

Analysis of Contract Prices: Comparing Department of Defense with Local Governments

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Background

- DoD bases procure standard base operations support services (waste disposal, grounds maintenance, etc.)
 - But, there is significant differences in prices paid across bases, total and per-unit.
 - Why do these prices vary? How do they compare to neighboring cities?
- OMB guides on better category management:
 - Volumes of spend (buy as one).
 - Reduce the number of contracts written.
 - Implement internal controls to reduce consumption.
- Strategic sourcing needs market research!

Research Question

- We compare the prices paid per ton (average cost per ton) on solid waste disposal services between AF bases and their neighboring cities.
 - Why waste management?
 - Why AF bases?
- We also study the variation in prices paid per ton across AF bases.
 - Base specific factors (number of containers, distance to landfill)
 - Economic factors (average wages, price index, etc.)

Related Literature

- USAF's category management program
 - “leveraging buying power, improving efficiencies and managing consumption” (Sharkey, 2015)
- Specific research on Integrated Solid Waste Management Service (ISWM)
 - Cost-effective waste collection systems (e.g. Boskovic et al. 2016)
 - Service and contracting related variables can significantly affect price (Landale et al. 2018)

Data – Air Force Bases

- Air Force Installation Contracting Agency (AFICA) data on Integrated Solid Waste Management service.
 - Annual contract price for solid waste disposal services.
 - Contract costs annualized based on past 3 to 5 years data.
 - Tons of solid waste.
 - Annual price paid per ton.
 - Per ton measure accounts for size differences across bases.
 - Ranges from \$855 in Columbus AFB to \$41 in Dyess AFB
- After cleaning the data, we have information on 48 AF bases.

Data – Neighboring Cities

- We used two rules to select neighboring cities :
 - City must lie within 30 miles of the AF base.
 - Must be part of the same county.
- NPS students contacted each city's government office first and then followed up with email and phone-calls.
 - We used a standard script in each city based on feedback from conversations with Monterey city.

Questions for City Governments

- What type of contract does your city use for solid waste disposal?
- What are the negotiated rates for solid waste collection at city owned buildings, i.e. per bin size and frequency of collection?
- What are your published prices for commercial business rates for solid waste collection, i.e. per bin size and frequency of collection?
- Is the local Air Force installation's solid waste contract managed by your city? What are the Air Force base's rates? Are the Air Force base's rates the same as the negotiated rates for the city? What is the surcharge rate applied to the Air Force for the city to manage its solid waste contract?
- Are there standing city regulations requiring the local Air Force installation utilize the same hauler that is already contracted with the city?

Response Rate: 45% but no Northeast!

Figure 1: City Responses Adjacent to AF Bases



What types of contracts do cities use?

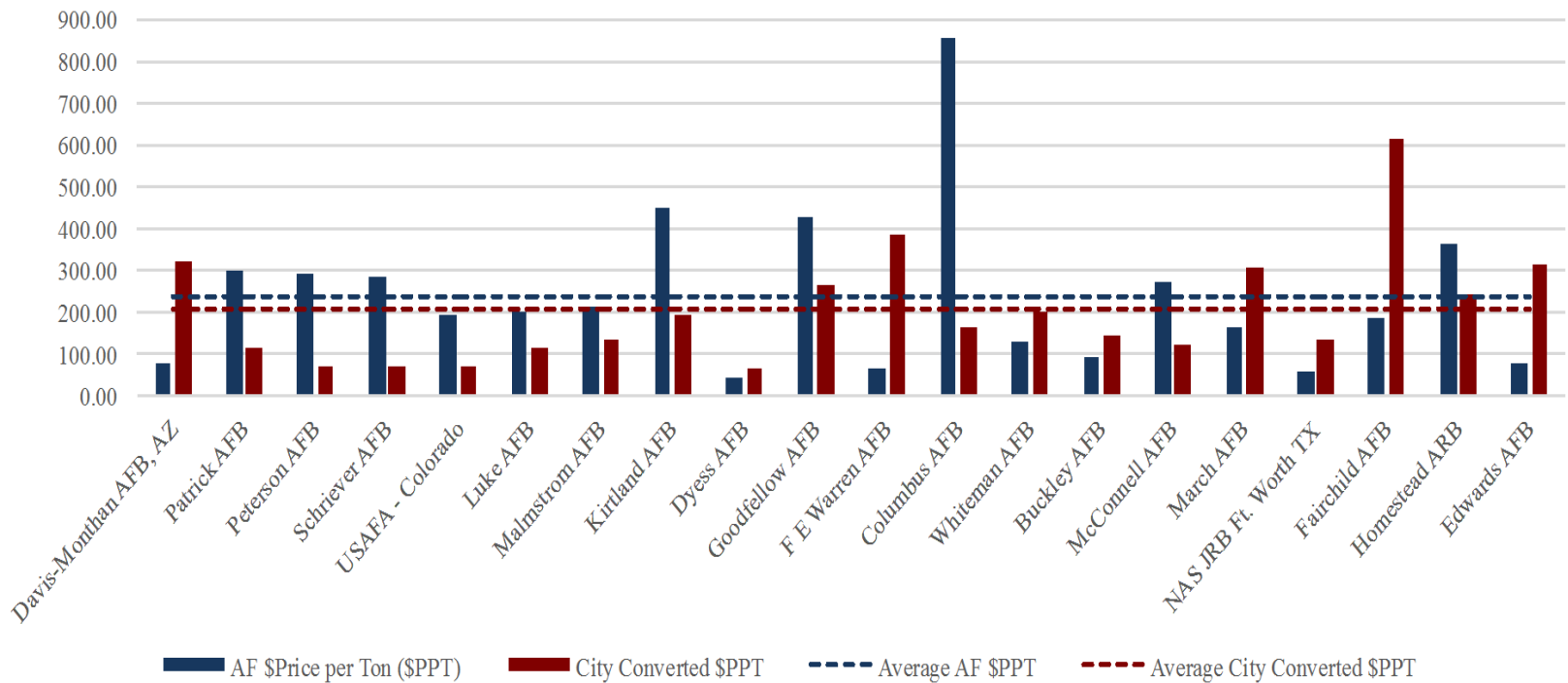
- Of the 31 cities that responded:
 - 10% use a 3-year term contract (3)
 - 16% use a 5-year term contract (5)
 - 39% manage ISWM services in house (12)
 - 22% use a franchise agreement (7)
 - 13% use an open market with an annual city issued permit (4)
- Only one city manages their local AF base solid waste contract.

