



Creation of a US National Waste Management Database

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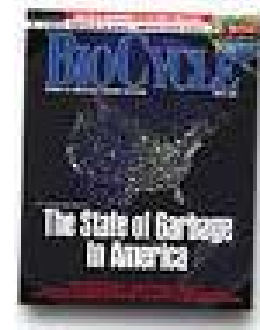
Earth Engineering Center, Columbia University

WTERT Annual Conference

October 19, 2006

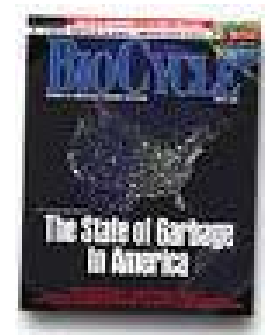
- Introduction
- Background: Current methods of US MSW Waste Data Collection & Reporting
- A look at US MSW Flows based upon these two methods
 - Exploration of problems with these two methods
- The need for better waste data
- Database Creation
- Questions

- EPA/Franklin Municipal Solid Waste Facts & Figures
 - Annual Publication (however, last published in 2003)
- BioCycle/EEC “State of Garbage in America” Survey
 - Biannual (beginning with EEC Participation in 2004 Survey)



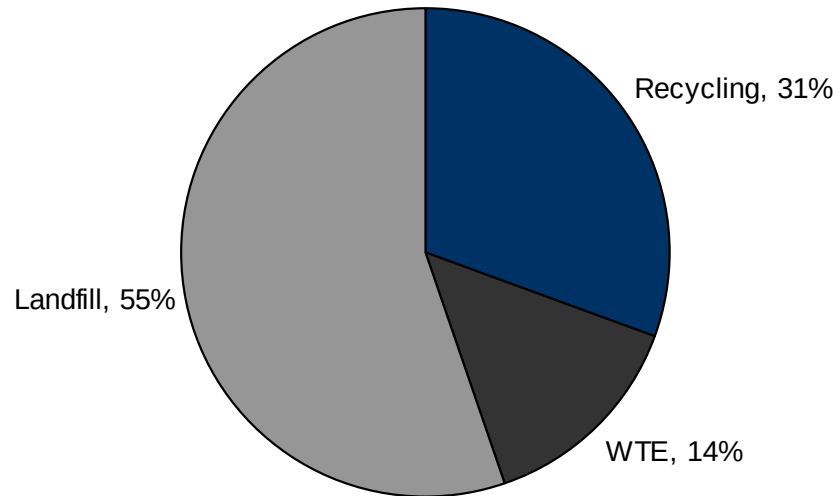
SO WHAT IS THE DIFFERENCE? STUDY METHODOLOGIES:

- EPA
 - Well, it's kind of a mystery...
 - National overview
 - Materials Flow Method
 - Data from
 - Dept of Commerce, Census
 - Industry (commodities) research
- SOG
 - Survey to officials of all 50 states
 - Some industry research
 - Backup sources

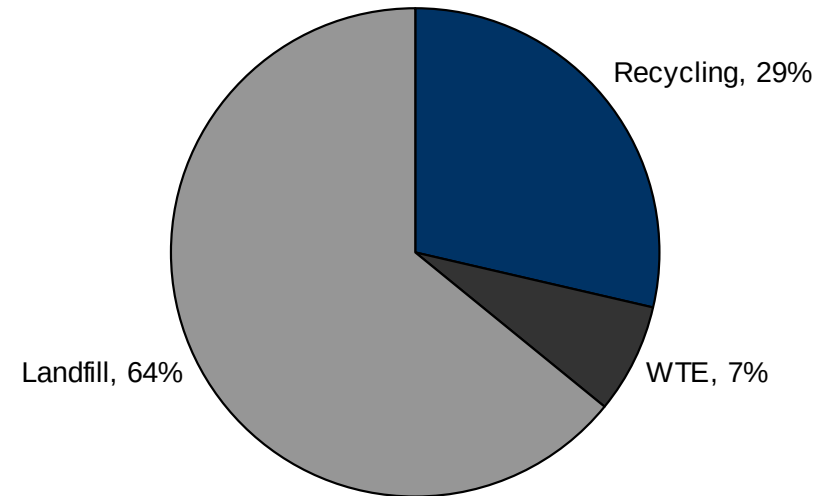


MANAGEMENT TRENDS ARE COMPARABLE...

