Less Waste, Better Baltimore
Rethinking our waste management future

Community Meetings 3&4

June 4, 2019
Mergenthaler High School

June 15, 2019
Enoch Pratt Library – Southeast Anchor
Introduction to the Consultant Team

- Ross Brindle
- Rachel Lanspa
- Jeremy Morris
- Mark Foster
# Meeting Agenda

## AGENDA

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/4</td>
<td>6:30pm–6:40pm</td>
<td>Opening Session</td>
<td>Welcome and opening remarks, Overview of meeting format and structure</td>
</tr>
<tr>
<td>6/15</td>
<td>10:30am–10:40am</td>
<td>Opening Session</td>
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</tr>
<tr>
<td>6/4</td>
<td>6:40pm–7:15pm</td>
<td>Presentation</td>
<td>Overview of master planning goals and process, Baltimore’s existing solid waste management and recycling system, Review progress and findings to date, Outline path forward</td>
</tr>
<tr>
<td>6/15</td>
<td>10:40am–11:15am</td>
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</tr>
<tr>
<td>6/4</td>
<td>7:15pm–8:00pm</td>
<td>Questions and Comments</td>
<td>Floor will be open to the public</td>
</tr>
<tr>
<td>6/15</td>
<td>11:15am–12:00pm</td>
<td>Questions and Comments</td>
<td>Floor will be open to the public</td>
</tr>
<tr>
<td>6/4</td>
<td>8:00pm</td>
<td>Closing</td>
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</tr>
</tbody>
</table>
Welcome and Opening Remarks

Less Waste, Better Baltimore
Rethinking our waste management future

publicworks.baltimorecity.gov/lesswaste
Baltimore City is currently conducting a Master Planning effort to identify options for improving solid waste diversion, recycling, and disposal

- We have conducted research and gathered input from local residents, businesses, community groups, and other stakeholders, which we have analyzed and compiled into initial findings
- The main goal of this community meeting is to review findings and answer questions
Stakeholders Invited to Participate

- Anchor Institutions
- Businesses
- Community organizers/leaders
- Economic development partnerships
- Elected officials
- Environmental protection groups

- Residents
- Other City agencies/partnerships
- Port Authority
- Schools
- Students
- Waste management companies
About the Project – Fast Facts

Landfill
The City-owned Quarantine Road Landfill—the only solid waste landfill in Baltimore City—is rapidly reaching its permitted capacity, with approximately seven years remaining at the current rate of disposal.

Waste-to-energy
The privately-owned Baltimore Refuse Energy Systems Co. (BRESCO) waste-to-energy (WTE) plant, where the majority of the City’s waste is currently handled, is aging and may not be a viable long-term option.

Recycling
While the City does provide a variety of recycling options, the City’s recycling rates are among the lowest in Maryland.
About the Project – Fast Facts

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Recycling
While the City does provide a variety of recycling options, the City’s recycling rates are among the lowest in Maryland.

Focus of this Stage of the Project
The Less Waste, Better Baltimore Project

A master planning effort to identify programs that will be implemented by the Department of Public Works to:

• Reduce the amount of materials generated
• Maximize materials diversion, reuse, and recycling
• Identify the best options for disposing of what’s left
Process for Plan Development and Execution

Step 1: Information Gathering Activities
- Winter Waste Sort
- 2x Community Meetings
- Online Survey/Email Feedback
- Review of Baltimore’s Existing System
- Benchmarking Against Other Cities
- Summer Waste Sort

Step 2: Analysis
- Review Options for Improving Waste Diversion
- Assess Potential Impact on Waste Diversion Rate
- Calculate What's Left
Total Waste Generation and Recycling

Used to Calculate the City’s Published MRA Recycling Rate of 24%

Notes:
1. All tonnages and the waste breakdown for MRA recyclables are from the 2017 MDE MRA Report.
2. The waste breakdown for non-MRA recyclables is from the 2017 Baltimore City MRA Report.
On this basis, the City’s Total Recycling Rate is 39%.
Total Waste Generation and Recycling

