

Steering Committee Presentation

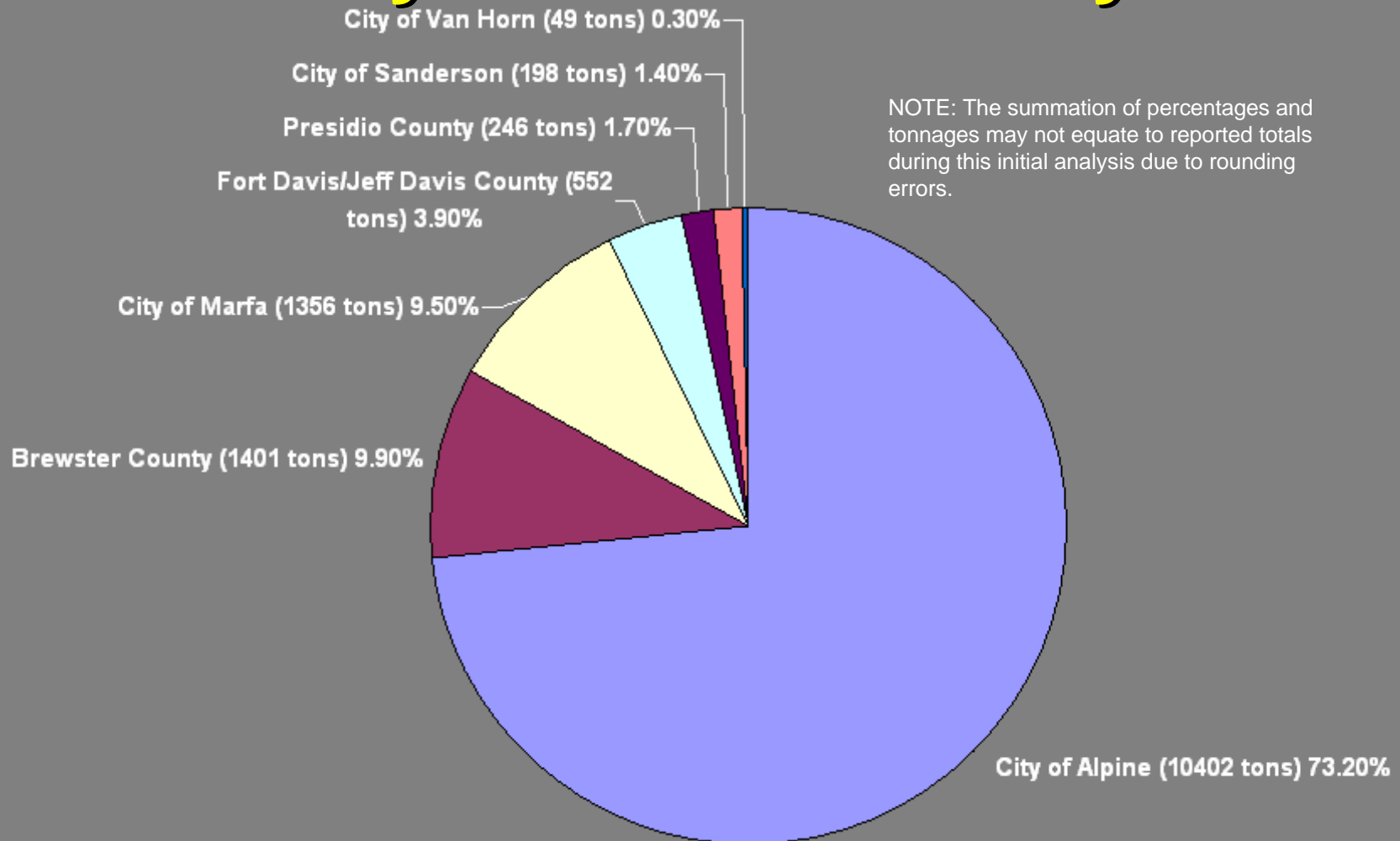
**Regional Solid Waste
Planning Study
The City of Alpine, Texas**

