

Recycling Is Not Broken: Facts vs. Fiction

THINK GREEN.®

**Northeastern Recycling Council
April 12, 2016**



WM Recycling Services



88%

Increase in amount
of recyclables managed
since 2007



14 M

Tons of recyclables
extracted from the waste
stream



100

Materials recovery
facilities owned/operated
by
Waste Management
(12/2015)

WM has invested over \$1 billion in recycling infrastructure

Overview

Recycling services reflect our customers' needs. Recycling revenue has grown to become WMs second largest revenue source. There is a lot of attention on recycling at WM.

- We've seen a large-scale shift to single stream collection
- The changing waste stream, combined with constricting markets requires a new emphasis on material quality.
- Roughly 70% of our MRF feedstock comes are from residential collection contracts. Contract language varies greatly.
- Municipal contracts are evolving as recycling becomes less of a commodity.

Strategies for long term success

Operational efficiencies

- Identify underperforming facilities/contracts.
- Worked with MRFs to identify problem materials
- Strategic capital investment (contracts, clear benefit)

Public Education Efforts to improve inbound quality

- Developed Recycle Often. Recycling Right.
- Municipal contamination efforts - Chicago & Elgin (ILL), Antelope Valley (CA) and Springfield, MA

Changing the Business Model

- Contract language
- Linking changing waste stream, contamination, markets to contract terms

Collaboration

- Partnering with other organizations. We can't do it alone!

Collection - most expensive component

Curbside collection

- ✓ Collection costs make up over 60% of the integrated cost of MSW/recycling programs.
- ✓ Collection costs for glass (curbside) collection are \$100-150/ton.

