Metro Solid Waste Alternatives
Advisory Committee

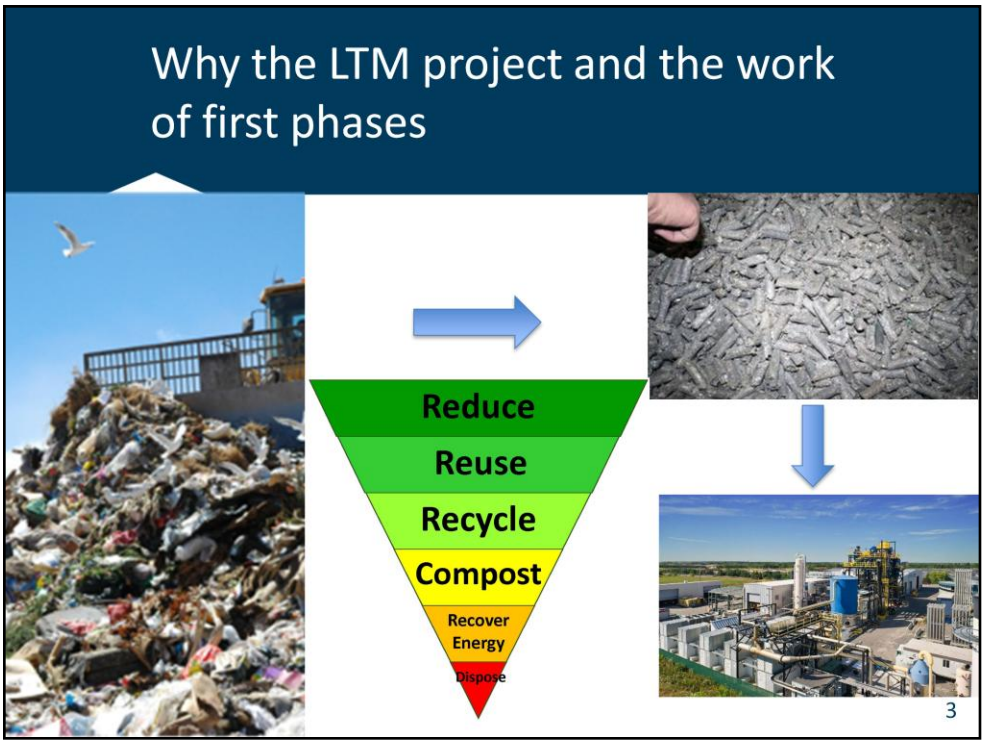
Making the most of what we don't want

Long-term management of garbage

July 12, 2017

Presentation Objectives

- Review project history
- Provide an update on Recent Work
- Identify possible next steps
- Obtain Feedback



Looking at this graphic we are reminded that landfill disposal is the least preferred option for managing our garbage.

Other factors that must be considered also.

Protect people's health: We must manage waste in a manner that protects the public's health.

Protect the environment: We need to ensure that waste is handled responsibly and that we protect our clean air, clean water and soil.

Get good value for the public's money: Making sure the money we spend in managing garbage achieves the benefits we want and makes the most of this resource.

Keep our commitment to the highest and best use of resources: We're not taking our eye off the ball of reducing waste, reusing what we have, and improving our recycling and composting, but we also need to consider what value we can extract from the resources that we are currently sending to a landfill.

Be adaptive and responsive in managing materials: The waste stream has changed a lot over the years and will continue to evolve. We need to make sure our solid waste system can continue to adapt.

Ensure services are available to all types of customers: How can we continue to make sure households and small and large businesses continue to receive the services they need and keep costs reasonable for all customers?

Project Milestones

- Narrowed 14 Technologies to 5
- Issued Request For Expressions Of Interest to get more refined information
- Reduced to 2 Technologies

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The Long Term Management of Discards project identified several technologies that purported to extract value from garbage that would otherwise be destine for landfill.

HDR completed a report of technologies for managing discards that helped us to examine 14 options and then narrow those to five plus landfills.

Afterwards we sought expressions of interest from providers of these technologies to better understand the true viability of the technologies.

Based on the industry responses we further narrowed this focus to Advanced Material Recovery and WTE (in addition to landfills).