**Alpine City Hall
100 North 13th Street, Alpine, Texas
March 25, 2008**

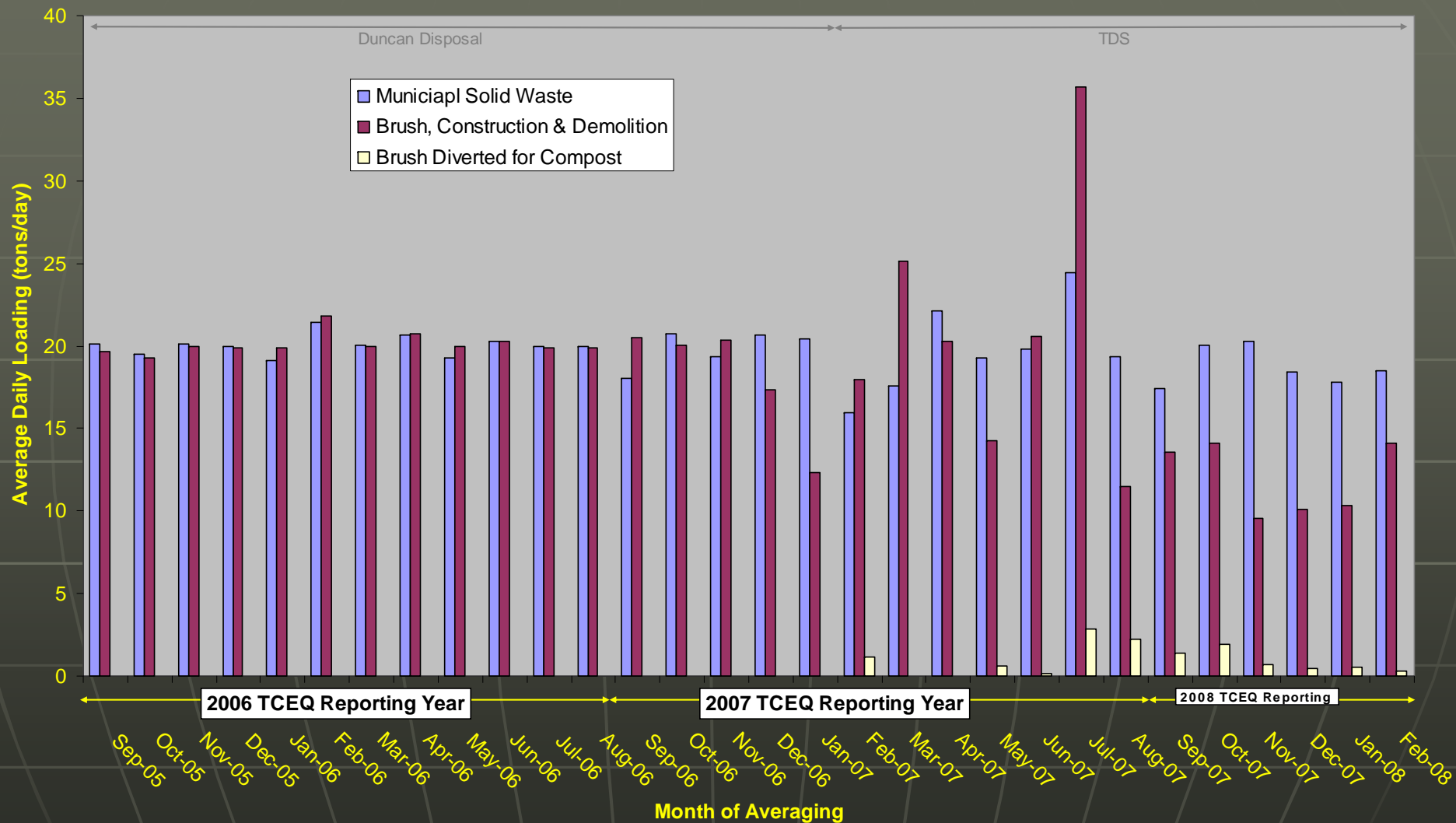
Administrative Items

- Project Contacts
 - City of Alpine – Mr. Chuy Garcia – City Manager
 - Naismith Engineering, Inc. – Mr. Grant A. Jackson, P.E., Project Engineer
- Review of Communication Procedures
- Project Website:
<http://www.neionline.com/Alpine-MSW.files/Alpine-MSW.htm>
- Future Meeting Possibilities
 - Fourth Tues. or Thurs.
 - Second Tues. or Thurs.