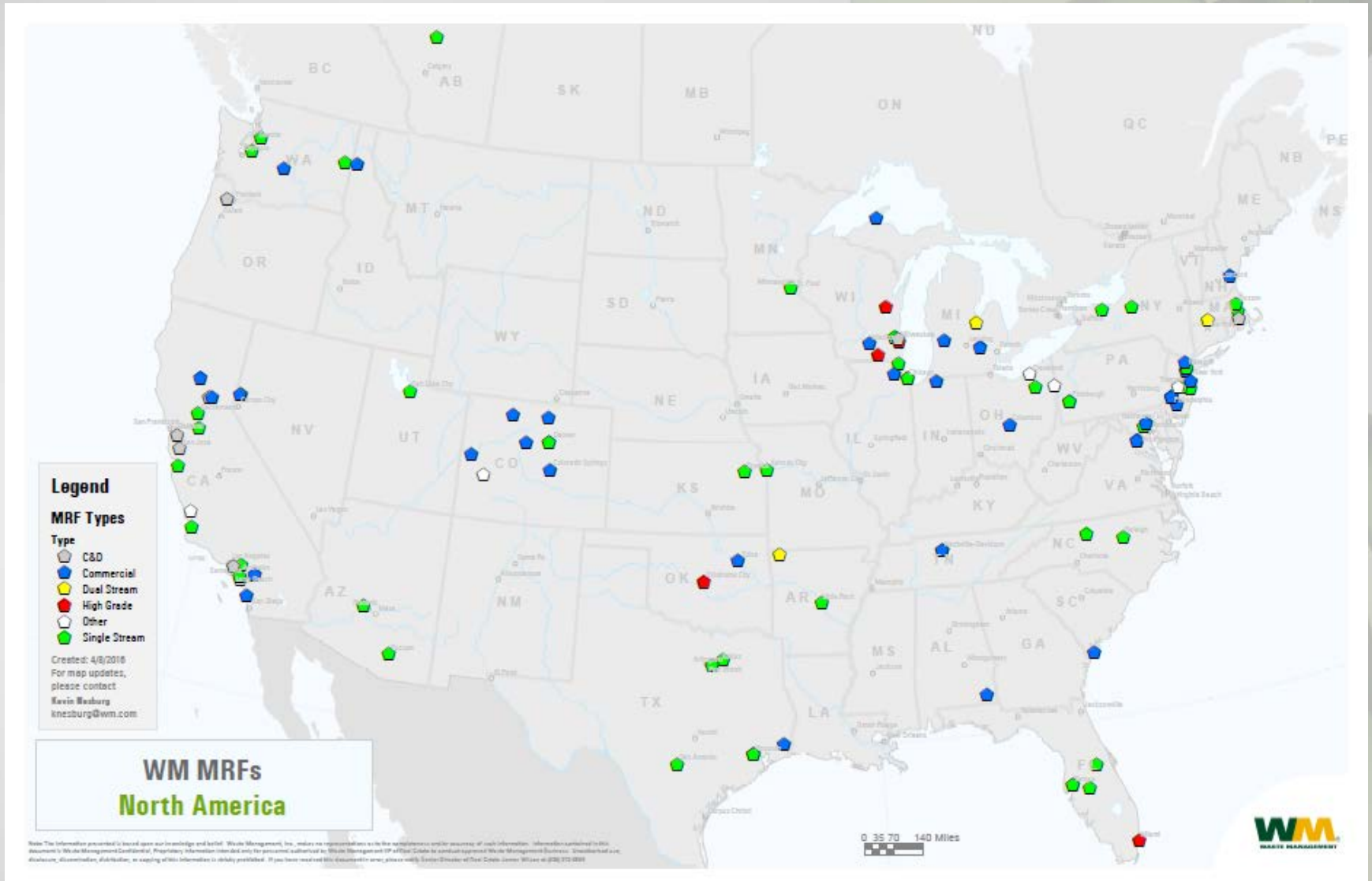
What costs goes into collection

- ✓ Trucks, equipment
- ✓ Employees
- ✓ Insurance, Workers Comp
- ✓ Fuel
- ✓ Maintenance
- ✓ Possible tip fee



Single stream recycling increases recycling volume while reducing overall cost

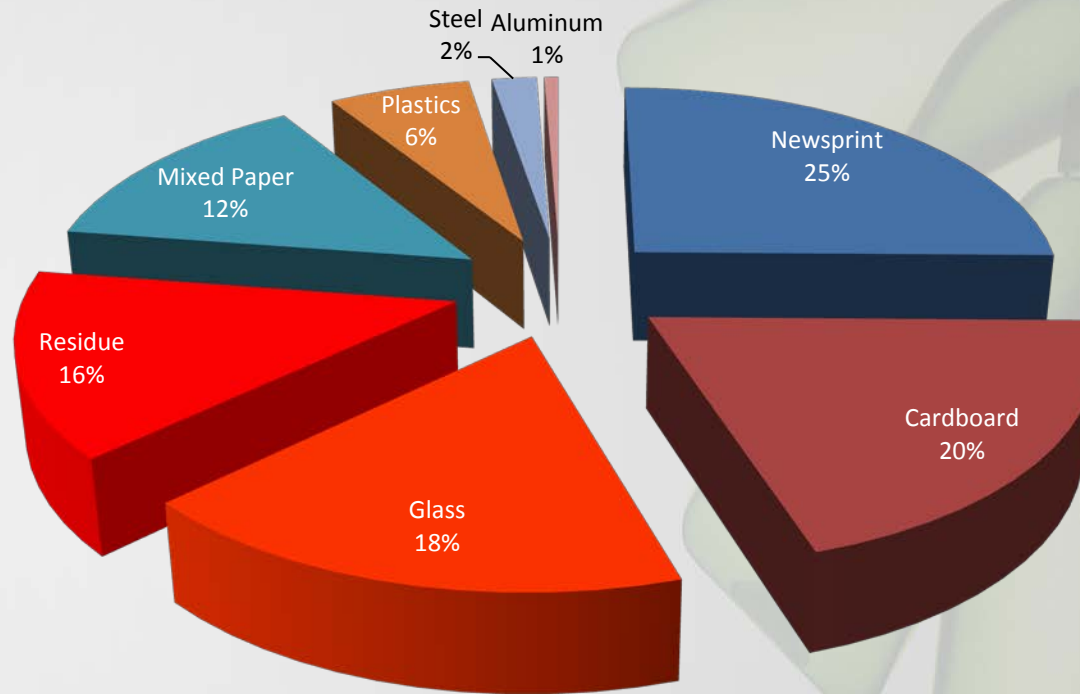
Optimize MRFs - close/sell underperformers