AMR was put on hold for maturation of food scraps recovery

We decided to evaluate a waste-to-energy option with Covanta, based on their unique expression of interest.

Explain unique response from Covanta

- Is relatively close to the region; within 50 miles
- Would be an expansion as opposed to new construction
- Can fully finance the capital costs; Metro's only commitment will be tonnage

Project Question

Is added cost balanced by added value?

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Question to staff from Metro Council

Our approach

Health Impact Assessment (HIA)

- To determine the possible impacts on the health of a population from a proposed project.
- Is a systematic process
- Using a broad array of data sources and analytic methods
- With input from stakeholders

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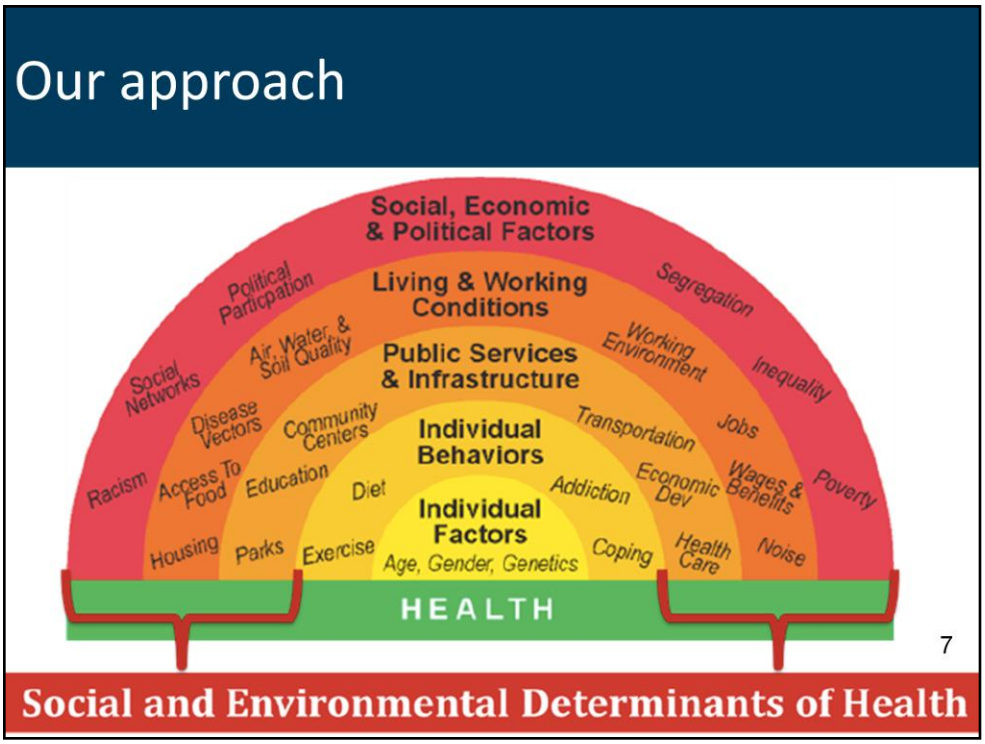
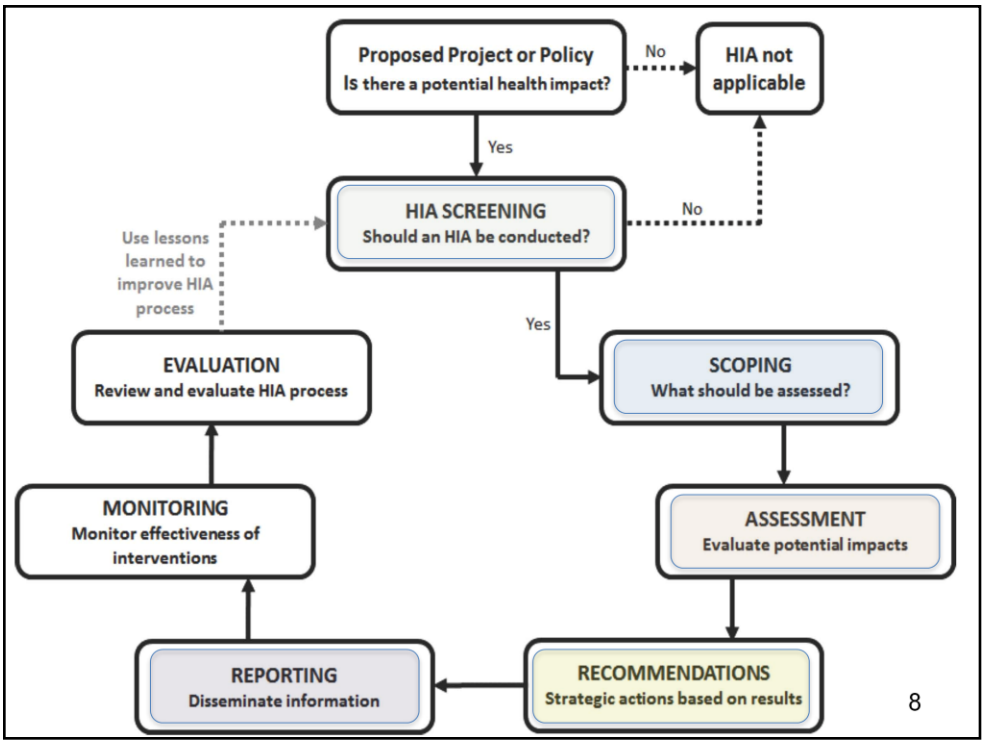
We chose to start our work on answering that question by conducting a Health Impact Assessment. We chose this tool because it looks at a broader array of factors affecting human health than do other types of assessments.