Origin of Waste to Alpine Landfill February 2007 to January 2008

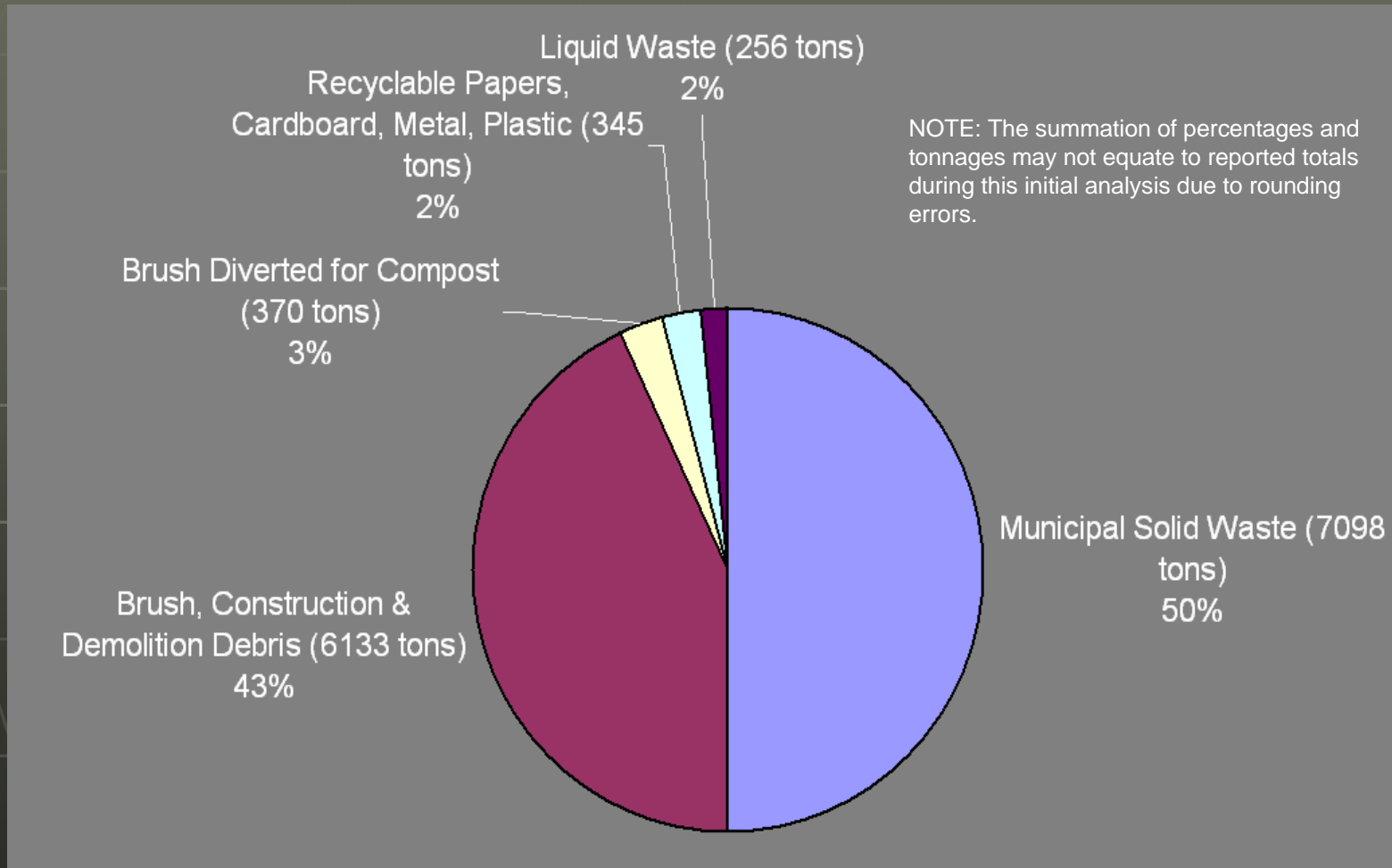


Alpine Landfill Average Daily Loading September 2005 through February 2008

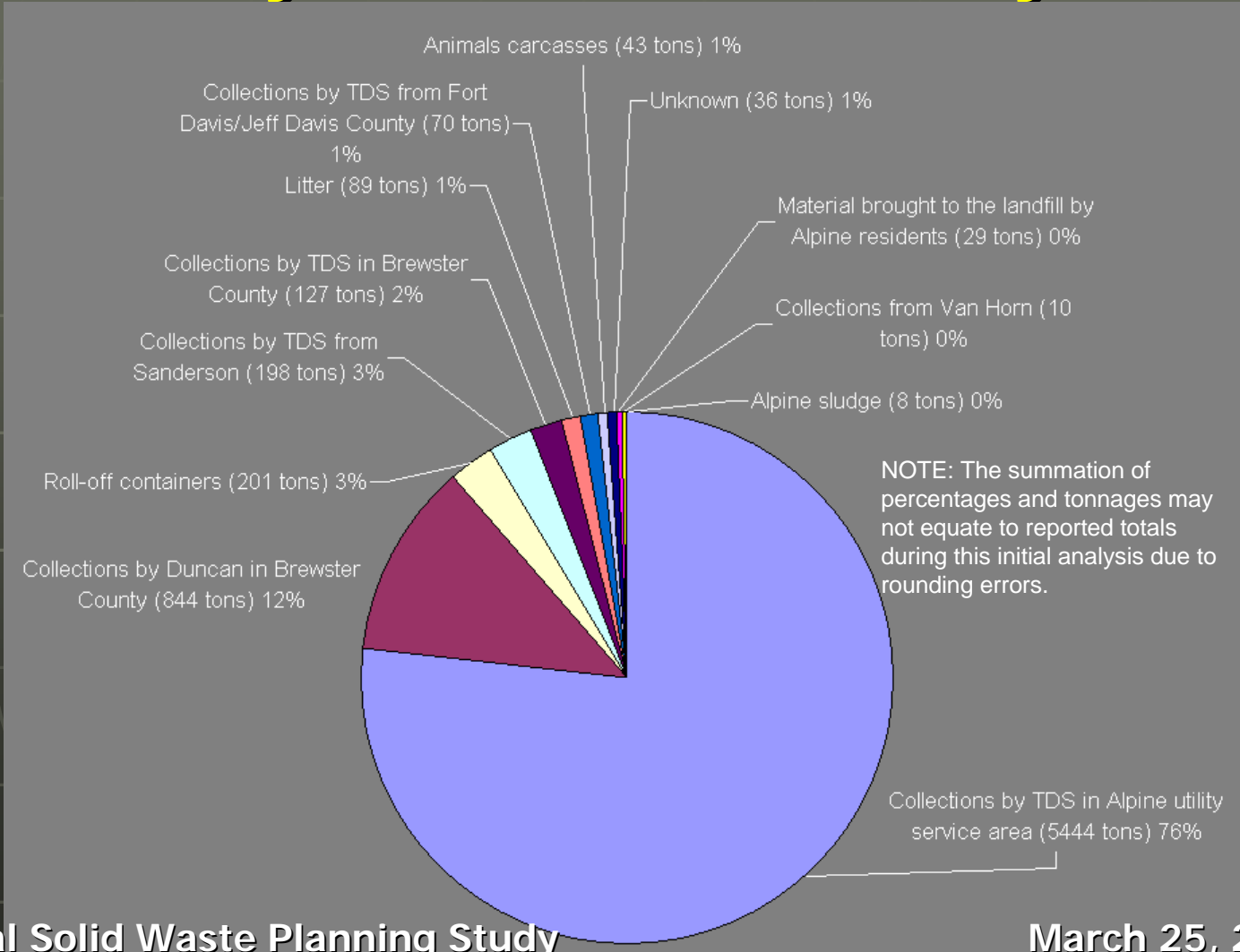


Waste Characterization

