expenses | | \$ 6,000,000 | \$/Ton |
|---------------------------------|------|--------------|-----------------|
| Annual Waste Disposed | 2016 | 161,000 | \$37.27 |
| Annual Waste Disposed | 2017 | 181,000 | \$33.15 |
| Average Disposal Cost | | | \$ 35.21 |



Landfill Disposal Options

- 1. Transport and dispose at Out of County Site(s)**
 - Regional Landfill
 - Crook County Landfill
- 2. Site and Construct a New In-County Landfill**



Landfill Disposal Options

Transport and dispose at Out of County Site(s)

- Regional Landfill
- Crook County Landfill



Long-Haul Waste Out of County

Regional Landfills

Landfills Located East of Cascades

- 1) **Columbia Ridge Landfill, Arlington, OR** – Owned & Operated by Waste Management
- 2) **Finley Butte Landfill, Boardman, OR** – Owned & Operated by Waste Connections
- 3) **Wasco County Landfill, The Dalles, OR** – Owned & Operated by Waste Connections
- 4) **Roosevelt Regional Landfill, Roosevelt, WA** – Owned & Operated by Republic Services

Landfills Located West of Cascades

- 5) **Coffin Butte Landfill, Corvallis, OR** – Owned & Operated by Republic Services
- 6) **Dry Creek Landfill, Medford, OR** – Owned & Operated by Rogue Disposal



Long-Haul Waste Out of County

Crook County Landfill (CC)

1. The landfill has over 100 years capacity with current waste flows
2. CC will accept portion of Deschutes County
3. Current rates - \$35 per ton + \$5 Host Fee



Long-Haul Waste Out of County

Knott Transfer Station

| Description | Transportation Costs Rounded (\$/ton) | Landfill Disposal Costs+ Host Fee (\$/ton)(1) | Total Transportation/ Disposal +Host Fee (\$/ton) |
|---|---------------------------------------|---|---|
| Station and Wasco Landfill (135 miles one-way) | \$19.00 | \$28.00-\$31.00 | \$47.00-\$50.00 |
| Station and Columbia Ridge Landfill (185 miles one-way) | \$26.00 | \$30.00-\$33.00 | \$56.00-\$59.00 |
| Station and Finley Buttes Landfill (206 miles one-way) | \$29.00 | \$30.00-\$33.00 | \$59.00-\$62.00 |
| Station and Roosevelt Landfill (180 miles one-way) | \$25.00 | \$30.00-\$33.00 | \$55.00-\$58.00 |
| Station and Crook County Landfill (35 miles one-way) | \$8.00(2) | \$40.00(3) | \$48.00 |

Negus Transfer Station

| | | | |
|--|------------|-----------------|------------------------|
| Station and Wasco Landfill (110 miles one-way) | \$16.00 | \$28.00-\$31.00 | \$44.00-\$47.00 |
| Station and Crook County Landfill (18 miles one-way) | \$6.00 (2) | \$40.00 (3) | \$46.00 |

(1) Assumes a host fee of \$6 per ton for all regional landfills. Host fees may vary by jurisdiction

(2) The cost to transport from Deschutes County transfer stations were adjusted considering time to travel through congested areas

(3) Crook County tip fee is based on the current published gate rate of \$35 per ton plus a \$5 per ton host fee.



Long-Haul Waste Out of County

Implementation and Schedule

1. Transfer stations modified to handle surge/temporary storage capacity (2 – 4 years)
2. Add compactor equipment to improve cost to transport (\$1.5 M for system)
3. Evaluate Transportation options
Public ownership of trailers vs private operations
4. Prepare RFP to solicit proposals and select vendor and award contract (2 years)



Site and Build a New In-County Landfill

Site New In- County Landfill

1. Estimate 400 – 500 acres to provide 100 year capacity
 - Includes area for buffer
 - Site would be developed and closed in phases
2. County previously conducted site study in late 1990s
3. Areas of County appear to satisfy location standards



Site and Build a New In-County Landfill

Siting a New Landfill

- Step 1 – Establish a Need for the New Landfill
- Step 2 – Identify Potential Areas/Sites that Meet Locational Criteria
- Step 3 – Identify a Preferred Site
- Step 4 – Obtain Land Use Approval, Perform Site Characterization and Other DEQ Permitting Requirements
- Step 5 – Complete Permit Application Process



Site and Build a New In-County Landfill

| Siting a New Public Landfill | |
|--|---------------------|
| Landfill Siting Process (Public Meetings) | \$ 300,000 |
| Site Characterization Reports | \$ 1,000,000 |
| Preliminary Engineering and Permit Documents | \$ 1,200,000 |
| Permitting Contingency (20%) | \$ 500,000 |
| Total | \$ 3,000,000 |