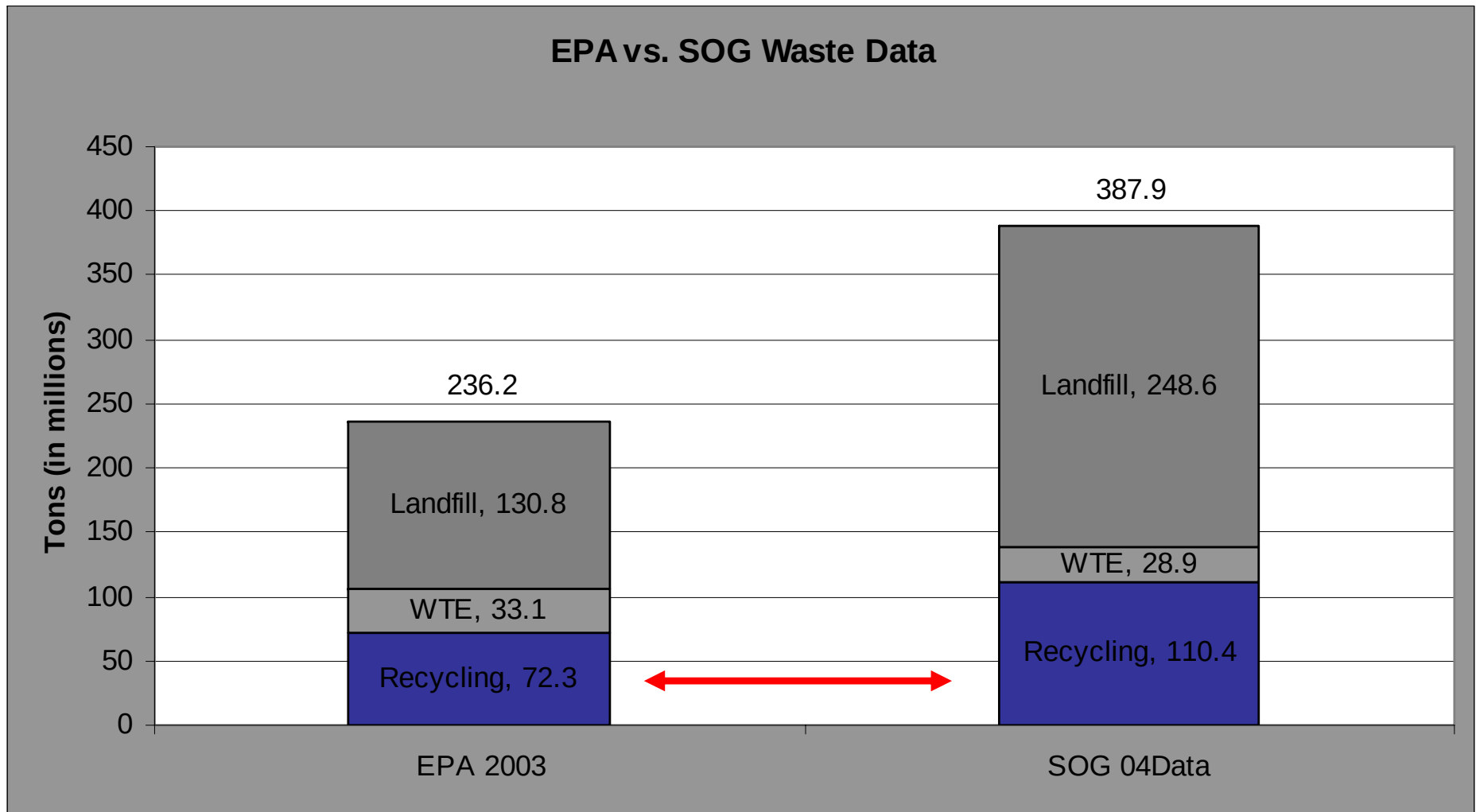
EPA 2003 Waste Management Breakdown



SOG 2004 Waste Management Breakdown

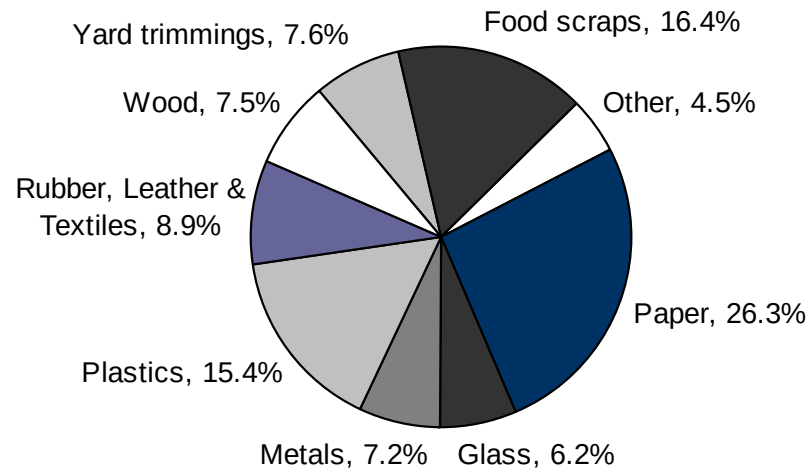


...BUT TONNAGES DIFFER SIGNIFICANTLY

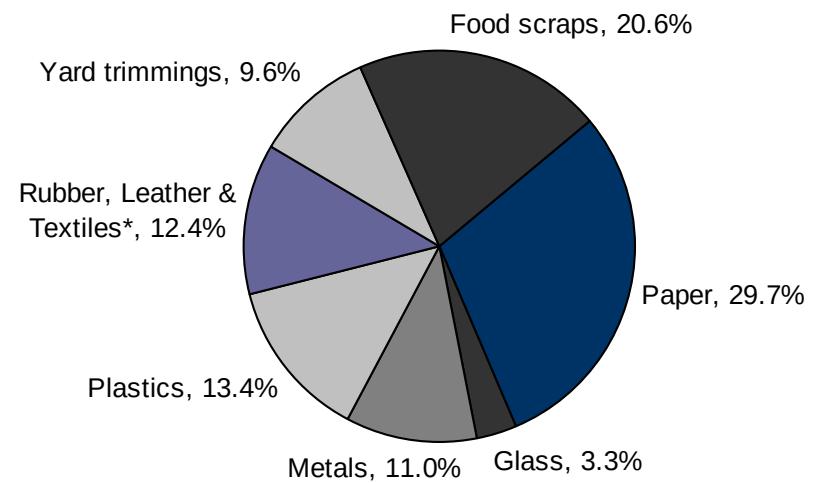


EPA/FRANKLIN STRENGTH – CHARACTERIZATION

EPA Franklin 2003 Waste Char (After Recycling)