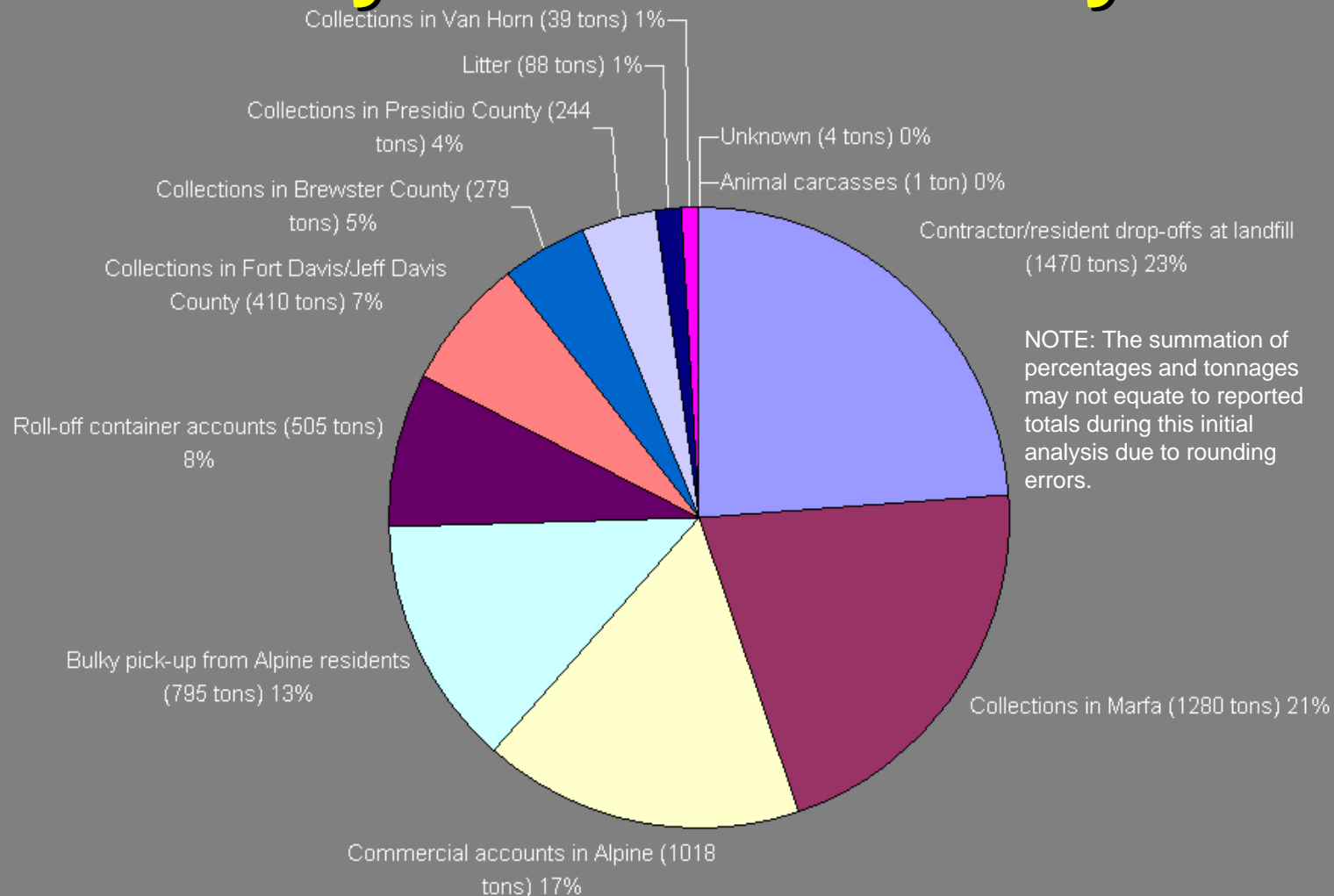
February 2007 to January 2008



MSW Collection Source February 2007 to January 2008



Brush, Constr./Demo. Debris February 2007 to January 2008



Basis for Comparison

- Residential Rates:
 - Generation: 5–8 #/person/day
 - Household: 2.6 persons
 - Monthly: 396-632#/mo
 - $\$26.63 / 632\# / 2000\# / t = \$84.23 / t$
- Commercial Rates:
 - Billing: \$5/cy-pickup
 - With Utilization at 75% & weight at 400#/cy, Rate Would Be:
 $\$5 / ((400 / 2000) \times 0.75) = \$33.33 / t$