WM has 30 fewer MRFs (21%) in 2016

SS Inbound Materials – Stream is changing

Inbound SS Composition



- Fiber represents 60% of the inbound stream
- Residue is 16-19% of the inbound stream
- Glass makes up 18% of the material processed at our MRFs.
- **34% Inbound material has negative value - Glass/Residue**

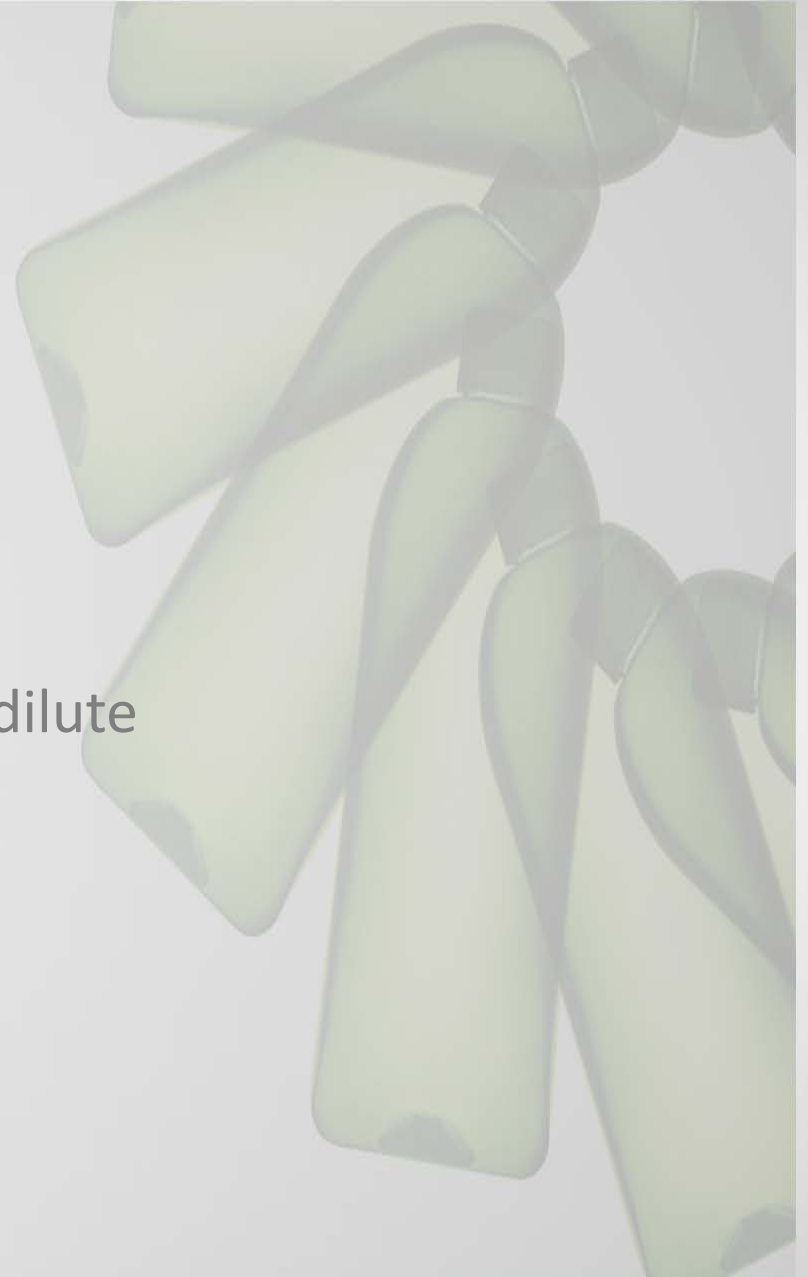
Reducing the 34%

Glass (18%):