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash</td>
<td>1,005,500 tons</td>
</tr>
<tr>
<td>Recycle</td>
<td>603,400 tons</td>
</tr>
<tr>
<td>Organics</td>
<td>32,900 tons</td>
</tr>
<tr>
<td>Trash</td>
<td>524,700 tons</td>
</tr>
<tr>
<td>Recycle</td>
<td>513,600 tons</td>
</tr>
<tr>
<td>Organics</td>
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</tr>
<tr>
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<td>Recycle</td>
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<tr>
<td>Trash</td>
<td>480,800 tons</td>
</tr>
<tr>
<td>Recycle</td>
<td>513,600 tons</td>
</tr>
</tbody>
</table>

- Recycle: 513,600 tons
- Trash: 480,800 tons
- Organics: 32,900 tons
Goals of this Analysis

Recycle 603,400 tons

Trash 1,005,500 tons

Organics 32,900 tons

Reduce waste generation

Push materials from the trash bar to the recycling and composting bars
Options for Increasing Waste Diversion

How do we go about analyzing the City’s waste flows in order to understand how to reduce waste generation and divert more material from disposal?

→ Understand waste flows and materials

→ Look at what options are available and would be supported by residents and other stakeholders

→ Objectively assess different options in terms of expected performance
Options for Increasing Waste Diversion

How do we go about analyzing the City’s waste flows in order to understand how to reduce waste generation and divert more material from disposal?

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Winter Waste Sort – Residential Trash

Sample Classifications

Samples were divided into 11 classification categories.

- Food Scraps
- Mixed Paper
- Cardboard
- Glass
- Aluminum
- Mixed Plastics
- Plastic No. 1
- Plastic No. 2
- Ferrous Metal
- Yard Waste and Clean Wood
- Unclassified (Other)

Unclassified materials are those that do not fit in one of the previous 10 categories, are made up of composite materials, or are unidentifiable. Diapers are a good example.

Composition

- Food Scraps (25.5%)
- Mixed Plastics (17.5%)
- Plastic No. 2 (2.3%)
- Plastic No. 1 (2.0%)
- Cardboard (8.6%)
- Mixed Paper (6.1%)
- Yard Waste and Clean Wood (6.9%)
- Unclassified (23.1%)
- Aluminum (1.7%)
- Ferrous Metals (2.5%)
- Glass (3.7%)
Winter Waste Sort – Small Hauler Loads

- Bricks/Rubble/Concrete/Plaster (31.4%)
- Furniture and Bulky Items (15.4%)
- Mattresses (0.5%)
- Carpet and Insulation (0.3%)
- Wood (12.8%)
- Wall Board (9.2%)
- Soil (2.1%)
- Trash* (23.9%)
- Scrap Metal (3.7%)
- Paper and Cardboard (0.4%)

* unidentifiable materials were counted as trash
## Estimated Quantities of Materials (2017)

<table>
<thead>
<tr>
<th>Category</th>
<th>Residential Waste (tons)</th>
<th>Commercial Waste (tons)</th>
<th>Total (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Disposal</td>
<td>319,500</td>
<td>505,100</td>
<td>824,600</td>
</tr>
<tr>
<td>Food and Other Compostables</td>
<td>99,400</td>
<td>73,500</td>
<td>172,900</td>
</tr>
<tr>
<td>Cardboard and Paper</td>
<td>45,400</td>
<td>29,400</td>
<td>74,800</td>
</tr>
<tr>
<td>“Easy-to-Recycle” Plastics</td>
<td>13,200</td>
<td>8,900</td>
<td>22,100</td>
</tr>
<tr>
<td>“Hard-to-Recycle” Mixed Plastics</td>
<td>53,600</td>
<td>36,200</td>
<td>89,800</td>
</tr>
<tr>
<td>Other Traditional Recyclables</td>
<td>24,700</td>
<td>19,100</td>
<td>43,800</td>
</tr>
<tr>
<td>Mixed C&amp;D Waste</td>
<td>4,300</td>
<td>255,300</td>
<td>259,600</td>
</tr>
<tr>
<td>Wood</td>
<td>1,700</td>
<td>21,300</td>
<td>23,000</td>
</tr>
<tr>
<td>Bulky Waste, Mattresses, Carpets</td>
<td>2,100</td>
<td>2,200</td>
<td>4,300</td>
</tr>
</tbody>
</table>
Options for Increasing Waste Diversion