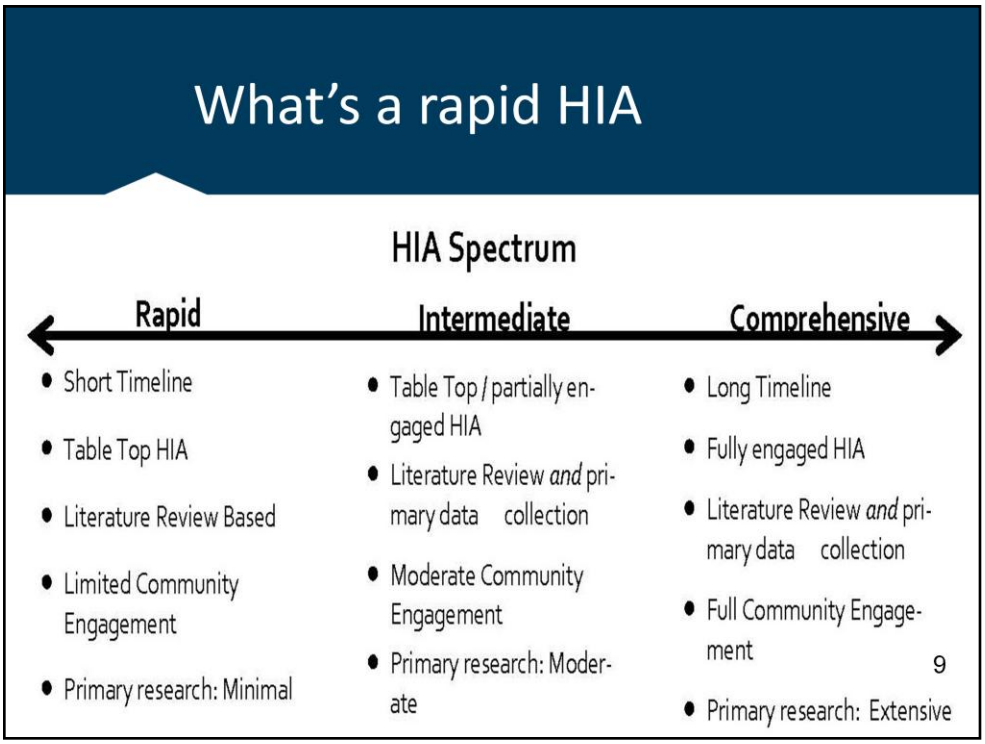
And here are some of those factors or determinants.

The World Health Organization defines health as "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*" (WHO, 1948).