- Reviewing processing equipment
- Alternative collection
- Alternative markets
- Charging to cover cost

Contamination (16%)

- Identified key contaminants that dilute revenue
 - ✓ Plastic bags
 - ✓ Bagged garbage
 - ✓ Food/organics
 - ✓ Clothing/textiles



Reducing Operating Cost

Focusing solutions and education around these:

- Plastics bags
- Tanglers
- Bagged recyclables
- Glass



Audits

- Audit - Inbound, Outbound, and Residue Audits
- Allows us to understand what material we pay for, what the quality of the material is we sell, and what kind of material we are paying to dispose



MRF	% Recyclables in Residue				Estimated Annual Tons				Estimated Annual Missed Value				Audits Completed vs. Required		
	2014		2015		2014		2015		2014		2015		YTD Required	Completed	Variance
	Q3	Q4	Q1	June	Q3	Q4	Q1	June	Q3	Q4	Q1	June			
Orlando MRF	9.9%	30.0%	41.4%	45.3%	1,349	4,088	5,642.0	4539.1	\$ 822,130	\$1,467,399	\$ 1,806,264	\$1,075,858	13	42	29
Reuters MRF	19.8%	10.3%	9.5%	7.8%	1,784	758	699.2	390.0	\$ 740,672	\$ 334,772	\$ 278,072	\$125,252	13	101	88
Tampa MRF	42.4%	56.4%	33.9%	46.0%	6,754	8,984	5,399.9	6796.0	\$ 3,160,533	\$2,779,920	\$ 2,175,065	\$4,510,696	13	14	1

Improving inbound quality

Develop Effective Education Program

Build a sustainable public education & outreach program for our internal & external stakeholders.

Research & fact based - internally & externally.

Sustainable Recycling

Create an easy to use, engaging, cost effective program to drive results and be part of culture.

Alignment

Through collaboration of all departments - municipal, key customers & community based groups

Behavior Change

Messaging, pledges, rewards + more) proven to influence behavior

Recycle Often. Recycle Right.SM

Overview & Objectives

- RORR based on national surveys, focus groups, & CBSM research - easy to use, targeted messages to drive consumer behavior
- Deliver “Recycle Often. Recycle Right” campaign messaging to national, community, industry and residential/consumer audiences
- Fully harmonize with internal and external stakeholders to drive positive recycling results.
- Publicly improve awareness of contamination and individual role in positively impacting the waste stream for recyclables.



Recycle all my empty bottles, cans and paper.



Keep food and liquids out of my recycling.



Keep plastic bags out of my recycling.

Changing behavior



RECYCLE OFTEN.
RECYCLE RIGHT.™

Changing Citizen Behaviors

Adapted from Everett Rogers, Jay Kassirer, Mike Rothchild, Dave Ward, Kristen Cooley

68%

Help Me

Social marketing is the best return on investment for behavior change.



16%
Show Me

Education is enough for this group to change their behavior.



16%
Make Me

This group needs a consequence to drive behavior change.



Taking it to the streets



RECYCLE OFTEN.
RECYCLE RIGHT.

- **Goal:** Implement & Test Education, Enforcement and Penalty strategies to identify impact on reducing contamination and ROI per strategy.
- **Concept:** Apply education, and different enforcement and penalty strategies to communities; and measure each strategies impact
- **Target Areas:** Started with two cities in Midwest and CA
- **Success Criteria:** Develop sustainable strategies to reduce contamination & associated cost; increase volume; identify strategies that are ROI positive.
- **Financial Goal:** Develop saleable solutions w/net benefits

Strategic education

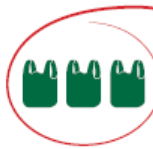


RECYCLE OFTEN.
RECYCLE RIGHT.™



RECYCLE OFTEN.
RECYCLE RIGHT.™

We Need Your Help!