Alternatives

- **Alternative 1:** Send excess waste to other facilities using collection trucks
- **Alternative 2:** Implement an aggressive recycling program
- **Alternative 3:** Build a transfer station at the Alpine landfill and transport excess waste to other facilities
- **Alternative 4:** Upgrade the existing landfill to Type I with No Waste Limit

Alternative 1: Excess Waste to Other Facilities Using Collection Trucks

- Once limits of 20 tpd MSW & 20 tpd B&CD exceeded, excess waste transported to other facilities in collection vehicles
- Transport Cost is significant factor:
 - Charter landfill – Odessa: $143 \text{ mi.} \times 2 \times \$1.74/\text{mi.} = \$497.64 / 20 \text{ t} = \$24.88/\text{t}$
 - Clint landfill - El Paso: $198 \text{ mi.} \times 2 \times \$1.74/\text{mi.} = \$689.04 / 20 \text{ t} = \$34.45/\text{t}$
- Does Not Include:
 - Disposal: \$27-\$30/t (Total: \$52-\$55/t)
 - Equipment Replacement: \$1/mi. (\$108,040/yr)
- Problem: Incr. Cap. < 70 t-yrs

Alternative 2: Implement an Aggressive Recycling Program

- Existing Recycling Program:
 - Primarily Commercial/Institutional
 - 2007: 715t (370t–B&C/D, 345t–Other) – 5%
- Reduce disposal rates into existing landfills by reusing or recycling certain materials.
 - Cardboard, paper, plastics, metals.
- Public education, support, and participation is critical.
 - Source separation of recyclable materials at individual homes and businesses.
 - Additional containers and collection methods needed.

Alternative 2 (Cont'd)

- Regional Estimates of "Recycl-ables":
 - Paper: 10-20%
 - Plastic: 3-5%
 - Metals: 1-5%
 - Totals: Up to 2,000 tpy @ 50% recov.
(14% Reduction in Disposal)
- Industry Estimates: \$45-\$60/t
 - Collection: \$25-\$35/t
 - Transport: \$20-\$25/t

Alternative 3: Transfer Station

- Construct a transfer station at the existing Alpine landfill facility.
- Waste is temporarily stored for eventual transfer to other disposal facilities (Odessa, El Paso).
- Will require TCEQ permitting
- Cost Ranges (\$58 - \$75/tpd)
 - Development/Constr. - \$10-\$20/tpd
 - Transport - \$20 - \$25/tpd
 - Disposal - \$28-\$30/tpd

Alternative 4: Upgrade Existing Landfill

- Restrictions to addn. Arid Exempt (AE) landfill cells at existing facility
- Upgrade to Type I: fewer restrictions but significantly higher costs
- Will require TCEQ authorization and permitting
- Incremental Costs (\$22 - \$34/tpd)
 - Permitting - \$2 - \$4/t
 - Development/Constr. - \$10 - \$15/t
 - Addn. Operating Costs - \$10 - \$15/t

Preliminary Comparison

Alternative	Base Cost	Incr. Cost.	Total Cost.
1 Off-site	\$84	\$25	\$109
	\$34	\$25	\$59
2 Recycle	\$84	\$45	\$129
	\$34	\$45	\$79
3 Transfer	\$84	\$30	\$114
	\$34	\$30	\$64
4 Upgrade	\$84	\$25	\$109
	\$34	\$25	\$59

Questions



- Naismith Engineering
- Grant A. Jackson, P.E.
(gjackson@naismith-engineering.com)
- Tom Brown
(tbrown@naismith-engineering.com)