An HIA is a systematic process of 6 steps. Very briefly those steps are:

1. Screening
2. Scoping
3. Assessment
4. Recommendations
5. Reporting
6. Monitoring and Evaluation



In a rapid HIA

- The research guided by key stakeholders.
- Stakeholders included a representative of Marion County, public health experts, advocates in the field of toxics reduction and environmental justice and a representative of Physicians for Social Responsibility.
- The research relies on existing research and data; no new site specific data gathering was undertaken.
- The research relies on reviewing existing literature.
- The consultant was asked to consider 40 separate determinants of health.
- The assessment considered environmental factors, including air quality, greenhouse gas (GHG), soil and water. The assessment also considered limited social and economic factors, including political involvement, potential employment, public safety and employment impacts related to both options.
- The evaluation is not transferable to other regions of the state or individual companies within the Metro region.

Main findings of the HIA

- More energy from WTE
- Fewer miles traveled for WTE
- Inconclusive greenhouse gas modeling results
- Negligible impacts on health risks
- 10 added jobs for WTE and 2 for landfill to process 200,000 tpy

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- 200,000 tons per year could sustain 13 megawatts of electricity generation at a combustion facility vs. 1.3 megawatts at a landfill.
- Vehicle miles traveled are about 50 percent lower for WTE, and thus related emissions and the likelihood of accidents are lower. Although, neither option will significantly change emissions or accidents due to overall high traffic volume on Oregon's highways.
- Greenhouse gas emissions modeling was inconclusive. Two models were used and they produced opposite results; one favoring landfill disposal and one favoring waste-to-energy.
- Both the landfill and waste-to-energy options could be implemented with negligible impacts on health risks from air pollution.
- Expanding the Covanta facility would mean adding 10 employees versus 2 employees for the same 200,000 tons/year being processed at a landfill
- In addition, there are differences in the two options when it comes to other determinants of health, however those are only slight

Landfill v. Waste-to-energy Comparison

Criteria	Landfill	Waste to Energy (WTE)
Power Production	Roughly 60 kWh per ton of waste	Roughly 600 kWh from each ton of waste
Estimated Vehicle Miles Traveled	1,778,000	892,000
Greenhouse Gas (GHG) Emissions (MTCO2e/ton)	-0.08 WARM 0.34 MSW-DST	0.14 WARM -0.005 MSW-DST
Jobs	2 FTE	10 FTE
Estimated Tip Fee	~$25/ton	~$60/ton

Stakeholder feedback

- Regulatory limits ≠ public health
- Heightened concern about air quality monitoring
- Equity and Environmental Justice needs to be more fully addressed
- Conditions that support WTE – lack of land for landfills, expensive power – not present
- No compelling case to do anything differently

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- The stakeholder advisory group consisted of a representative of Marion County, public health experts, toxics prevention advocates, and environmental justice and equity advocates. They said:
    - The HIA primarily relied on literature review, and there are concerns that while waste-to-energy facilities in general and Covanta Marion in particular rarely exceed the established regulatory limits for emissions of different particles, these do not necessarily indicate that the public's health is protected.
    - Until recently, regulatory standards were being re-examined through the Cleaner Air Oregon effort that the Governor launched.
    - Equity and environmental justice will need to be more fully addressed through community engagement.
    - Some stakeholders noted that the conditions that make waste-to-energy more attractive in Europe and parts of the Eastern United States – the lack of available land for landfills, the need for electricity – aren't what we're facing for the Portland area's garbage.
    - Report did not make a compelling environmental or public health case for doing something different than using landfills.

Outcomes:

Are there benefits to sending 200,000 tons per year to WTE that balance the added cost?

- Based on this HIA, staff does not believe that added value has been demonstrated for waste-to-energy.
- The answer from Metro's evaluation of WTE overall may be different than those of other jurisdictions.

Options for moving forward

- Go no further
- More in-depth study of health, environmental and equity impacts
  - Deeper review of public health and environmental impacts
  - Local engagement on jobs, health, other burdens and benefits of facility
- Begin negotiating financial proposals

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Our next step is to bring this to Council for discussion in August. I will walk through this same information with Council, tell them how staff answers the question they posed, and then likely present them with these three options for moving forward.

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