CA 2004 MSW Characterization (After Recycling)



- States tend to have regulations requiring landfills and WTE's (but not MRFs) to report tonnages received, which leads to reliable state-by-state **disposal** data



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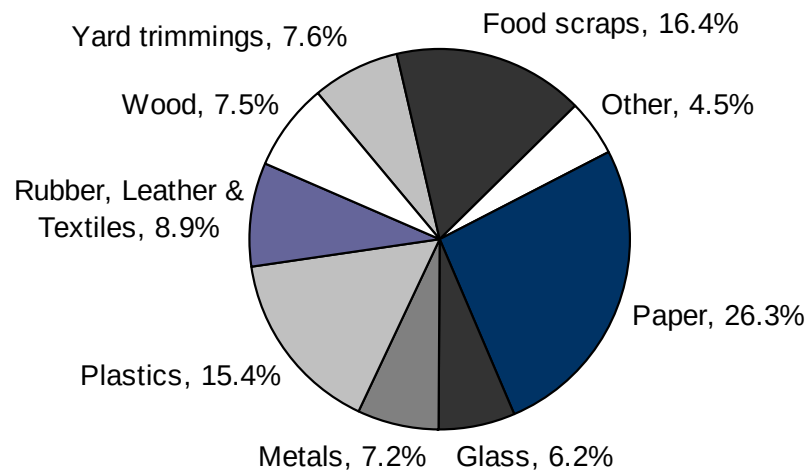


