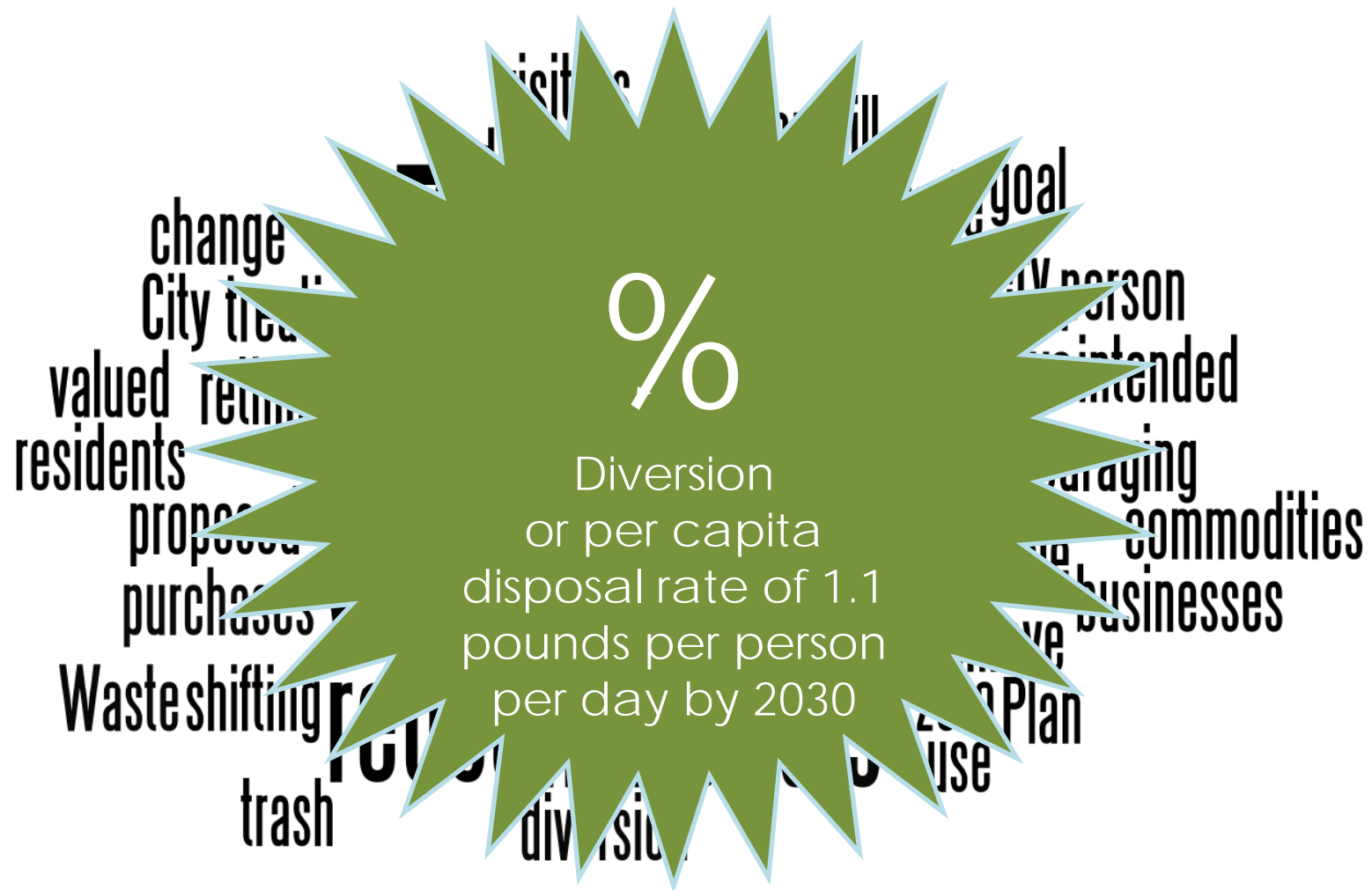


From 77% to 95% by 2030

City of Santa Monica's

**Road to Zero Waste**

# What is Zero Waste?



# What does the Zero Waste Strategic Plan entail?

- Review and summary of current policies, programs, facilities, and rate structure.

- Review and compilation of current waste management programs and facilities.

- Conduct a cost-benefit analysis of current waste management programs.

- Identify and evaluate potential diversion programs.

- Conduct a cost-benefit analysis of potential diversion programs.

- Assess the program cost and structure impact.