Site and Build a New In-County Landfill

| Landfill Development / Construction Cost | |
|---|----------------------|
| Support Facilities (Includes access roads, scales, employee center, maintenance shops, utilities) | \$ 4,000,000 |
| Initial Landfill Cell/Leachate Collection | \$ 2,000,000 |
| Leachate Lagoon and Controls | \$ 1,000,000 |
| Environmental Monitoring Systems | \$ 1,000,000 |
| Subtotal | \$ 8,000,000 |
| Engineering/Construction Services/Administration | \$ 1,200,000 |
| Contingency (15%) | \$ 1,600,000 |
| Total Estimated Construction Cost | \$ 11,000,000 |



Site and Build a New In-County Landfill

Implementation and Schedule

1. Complete siting studies and permitting (5 – 6 years; assumes potential legal challenges)
2. County has some risk exposure for obtaining permits based on past experience in state
3. Requires capital investment to site and build (2 – 3 years)



Evaluation of Landfill Disposal Options

| Primary Factors | Transport Out of County | New In-County Landfill |
|---|---|---|
| 1. Implementation Considerations | <ul style="list-style-type: none"> Regional landfills are permitted and have available capacity County transfer stations will need to be modified to accommodate long haul transportation | <ul style="list-style-type: none"> Siting a new landfill has proven to be both environmentally and politically difficult and unpredictable for communities |
| 2. Sound Financial Principles | <ul style="list-style-type: none"> Proximity of several regional landfills provides competition that can result in lower fees Impacts to local economy as revenue and jobs are created in other jurisdictions | <ul style="list-style-type: none"> County and cities control rates Revenue and jobs stay in County |
| 3. Cost Effectiveness | <ul style="list-style-type: none"> Estimated cost to transport and dispose varies \$47-\$60/ton | <p>Estimated costs \$35 disposal + \$ 7 transport \$42/ton (Assumes landfill is 25 miles or less from Knott Transfer Station) Note: After initial debt is retired 2040, the operating cost will be reduced by ~\$4/ton</p> |



Evaluation of Landfill Disposal Options

| | | |
|-------------------------------------|--|--|
| <p>4. Rate Stability</p> | <ul style="list-style-type: none"> • Disposal contracts can be written to provide certainty of cost • Factors outside control of County could impact fees (Host fees, fuel prices, road mile taxes etc.) | <ul style="list-style-type: none"> • Based on history of tip fees at Knott Landfill, disposal costs are predictable and stable |
| <p>5. System Flexibility</p> | <ul style="list-style-type: none"> • Flexibility can be part of contract; may have impacts on tip fee • If minimum waste supply is committed, there may be possible impacts to County or cities to implement alternatives | <ul style="list-style-type: none"> • County controls waste and disposal system and can make changes as needed (Example if local jurisdictions implement new diversion programs) • County retains ability to manage waste without contractual issues |
| <p>6. Reliability</p> | <ul style="list-style-type: none"> • Disposal is reliable • Transporting waste to regional landfills may encounter interruptions • In general, regional landfills have good track record for environmental compliance | <ul style="list-style-type: none"> • Transportation and disposal are reliable • Transporting waste on certain roads may encounter short term interruptions • County has control and can manage environmental risks • County can control nature of waste disposed in the landfill |



Evaluation of Landfill Disposal Options

| 7. Environmental Considerations | | |
|--|--|--|
| <ul style="list-style-type: none"> - 7.1 Impact from Landfilling: Greenhouse gas (GHG) emissions | <ul style="list-style-type: none"> • No waste would be disposed in Deschutes County, but emissions would impact other jurisdictions | <ul style="list-style-type: none"> • Emission impacts will remain in Deschutes County |
| <ul style="list-style-type: none"> - 7.2 Impact from Transportation: Waste Disposed 2030 – 216,000 tons/year 6,800–7,000 trips/year 2040 – 250,000 tons/year 7,800–9,000 trips/year | <ul style="list-style-type: none"> • In 2030, 2-2.1 million truck miles and emissions along local roads and highways 97 and 197 • In 2040, 2.3–2.7 million truck miles and emissions along highways 97 and 197 | <ul style="list-style-type: none"> • In 2030, 340,000-350,000 truck miles and emissions along local roads and highways • In 2040, 390,000-450,000 truck miles and emissions along local roads and highways |
| <ul style="list-style-type: none"> - 7.3 Impact on Land | <ul style="list-style-type: none"> • Existing regional landfills are permitted and will continue to fill designated sites with or without Deschutes County waste | <ul style="list-style-type: none"> • County will need to disturb 400-500 acres* • County may adopt mitigating measures as necessary <p>*Note: Existing quarry sites might provide opportunity to restore disturbed land</p> |



Deschutes Disposal Options

Questions / Comments ?