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Public Input

Less Waste, Better Baltimore
Rethinking our waste management future

Survey Results
April 18, 2019

Prepared for
Prepared by

Geosyntec
consultants
NEXTIGHT GROUP

Overview of Survey Respondents
2,004 total responses
1,724 completed surveys

Geographic distribution of responses (by zip code)

Age
35% 18-35
30% 36-50
21% 51-65
13% >65
<1%

Household size
65% 1-2 people
34% 3-5 people
1% >5 people

Highest response rate
Lowest response rate
<table>
<thead>
<tr>
<th>Service</th>
<th>Very Satisfied</th>
<th>Dissatisfied</th>
<th>Neutral</th>
<th>Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curbside recycling services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curbside trash services</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Locations of drop-off centers</td>
<td></td>
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<tr>
<td>Materials accepted at drop-off centers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DPW-sponsored neighborhood clean-up days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Household hazardous waste/Battery recycling/disposal services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bulky item pick-up services</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Used tire disposal/recycling services</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Appliance/Scrap Metal recycling services</td>
<td></td>
<td></td>
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<tr>
<td>Disposal/Recycling provided in City parks, public areas, or for special events</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Electronics recycling services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DPW-sponsored cleanup of illegal dumping</td>
<td></td>
<td></td>
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<tr>
<td>DPW-sponsored litter removal services (e.g. Street Sweepers)</td>
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</tbody>
</table>
Public Input

66% of people surveyed have put something in the recycling bin they weren’t sure was recyclable

83% of people surveyed rinse and clean off recyclables before putting them in the bin

Reasons why people don’t divert more waste:

- Difficulty accessing composting and recycling services for certain materials (e.g., plastic bags, styrofoam)
- Uncertainty about what can be recycled (e.g., what types of plastic and food packaging is recyclable)
- Difficulty finding food that isn’t heavily packaged and limited recyclability of food packaging
- Food contamination on recyclable materials
- Bins are too small and not accessible to everyone
- Unreliable/infrequent collection services
## Public Input

### Support for Potential Policies and Approaches

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
<th>Support</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>96%</strong></td>
<td>Of people surveyed agree or strongly agree that they support policies that lead to improved waste reduction, recycling and reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>86%</strong></td>
<td>Of people surveyed agree or strongly agree that they support policies that ban single-use plastics or other manufacturer/retailer responsibility laws</td>
<td></td>
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</tr>
</tbody>
</table>

#### The City should:

- Provide literature that focuses more on waste reduction and reuse: **73%** agree or strongly agree
- Increase access to curbside recycling (e.g., provide recycling bins/carts to every single-family homes, provide multi-unit buildings with assistance in implementing recycling): **84%** agree or strongly agree
- Encourage reduced waste from construction and demolition: **90%** agree or strongly agree
- Provide more alternatives to waste disposal like curbside collection of organics for composting, even if these alternatives cost residents more: **66%** agree or strongly agree
Benchmarking – Learning from Other Cities

- Portland OR
- Austin TX
- Charleston SC
- Charlotte NC
- Boston MA
# Benchmarking – Learning from Other Cities

<table>
<thead>
<tr>
<th>Materials with Disposal or Usage Regulations</th>
<th>Baltimore</th>
<th>Austin</th>
<th>Boston</th>
<th>Charleston</th>
<th>Charlotte</th>
<th>Portland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Use Bags</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Single-Use Plastics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Polystyrene</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Construction and Demolition Debris</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yard Waste</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>General Recyclables – plastics, paper, cardboard, glass, metal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appliances, Electronics, Batteries, Other Special Waste</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottle Redemption Program</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>Zero Waste Target Year</td>
<td>2050</td>
<td>2050</td>
<td></td>
<td>2040</td>
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</tr>
</tbody>
</table>
Baltimore City’s Strategic Plans

**The 2019 Baltimore Sustainability Plan**

- Zero waste aspirations
- Increase recycling
- Reduce litter
- Legislative and policy changes
- Waste-to-Wealth Initiative
  - Food waste
  - C&D waste
  - Wood

**Goals for 2040**

- 50% food waste reduction
- 80-90% diversion of food waste from disposal to composting and digestion