Potential  
Diversion  
Programs

Costs &  
Effects on  
Rate  
Structure

Greenhouse  
Gas  
Emissions

- Healthy Communities
- Waste Reduction
- Education & Outreach
- New Technologies
- Municipal Management
- Producer Responsibility
- Economic & Social Benefits
- Local Market Development
- City Leads by Example
- Regional Partnerships

## ZERO WASTE SANTA MONICA

### WASTE REDUCTION

*Reduce. Reuse. Recycle. Recover.*

The City has adopted an environmental hierarchy for 'highest and best use' of discarded materials. It will follow this hierarchy by prioritizing waste prevention and reduction, then encouraging reuse prior to treatment through recycling and composting. The City will recover energy and economic value from residual materials that cannot be recycled or composted.

## 95% waste diversion by 2030

The diagram is a pyramid divided into four horizontal sections. From top to bottom, the sections are labeled: 'Reuse', 'Recycling', 'Composting', and 'Highest & Best Use'. To the right of the pyramid, the text 'Manage Discard' is partially visible.

## ZERO WASTE SANTA MONICA

### EDUCATION & OUTREACH

*Cultural Change*

Santa Monica recognizes the power of community-based social marketing, social networks, community organizing and grassroots support for its education and outreach programs. The City will empower the community by providing tools and techniques for transforming the culture to achieve zero waste.

*Increase zero waste awareness at work, school and play.*

Interactive Workshops

Webinars

Free Assessments

Social Media

Web-Based Toolkits

Twitter

Container Labels

## ZEROWASTE SANTA MONICA

### Healthy Communities Come First

Santa Monica is committed to protecting, preserving, and restoring the natural environment and safeguarding the health of all members of the community. All program and policy decisions related to achieving our zero waste goals will be developed based on these commitments.

work

relax

play

## ZERO WASTE SANTA MONICA

### NEW TECHNOLOGIES

#### Collection Systems & Infrastructure

The City recognizes current approaches to managing materials are inadequate to maximize diversion from disposal. The City will closely monitor new developments and will invest in pilot programs and facilities for achieving zero waste.

Materials Recovery Facilities

Waste To Energy

Trucks

Routing

Containers

Computers

## New Program Development

# Goal Areas, Indicators & Targets

- Waste Reduction
- Environmental Benefits
- Economic Benefits
- City Leadership
- Producer Responsibility
- Zero Waste Culture Change



# Waste Reduction

## Indicator

## Target



☐ Total Citywide generation

☐ 80% diversion by 2015

☐ Amount landfilled

☐ 95% diversion by 2030

☐ Amount diverted

☐ Per capita disposal rate of less than 3.6 pounds/person/day by 2022

Estimated 92% diversion from the implementation of policies, programs and facilities. 95% diversion reached with the processing of residual waste.



# Existing Waste Generation, Diversion & Disposal

77%  
diverted

## City's 2011 Disposed Waste

Source	Tons
SF Residential	6,976
MF Residential	20,692
Commercial	39,931
Self-Haul (City controlled)	7,494
Self-Haul (Not City controlled)	7,905
<b>Total</b>	<b>82,997</b>

## Waste Generation per State

Generation	Per Capita Disposal
<b>360,000 tons</b>	5.0 pounds per person/ day

## Overall 2011 Diversion

Disposal	Diversion	Total
82,997 tons	<b>275,355 tons</b>	358,351 tons

# Programming – Multiple Phases

Short Term  
2013-2015

- Single Family Food Scraps Collection (Over 47% of SF Waste Stream)
- Behavior Change Marketing
- Multi-family Bulky Item Collection Program

Medium Term  
2016-2022

- Weekly Organics And Recycling Collection
- Bi-Weekly Refuse Collection
- Multi-family Food Scraps Collection (Over 43% of MF Waste Stream)

Long Term  
2023-2030

- Residuals Processing
- Wet/Dry Collection
- Expansion of Mandatory Recycling



# Program Options - Diversion Estimates

	Estimated Diversion Increase (tons)						Total Diversion Rate Increase (%)	Residual Processing Diversion (tons)	Total Diversion Increase with Residual Processing (tons)	Diversion Rate Increase with Residual Processing (%)
	Short Term (2013-2015)	Short to Medium Term (2013-2020)	Medium Term (2021-2025)	Medium to Long Term (2021-2030)	Long Term (2026-2030)	Total Diversion Increase (2013-2030)				
<b>SF Residential</b>	1,819	1,249	130	926	736	4,860	1.3%	1,248	6,107	1.7%
<b>MF Residential</b>	4,032	4,686	1,244	3,098	1,970	15,031	4.1%	3,377	18,408	5.0%
<b>Commercial</b>	5,410	5,090	4,669	6,168	10,490	31,826	8.7%	4,919	36,745	10.0%
<b>Self-Haul</b>	0	2,543	0	0	1,711	4,254	1.2%	0	4,254	1.2%
<b>C&amp;D</b>	0	0	0	0	976	976	0.3%	0	976	0.3%
<b>Diversion (tons)</b>	11,261	13,568	6,043	10,192	15,883	56,946		9,543	66,490	
<b>Diversion (%)</b>	3.1%	3.7%	1.6%	2.8%	4.3%		15.6%			18.2%