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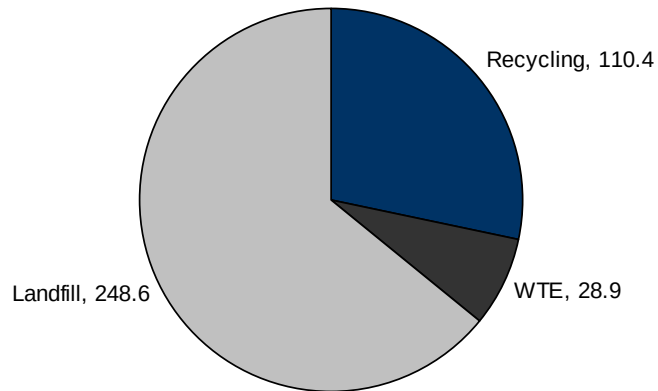


DISPOSED WASTE (LF+WTE) TONNAGES BY COMMODITY

EPA Franklin 2003 Waste Char (After Recycling)



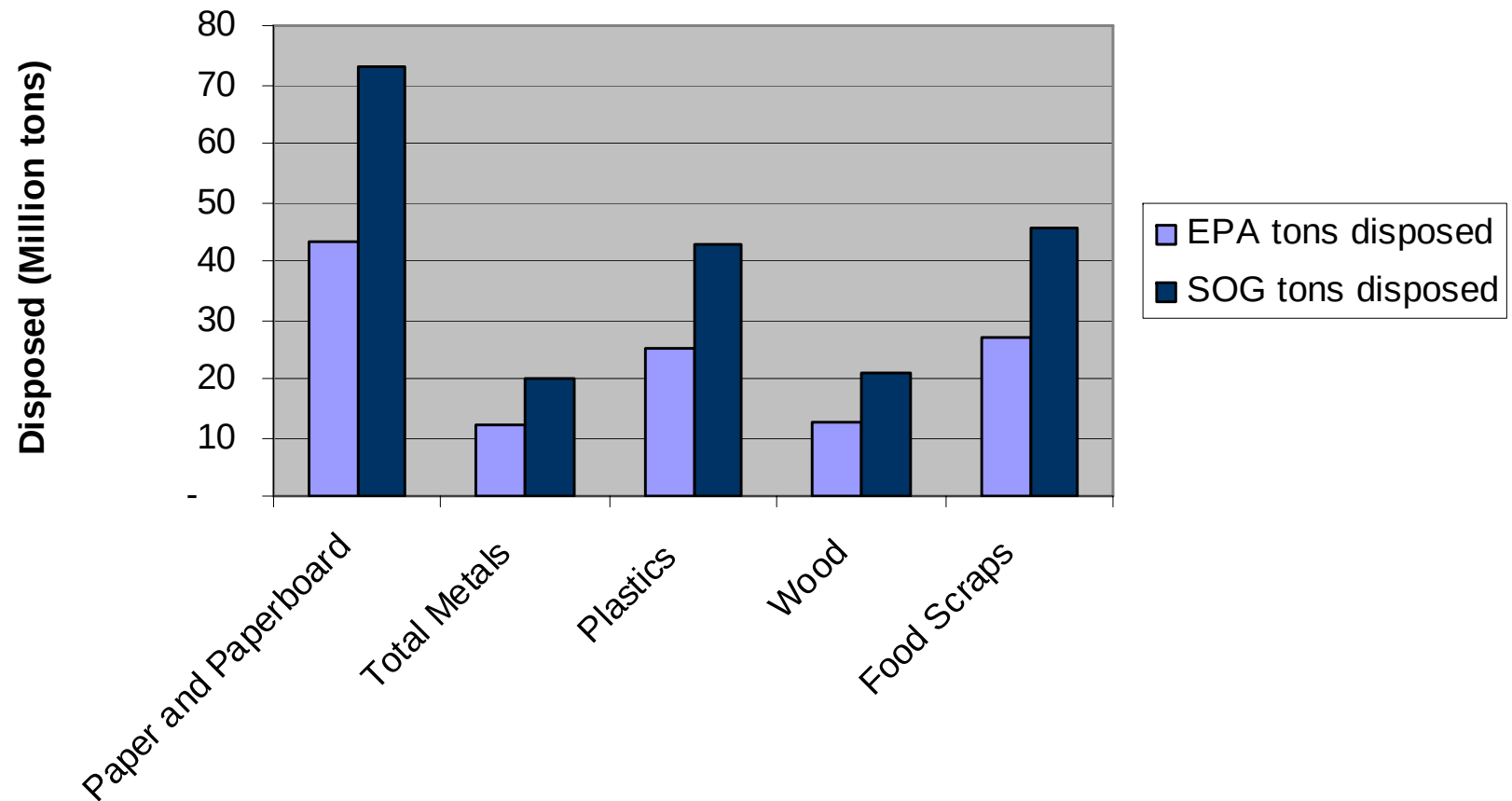
Waste Mgmt Breakdown (SOG Data, million tons)



