

Session 2: Waste Diversion



Diversion and Diminishing Returns

Phil Jensen, CH2M Hill

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in full-service consulting, design, design-build,
operations, and program management services.

We help our clients build a better
and more sustainable world in the areas of:

Energy
Environmental
Facilities
Resources
Transportation
Water

CH2M HILL Today



- Headquartered in Englewood, Colorado
- More than 23,000 employees
- US\$6.3 billion in revenue
- 100 percent owned by our employees
- Broadly diversified across multiple business sectors
- Performing work in more than 140 countries



The Question

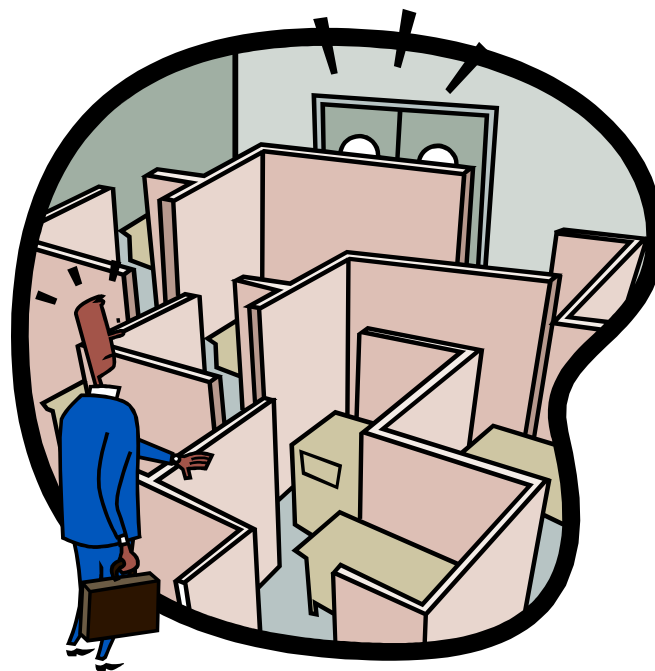
- The ability to increase diversion for mature programs that are doing well is a challenge
- Situation: municipality has ambitious targets for % diversion for 2016 and 2021. They have exceeded 2016 target
- General sentiment is that the 2021 target should be accelerated and/or increased
- All major programs are in place, mature and performing well

$$\frac{\textit{Total Tonnes Diverted}}{\textit{Total Tonnes Generated}}$$

Issue: how much is really left to be diverted?

Influences On Diversion Rates

- Measured amount differs between municipalities
- Degree to which IC&I enters the system, impact of medium to small business
- Housing type
- Extended Producer Responsibility
- Packaging trends, lightweighting, individual units
- Lifestyle
- Newspaper circulation
- Growth Planning and Intensification
- Community programs outside the municipal system
- Waste reduction and reuse
- Waste deferment
- Cost per tonne
- Technology versus complexity



Not all elements in the system are under municipal control

Recent Performance as per WDO

- Scanned WDO Diversion data for 19 municipalities in the Large Urban, Urban Regional and Medium Urban Categories
- In that group:
 - 5 reported a lower kg/cap for total residential waste diverted in 2012 than in 2011
 - 13 reported a lower residential recyclables diversion rate
 - 8 reported a lower total residential diversion rate

While new programs add diversion will existing programs fall back?

Confounding Variables

- Lightweighting and plastics
- Product loss
- Housing Type, now and into the future
- Loss of Control
 - EPR
 - Reuse economy
 - Storage economy
- Inputs from non-residential sectors

Affecting the numerator and the denominator in the diversion equation

Multi-Residential Waste Diversion

- Densification and increasing multi-residential housing types and/or existing multi-residential
- No matter how hard municipalities will try there are some realities:
 - Capture rates from MR tend to be lower
 - For existing MF there will always be a need to “work“ to get clean tonnage
 - Even with new buildings and complexes there may still be a disconnect with residents
 - Organics

As the proportion of multi-residential grows, with diversion % drop?

EPR/IPR

- Municipal control over how programs are delivered
- Will the influence of EPR/IPR reduce municipal ability or desire to expand programs?
- Will EPR/IPR restrict programs or remove selected portions of diverted waste from the municipal stream:
 - Closed systems
 - Parallel systems
 - Accountability, availability of data

Possibly a death of a thousand cuts leading to no or slow diversion growth?

More to Think About

- SWANA presentation re The Sharing Economy, Sustainability Ventures
- What might be around the corner:
 - 65%: garages that cannot fit a car
 - 4 Billion Tshirts produced and discarded annually
 - \$24 Billion: annual revenues of the self storage industry
- Explosive growth of sharing sites and services
 - Buy, sell, rent, trade, give
 - Airbnb vs Hilton Hotel Chain

Waste deferred, items not accounted for in diversion reporting?

Airbnb vs Hilton Hotel Chain

■ Airbnb

- 10,000,000+ bookings
- 550,000+ rooms
- 34,000+ cities
- 192 countries

■ Hilton Hotel Chain

- 642,000 rooms
- 3,900 hotels

**5
Years**

**95
Years**

Wow

The Answer

- While we may continue to increase capture the current measurement of diversion % might become less useful
- New frontiers (multi-residential) may bring % down slightly
- Accountability for tonnes may become more challenging
- The 80/20 rule is in play
- Recent signs point to slippage in some areas
- Municipalities are not in control of many of the influences
- Are we moving from “landfill to storagefill”?

For mature programs, there may not be much to add

Thank You

Questions?