Plastic Bags in your recycling can shut down an entire recycling plant

We need the right things to end up in your recycling bin to make a difference. So the next time you put something in your recycling, follow these three rules:

- 1** Recycle all empty plastic bottles, cans and paper.
- 2** Keep food and liquids out of my recycling.
- 3** Keep plastic bags out of the recycling bin. **NO BAGGED RECYCLABLES.** Take plastic bags back to your local grocer.

You might find a tag on your cart in the coming weeks.



A red tag means there was garbage in your recycling. A green tag means you've improved your recycling.

Remember when in doubt, leave it out.

For more helpful tips, check out the recycling guidelines included or visit RecycleOftenRecycleRight.com.

Together let's make 2016 be the year of recycling!



© 2015 WM Intellectual Property Holdings, L.L.C.

THINK GREEN.®

CLA SEGUJDO.
CLA BIEN.™

¡Necesitamos tu ayuda!



Las bolsas de plástico en tu bote de reciclaje pueden poner en alto a la planta entera de reciclaje.

Para que los materiales correctos terminen en tu bote de reciclaje para hacer la próxima vez, que coloques algo en tu reciclaje, sigue estas tres reglas:

- 1** Recicla todas las botellas, latas y papeles.
- 2** No tires comida o líquidos en el reciclaje.
- 3** **NO COLOQUES BOLSAS DE PLÁSTICO** en el reciclaje (suelas o lonas de artículos reciclables). Llévate las bolsas de plástico a tu supermercado local.

Si encuentras una etiqueta en tu bote en las próximas semanas.

La etiqueta roja significa que había basura en tu reciclaje. La etiqueta verde significa que has mejorado tu reciclaje.

Si tienes duda, déjalos fuera.

Para más información, revisa la guía incluida o visita RecycleOftenRecycleRight.com (sitio de web en inglés).

¡Juntos convertiremos el 2016 en el año de reciclaje!!



© 2015 WM Intellectual Property Holdings, L.L.C.

THINK GREEN.®



RECYCLE OFTEN.
RECYCLE RIGHT.™



Always recycle:



Plastic Bottles & Containers



Food & Beverage Cans



Paper



Flattened Cardboard & Paperboard



Food & Beverage Cartons

Do NOT include in your mixed recycling cart:



NO Food Waste
(Compost instead!)



NO Plastic Bags & Film
(Find a recycling site at plasticintrecycling.org.)



NO Foam Cups & Containers
(Check Earth911.org for options.)



NO Needles
(Keep medical waste out of recycling. Place in safe disposal containers like Waste Management's MedWaste Tracker® box.)

To Learn More Visit:
RecycleOftenRecycleRight.com

#RORR

© 2014 Waste Management, Inc. The Recycle Often, Recycle Right™ recycling education program was developed based upon national best practices. Please consult your local municipality for their acceptable materials and additional details of local programs, which may differ slightly.



Agujas

(No bote los residuos médicos en el reciclaje. Colóquelos en contenedores seguros como la caja MedWaste Tracker™ de Waste Management.)



Papeles



No alimentos y bebidas



No vasos y contenedores de poliestireno

(Vea opciones en Earth911.org.)

Para más información, visite:
RecycleOftenRecycleRight.com

#RORR

Immediate customer feedback

Contamination cart hanger



Your recycling has garbage in it.
Hay basura en su reciclaje.

We found one or more of the following items:
Encontramos uno o más de los siguientes artículos:

- Recyclables bagged in plastic bags
Artículos reciclables en bolsas de plástico
- Loose plastic bags
Bolsas de plástico sueltas
- Dirty/wet items (like food and liquids left in your recycling)
Artículos mojados y/o sucios (no deje alimentos o líquidos en sus artículos reciclables)
- Non-recyclable items (like garden hoses or propane tanks)
Artículos no reciclables (como mangueras de jardín o tanques de gas propano)
- Other *Otros*

When in doubt, leave it out.
Si tiene alguna duda, déjelo afuera.

