



# Trash is Complicated:

The Dilemma of Computing  
Waste Generation



# Pick Your Colloquialism ...

- ❖ Computing waste generation is like nailing Jello to a tree.
- ❖ Computing waste generation is like herding cats.
- ❖ Computing waste generation is like playing darts in the dark.



# The Proof

- ❖ Wildly fluctuating waste generation rates exist from one county to another
- ❖ Even demographically similar counties can vary greatly.
- ❖ Adding less traditional recyclables changes the fundamental formula.



# The Extremes

## The Lowest

❖ Perry	1.5
❖ Fulton	1.8
❖ Sullivan	1.9
❖ Huntingdon	2.3
❖ Snyder	2.4
❖ Bucks	2.7

## The Highest

❖ Philadelphia	10.4
❖ Columbia	7.2
❖ Juniata	6.9
❖ Lehigh	6.6
❖ Warren	6.4
❖ Chester	6.1



# The Lowest Waste Generators?

<b>County</b>	<b>Population</b>	<b>Recycling</b>	<b>Residential (Cans/ONP)</b>	<b>Commercial (OCC/SOP)</b>
Perry	43,602	2.7%	.3	.1
Fulton	14,261	2.1%	.3	.0
Sullivan	6,556	20.0%	1.8	1.3
Huntingdon	45,586	44.8%	1.2	10.4
Snyder	37,546	29.3%	2.2	5.8
Bucks	597,625	55.5%	3.4	8.9



# Why Are the Numbers Lower?

- ❖ Rural demographics = Less industry
- ❖ Less yard debris disposed of
- ❖ More open burning
- ❖ Significant illegal dumping
- ❖ Rural areas & haulers track waste poorly



# The Highest Waste Generators?

County	Population	Recycling Rate	Oddity	Tonnage	Adjusted Waste Gen
Philadelphia	1,517,550	33.7%	C & D	742,667	7.7
Columbia	64,151	25.7%	C & D	5,000	6.8
Juniata	22,281	59.6%	Tires	16,406	2.8
Lehigh	312,090	28.8%	None		6.6
Warren	43,863	17.9%	Metal Scrap	4,008	5.0
Chester	433,501	36.1%	Pb Batteries	29,613	6.5



# Why Are the Numbers High?

- ❖ Some are not really high.
- ❖ Peculiar materials skew generation rates.
- ❖ Urban demographics = More industry
- ❖ Addition of things that were seldom disposed of (and were never part of the equation before).
- ❖ Waste and recyclables are often tracked better.
- ❖ But extra can be coming from other counties.



Even if DEP reverts to a standard number...

- ❖ It will remain important to track waste disposal.
- ❖ So do your best to determine the most accurate number possible.
- ❖ Look for peculiarities and inconsistencies
  - ❖ Waste data
  - ❖ Traditional recycling data
  - ❖ Special recyclables



# The Final Analysis

- ❖ Look for peculiarities.
- ❖ Compare your data to other similar counties.
- ❖ Encourage your data providers to be more thorough
  - ❖ Municipalities
  - ❖ Haulers
  - ❖ Recyclers
  - ❖ Disposal Facilities