- Using EPA Characterization & SOG tonnages, we currently dispose of the following recyclables:
 - 73 million tons paper
 - 45.5 million tons food scraps
 - 20 million tons metal

USING EPA TONNAGE DATA, HOWEVER...

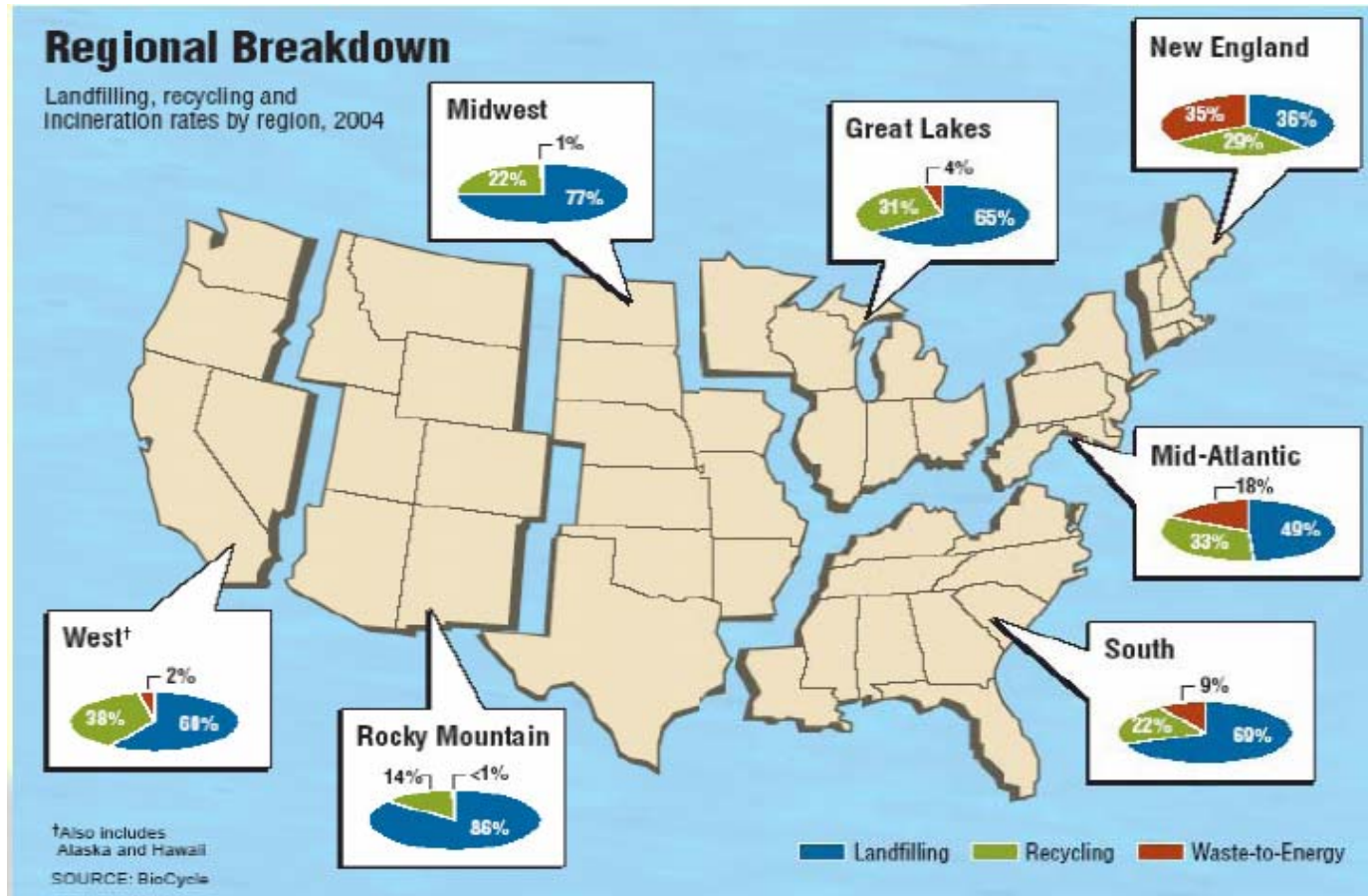
EPA vs. SOG Disposed Tonnages Using EPA Char. & SOG Volume