Your Waste Management Driver - Su conductor de Waste Management

Ask our rep, recycle up your recycling. Please bag garbage out to avoid contamination on pickup. We had to leave your recycling behind. Please sort out the garbage and well try again on our next service day. *No podemos reciclar su reciclaje. Por favor recicle la basura y tratemos de volver a reciclarla el próximo día de servicio.*

If you have any questions, please call 311 or (847) 931-6001.
Si tiene alguna pregunta, por favor llame a 311 (847) 931-6001.

ADDRESS: DARECDOV _____
DRIVER: CONDUCTOR _____
ROUTE # NO. DE RUTA _____ DATE FECHA _____

WM WASTE MANAGEMENT © 2021 IBM United-Led Property Holdings, L.L.C.

Positive re-enforcement cart hanger



Thanks for doing a great job recycling!
¡Gracias por hacer un excelente trabajo con el reciclaje!

Your recycling looks great and your actions are going a long way towards turning all of our waste into a resource for a brighter, more sustainable future.
Su reciclaje se ve excelente y sus acciones ayudan a convertir todos estos desechos en recursos para un futuro más brillante y sostenible.

Your Waste Management Driver
Su conductor de Waste Management

If you have any questions, please call 311 or (847) 931-6001.
Si tiene alguna pregunta, por favor llame a 311 (847) 931-6001.

WM WASTE MANAGEMENT **THINK GREEN!** © 2021 IBM United-Led Property Holdings, L.L.C.

RECYCLE OFTEN RECYCLE RIGHT! **RECICLE SIGUENTE RECICLE BIEN!**

Take your recycling commitment to the next level.
Lleve su compromiso con el reciclaje al siguiente nivel.

Visit RecycleOftenRecycleRight.com to make the promise to become a Recycle Often, Recycle Right™ Ambassador. Keep up the good work; doing just these three things will make a huge difference.
Haga la promesa en RCRR.com/espanol para convertirse en el Embajador de Reciclaje para Reciclar Seguido, Reciclar Bien™. Siga con el excelente trabajo; ejercer estas tres acciones hace una gran diferencia.

Recycle all empty plastic bottles, cans and paper. *Recicle todas las botellas y latas vacías y todos los papeles.*

Keep foods and liquids out of the recycling bin. *No tire comida o líquidos en el reciclaje.*

Keep plastic bags out of the recycling bin. *No bagged recyclables. Take plastic bags back to your local grocer.*
No coloque bolsas de plástico en el reciclaje (sueños o llenos de artículos reciclables). Lleve las bolsas de plástico a su supermercado local.

For more tips, visit RecycleOftenRecycleRight.com.
Para más consejos sobre cómo reciclar bien, visite RCRR.com/espanol

Municipal contracts 2.0

- Few municipal contracts reflect the evolution of the recycling business
 - ✓ Fixed supply (no supply/demand balance)
 - ✓ Increased contamination
 - ✓ Changing waste stream
 - ✓ New pricing models
- New contract language reflects changing business models
 - ✓ Define material in the waste stream
 - ✓ Charge for contamination & glass
 - ✓ Processing fees that to cover cost + margin
 - ✓ Audits before and during contract term to identify & contamination
- Educating the customer
 - ✓ Provides for adequate education
 - ✓ Allows enforcement

Collaboration

Trade Associations: APR,
Ameripen, ACC, GMA,
ISRI NWRA, PacNext, SPC,
SPI, SWANA

**The Recycling
Partnership –**
Contamination focus
nation-wide.

“More, ,better”

Keep America Beautiful

EPA, States & City
partners

Cause and Effect



What happens at home does not stay at home
(and vice versa)

Questions?