# Potential Collection Program Changes

*Medium term*

## Weekly Organics & Recycling Bi-Weekly Refuse

- Benefits
  - Reduced Operations Costs
  - Fewer Collection Truck Trips
    - Reduced Vehicle Air, Noise and GHG Emissions
  - Increased Efficiency in labor time and maintenance
- Phased In
  - Single Family
  - Multi-Family

*long term*

## Wet/Dry Collection/Processing

- Wet – Processed via anaerobic digestion or composting
  - Yard Trimmings
  - Food Scraps
  - Soiled Paper
- Dry – Reused or Recycled
  - Paper
  - Glass
  - Etc.

**Increase diversion by:**  
**6% Commercial**  
**8% Residential**



# More Programs

- Required commercial and residential food scraps/organics collection
- Bulky Item Collection; Move-in/Move-out Program
  - City to collaborate with reuse entities (thrift stores, repair shops, non-profits).
- Expanded Mandatory Commercial Recycling – AB341
- Required New Material Recycling
  - Collection programs for mattresses, carpet, textiles

**COMMUNITY  
SHARED  
RECYCLING  
CONTAINER**

Resource Recovery & Recycling Division  
www.smgov.net/r3 (310) 458-2223



**How do you stuff a sofa into a trash can?  
YOU DON'T.**



City of Santa Monica  
**BULKY ITEM  
PICK UP**  
**310-458-2223**  
Call for an estimate!



# Policy & Facility Options



## Mandatory Requirements - Bans

- Disposal Bans
  - Plastic Water Bottles
  - Yard Trimmings
  - C&D
  - Single-use Carry-Out Bags
  - Disposable Container Ordinance
- C&D Ordinances
  - Increase recycling requirement from 70% to 95% by 2030
- Diversion Rate Minimums for all sectors including hotels.

## Facilities

- Regional Resource Recovery Centers (RRCs)
  - Drop off centers for hard to recycle items
    - Mattresses
    - Textiles
    - Reusable building materials
  - Buyback Options
- Alternative Technology Facilities
  - Thermal & Biological Processes
    - Anaerobic Digestion
    - Gasification
    - Pyrolysis

# Upstream/Downstream Diversion Influences



## Upstream

- Extended Producer Responsibility
- Packaging Legislation
- Behavior Change Marketing

**Upstream** – Policies and programs to support re-design strategies to reduce the volume and toxicity of discarded products and materials, and promote low-impact or reduced consumption lifestyles.

## Downstream

- Expanded Blue Cart Acceptable Items
- Multifamily Outreach
- Self-haul Waste Origin Reporting
- Regional Collaboration
- Environmental Directory
- Rewards Program –Resident Recognition
- Centralized Garage Sales
- Business/Restaurant Food Donation
- HHW Collection at public events

**Downstream** – Policies and programs to address reuse, recycling and composting of end-of-life products and materials to ensure their highest and best use.

# Environmental Benefits

## Indicator



☐ Greenhouse gas emissions reduction through waste reduction & recycling

☐ Conversion of fleet to clean fuels

## Target



☐ 50% contribution to GHG reduction by 2022

☐ 100% of all City RRR fleet vehicles to clean fuels by 2030



# Economic Benefits

## Indicator



- ☐ Creation of new jobs
- ☐ Local Market Development

## Target



- ☐ 20% increase in local jobs from waste prevention and recycling
- ☐ 3 new local partnerships by 2015
- ☐ 5 new partnerships by 2022

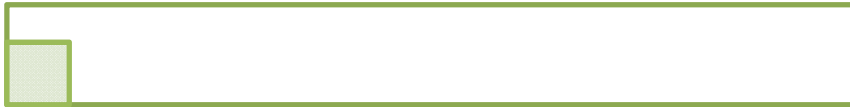




# City Leadership

## Indicator

## Target



☐ Zero waste at City offices and facilities

☐ Recycling and composting at all City facilities by 2015



☐ 80% diversion rate at City facilities by 2015



☐ 95% diversion rate at City facilities by 2030





# Producer Responsibility

## Indicator



- ☐ Producer responsibility for problem products (advocacy at state level or implementation of City ordinances)



## Target



- ☐ State legislation or City ordinance to address pharmaceuticals, sharps, batteries, fluorescent bulbs by 2022
- ☐ State legislation to address packing of products and additional disposal fees for packaging materials.