- Why have a Waste Quantification/ Characterization program? Current EPA Method:
 - Works for:
 - Broad overview of waste flows
 - **General characterization of composition**
 - Doesn't work for:
 - Targeted interventions in specific states/ locales
 - Targeted application of EPA (public) grant money
 - Commercial vs. Residential differentiation
 - Strong opportunity for increased commercial recycling

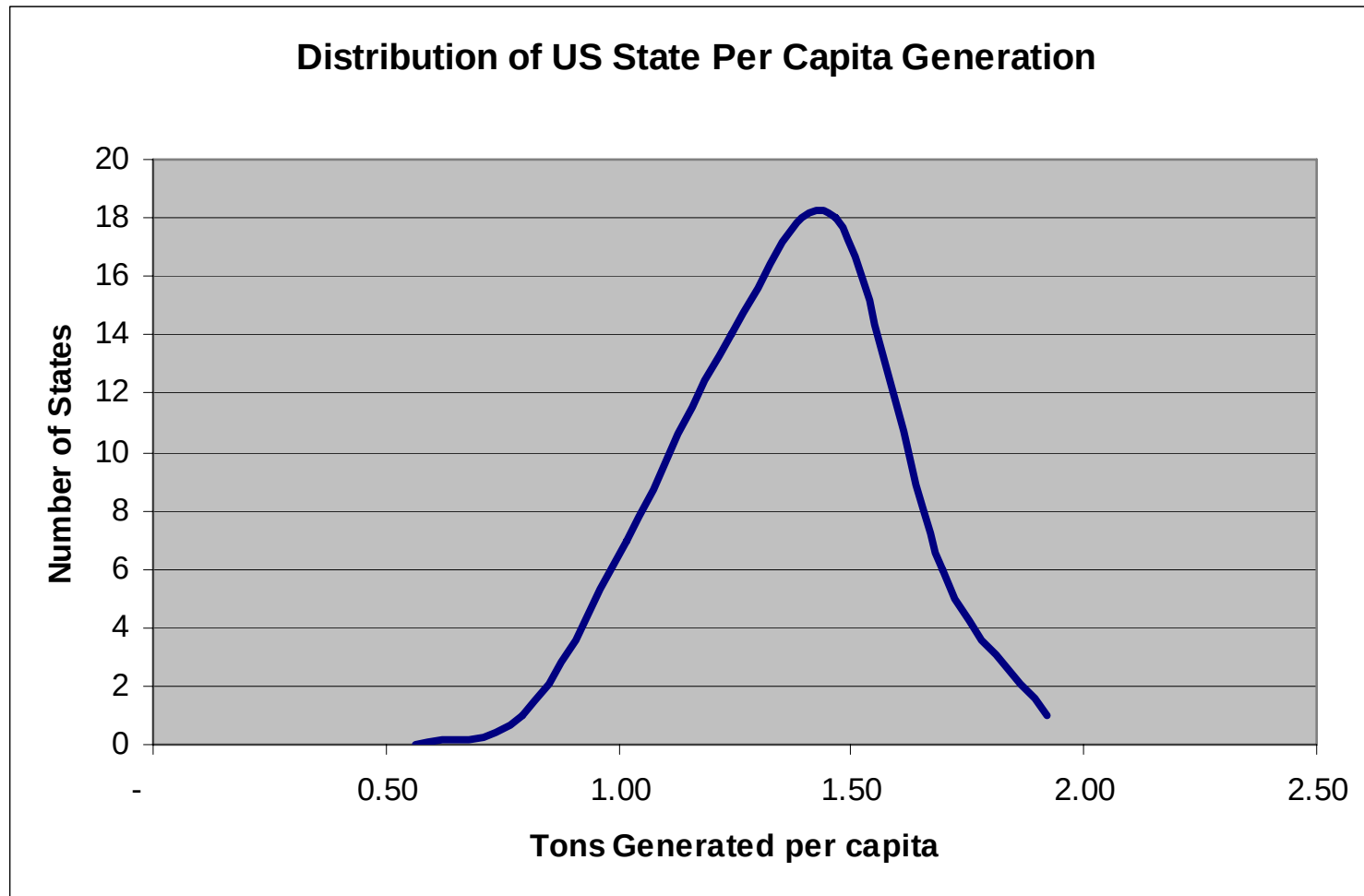
STATE OF GARBAGE STRENGTHS

- Local/ regional studies and interventions are possible

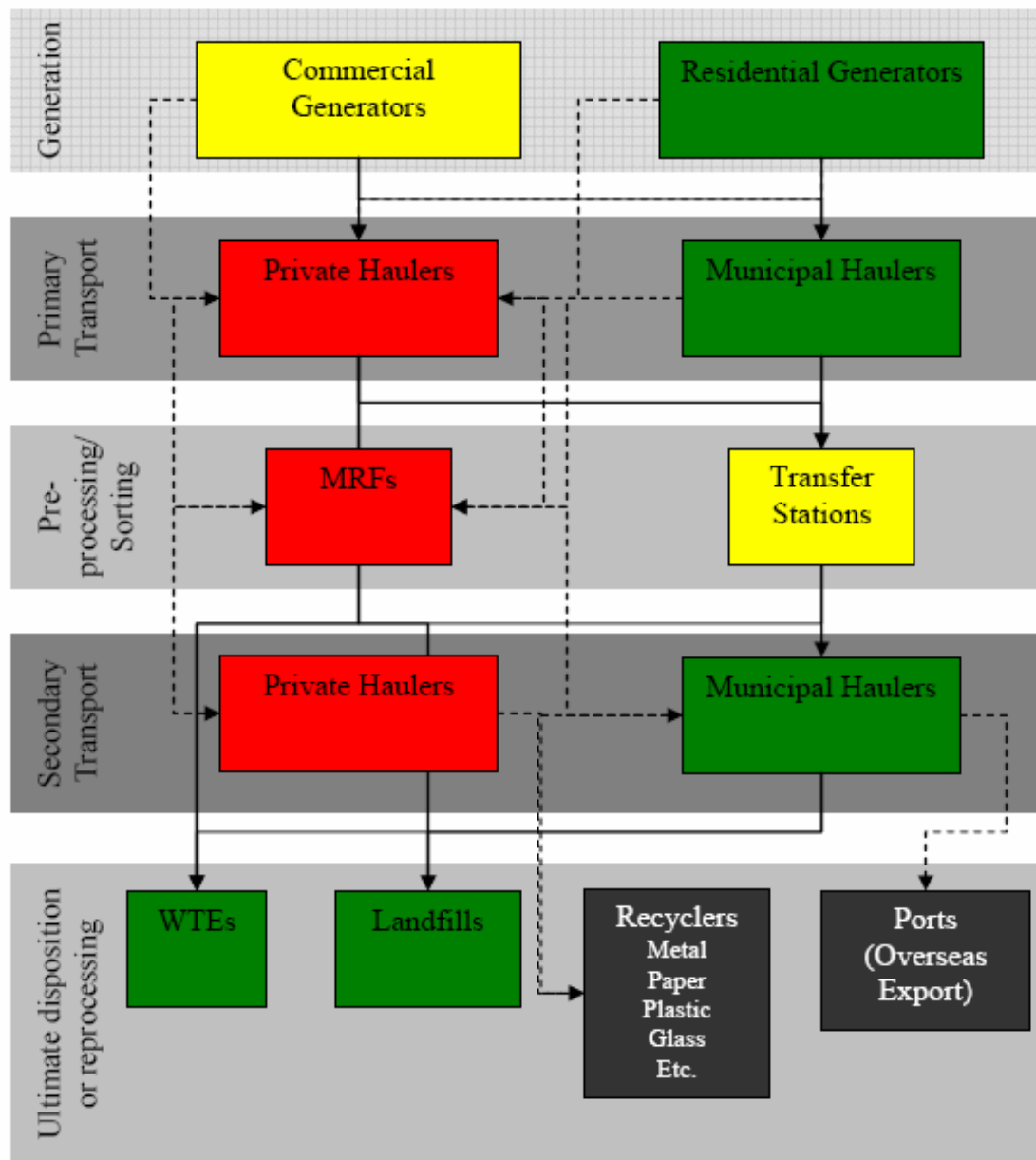