15% reduction in greenhouse gas emissions below 2010 levels by 2020
Options for Increasing Waste Diversion

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Methodology for Assessment

Waste Diversion Potential:
- Total tonnage
- Materials
- Interaction with Other Options

Costs:
- Capital
- Operation and Maintenance
- Labor

Timeline:
- Short – Medium – Long Term
- Time Lag before Seeing Benefits

Benefits:
- Social/Environmental
- Greenhouse Gas Emissions
- Job Creation
- Revenue/Cost Offsets

Challenges to Implementation:
- Permits
- Infrastructure and Land Required
- Training

Experience:
- DPW’s Experience
- Local Private Sector Experience
- Other Jurisdictions
1. Waste Reduction and Reuse

- Requires significant political action and behavioral changes by consumers, manufacturers, businesses (e.g., restaurants, stores), and online vendors.
- Major goal of the Sustainability Plan and Food Waste Reduction Strategy.

Examples of potential strategies may include:

- Reducing Food Wastage
- Fix-It/Repair Clinics
- Materials/Resource Sharing
2. Waste/Recycling Collection

- Need to address immediate concerns (litter, cleanup of illegal dumping) as well as longer-term aspirations for improved waste collection and recycling services
- Major goal of the Sustainability Plan

Examples of potential strategies may include:

- Increased Access to Recycling
- Expanded Recycling in Public Spaces/Special Events
- Pay-as-you-Throw (Save-as-you-Recycle)
3. Diversion of Food Scraps and Other Organics

- Compliments food waste reduction measures
- Requires infrastructure and systems for separate collection of organics and processing (composting or anaerobic digestion)
- Major goal of the Sustainability Plan and Food Waste Reduction Strategy

Examples of potential strategies may include:

- Encourage Backyard and Community Composting
- Separate Curbside Collection
- Develop New Processing Capacity
4. Diversion of C&D Materials and Wood Waste

- 90% support among survey responders
- Major goal of the Sustainability Plan
- Policies/incentives needed to encourage “deconstruction” over “demolishing”

Examples of potential strategies may include:

- Existing Facilities in Baltimore City
- Camp Small Wood Recycling Yard
- Develop New State-of-the-Art Recycling Facility
5. Bulk Trash Management and Recovery Parks

- Additional opportunities for curbside bulk trash collection and/or large accessible recycling center
- Efforts to expand reuse/recycling options for bulk trash are highly visible and effective means of promoting recycling in general

Examples of potential strategies may include:

Existing Facilities in Baltimore City

Resource Recovery Parks (Eco-Parks)

Drop-Off Depots
6. Expanded Options for Recycling

- Expansion both in terms of better services as well as wider range of materials
- Focus on overcoming barriers to participation
- Increase private sector participation and collaboration

Examples of potential strategies may include:

- Mobile Drop-Off Facility
- Expanded Range of Materials Accepted
- CHaRM (Center for Hard-to-Recycle Materials)
“Soft Infrastructure” Options

• Examples may include:
  • Changes in City policies, regulations, and funding mechanisms for waste management and recycling services, including financial incentives and taxes
  • Operational and administrative changes, including improvements in the City’s 311 service
  • Education and enforcement measures
Thank you

• End of Presentation Portion of Meeting
GOAL: Active sharing of ideas through transparent process

- Be respectful and listen to others
- Be collaborative – feed off others’ ideas
- Stay focused and on topic
- Be concise
Thank you for your time and contributions!

Meetings 3 & 4: Complete

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday June 4, 2019</td>
<td>6:30pm–8:00pm</td>
<td>Mergenthaler High School  3500 Hillen Road Baltimore, MD 21218</td>
</tr>
<tr>
<td>Saturday June 15, 2019</td>
<td>10:30am-12:00pm</td>
<td>Enoch Pratt Library Southeast Anchor 3601 Eastern Ave Baltimore, MD 21224</td>
</tr>
</tbody>
</table>

+ One additional meeting later in the year (TBD) to present to Draft Master Plan

Other ways to stay up-to-date:
• LWBB website: publicworks.baltimorecity.gov/lesswaste
• Email us: lesswaste@baltimorecity.gov