# Zero Waste Culture Change

## Indicator



☐ Customer participation and reduced contamination

☐ Zero waste awareness at home, at work, at school, at play

## Target



☐ 80% participation in City programs by 2015

☐ 90% participation in City programs by 2022

☐ 100% participation in City programs by 2030

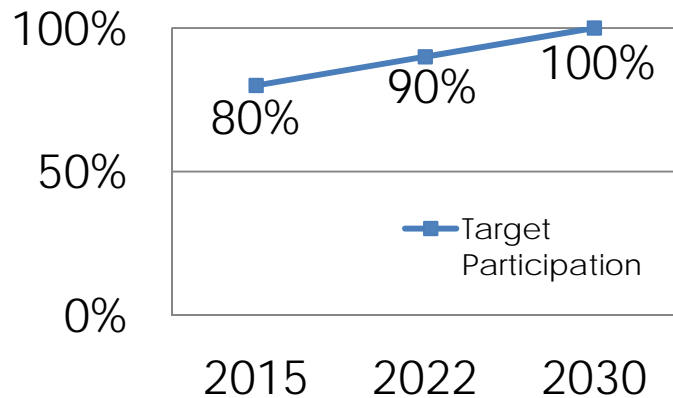
☐ Contamination reduced to 2% by 2015

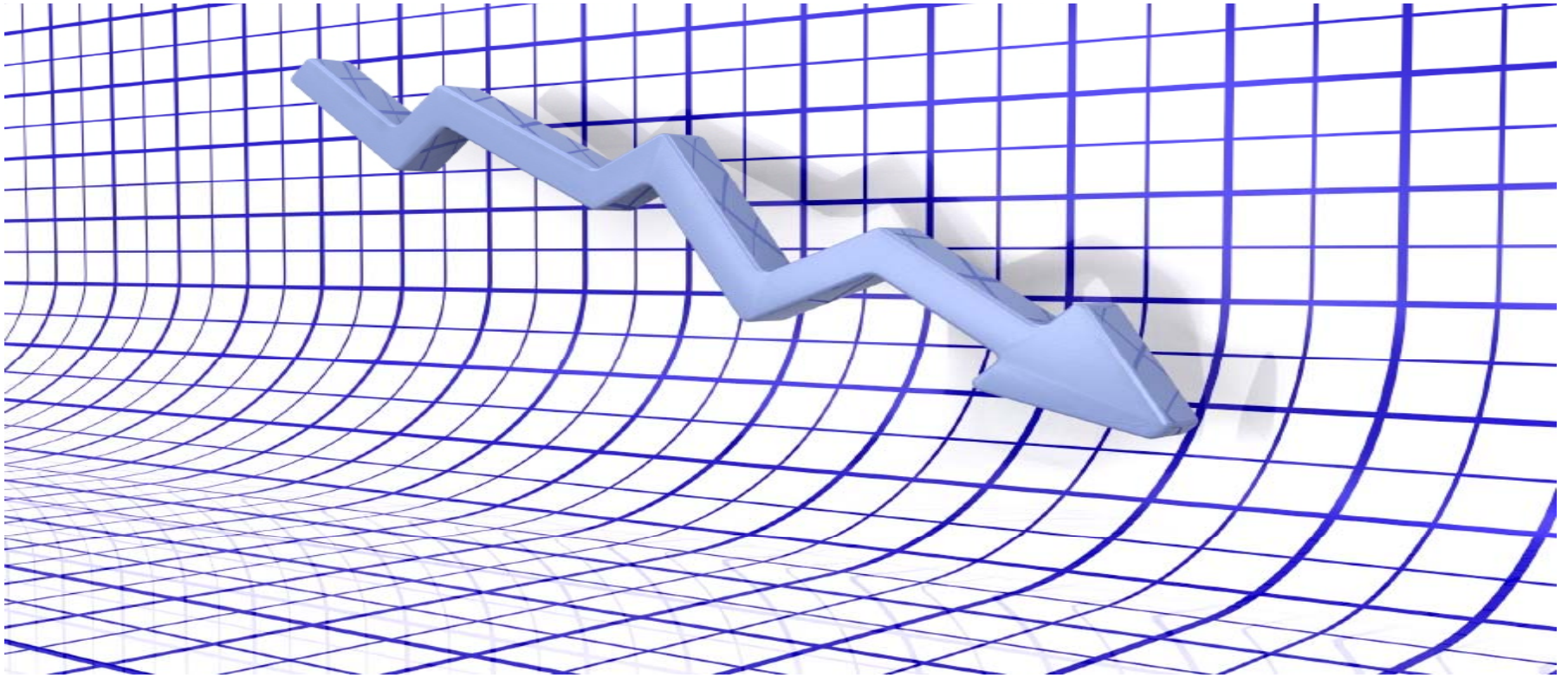
☐ Contamination reduced to 1% by 2022

☐ 80% of residents and businesses aware of Zero Waste by 2015

☐ 90% of residents and businesses aware of Zero Waste by 2022

**Target Population Participation**





Program Costs and Rate Impacts

# FINANCIAL & COST ANALYSIS

The analysis considers two quantitative factors:

- Diversion potential (measured by tons per year); and,
- Cost effectiveness (measured by the cost per diverted ton).

# Financial & Cost Analysis

## Residential Programs

Program	Phase	Incremental Annual Cost/(Savings) – Median of Estimated
Food Scraps Collection	Short	\$111,550
Behavior Change Marketing	Short	\$44,500
Weekly Organics and Recyclables; Bi-Weekly Refuse Collection	Short-Med	(\$147,536)
Wet/Dry Collection	Med-Long	(\$273,878)
Residual Processing	Long	\$11,963

# Financial & Cost Analysis

## Multi-Family Programs

Program	Phase	Incremental Annual Cost/(Savings) – Median of Estimated
Behavior Change Marketing	Short	\$293,677
Bulky Item Collection; Move-In/Move-Out Program	Short-Med	\$195,689
Weekly Organics and Recyclables; Bi-Weekly Refuse Collection	Short-Med	\$(215,454)
Food Scraps Collection – Cart Customers	Medium	\$48,756
Food Scraps Collection – Bin Customers	Medium	\$215,469
Wet/Dry Collection	Med-Long	\$(88,098)
Residuals Processing	Long	\$32,383

# Financial & Cost Analysis

## Commercial Programs

Program	Phase	Incremental Annual Cost/(Savings) – Median of Estimated
Behavior Change Marketing	Short	\$ (27,098)
Food Scraps Collection	Medium	\$536,112