STATE OF GARBAGE QUESTIONS...

- Garbage in = Garbage out (you're only as good as the data you're given)



WHICH LEADS TO OUR MSW-DB PROJECT...



Improved access to local and facilities-level data will lead to more accurate system-wide information and an ultimately more rational and efficient waste management system.

More difficult to obtain

Easier to obtain

Somewhat difficult

Unknown accessibility

Key:
Recycling - - - - -
(side entry/exit)
Waste - - - - -
(top/bott entry/exit)

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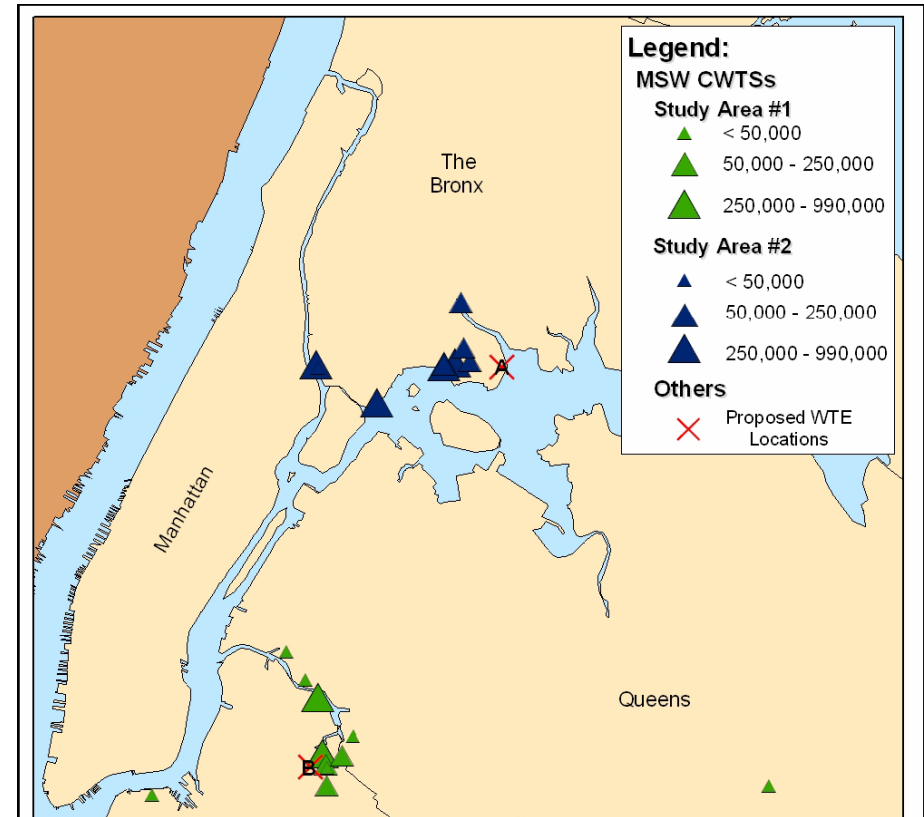


Columbia University



- Build network of MRFs, other recycling facilities/entities beginning with EPA Region 9
- Track materials flows through waste management infrastructure
- Create reporting tool (no threat to proprietary interests)
- GIS to model access to facilities (recycling, WTE), suggest capacity needs and strategically plan WM systems

- EPA/Alum grants became effective this month
- Preliminary results will be reported in mid-2007



THANK YOU!

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