Wet/Dry Collection	Med-Long	\$(197,908)
Expansion of Mandatory Commercial Recycling	Long	\$285,013
Residuals Processing	Long	\$46,863



# Program Implementation Rate Impact 2012-2030

	Single Family		Multi-family		Commercial	
<u>Program</u>	<u>phase</u>	<u>rate chg.</u>	<u>phase</u>	<u>rate chg.</u>	<u>phase</u>	<u>rate chg.</u>
Food Collection - carts	short	3.8%	medium	1.7%		
Behavior Change	short	1.5%	short	3.9%	short	(0.8)%
Bulky Move In-Out			short - med	2.6%		
Weekly Organics/Recycling & Bi-Weekly Refuse Service	short - med	(0.5)%	short - med	(7.3)%		
Food Collection - bins			medium	2.5%	medium	6.1%
Wet/ Dry Collection	med - long	(9.3)%	med - long	(1.2)%	med - long	(2.3)%
Mandatory Recycling					long	3.3%
Residual Processing	long	0.4%	long	0.4%	long	0.5%
<b>Total Rate Impact 2012-2030 Carts</b>		<b>(4.5)%</b>		<b>(0.3)%</b>		
<b>Total Rate Impact 2012-2030 Bins</b>				<b>(0.5)%</b>		<b>6.8%</b>

# Rate Setting

## SF Fees

- **Integrated Waste Management Fee**
- Based on all commodities (waste, recycling & organics)
- Incentivize customers to increase recycling and reduce disposal
- Potential reduction in collection costs
- Anticipated fee structure would result in 4% increase in diversion for the single-family sector

## Commercial Refuse Rate

- Commercial customer rates would be modified to reflect a uniform “per cubic yard” rate for the whole range of bin or container sizes and collection frequency offered to customers.
- The amount of the cubic yard (unit) rate would be established to ensure that sufficient revenues are generated to cover the City’s costs.

## Recycling Rate Commercial & Multi Family

- A recycling rate would be established under this fee structure, as measured by the full service costs for recycling materials. Based upon the quantity of recycling, this rate could be less than the refuse rate.



The “Road to Zero Waste” is our reality.

Thank you.



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