Problem: Prices in Weight or Volume?

- Cities report their prices paid by the size of the container (2, 4, 6, 8 cubic yards - volume) and frequency of collection (1-5 times per week).
- AF bases report their prices paid per ton (weight).
 - How can AF contracting officers do market research???
- Per the EPA, 1 cubic yard of uncompact, residential, institutional and commercial solid waste = 250-300 pounds (0.125 to 0.15 tons).
- We used 300 pounds, once a week price to construct city price per ton.

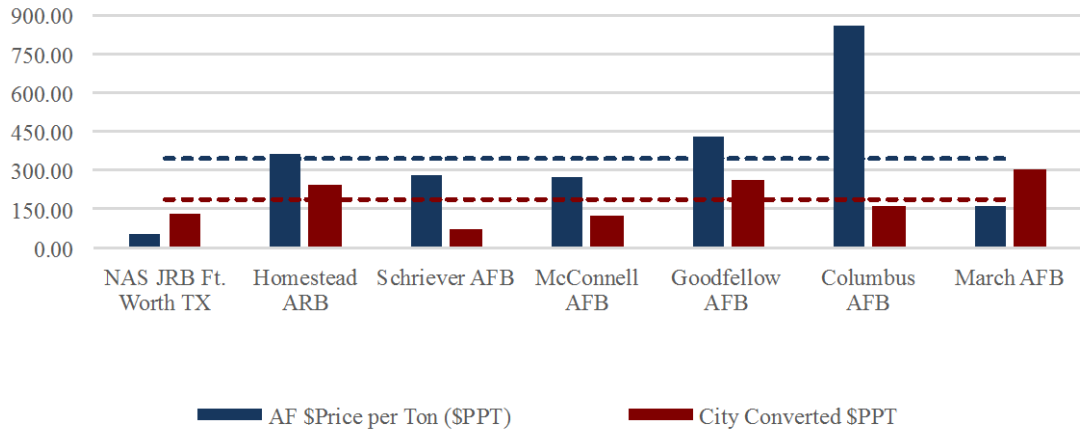
AF Base – City Comparison

Figure 3: Cost per Ton on Waste Disposal: AF Base and City Comparison

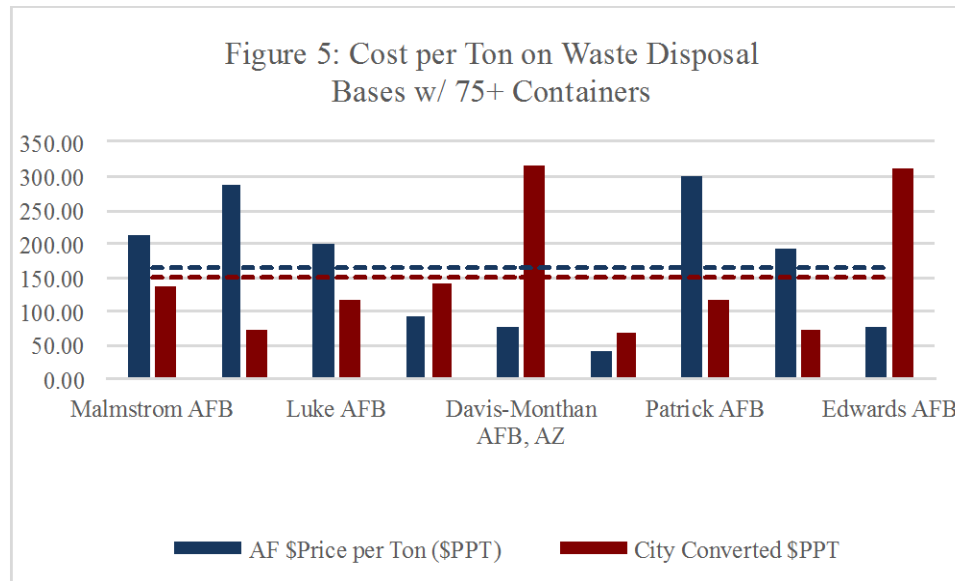


Small Bases

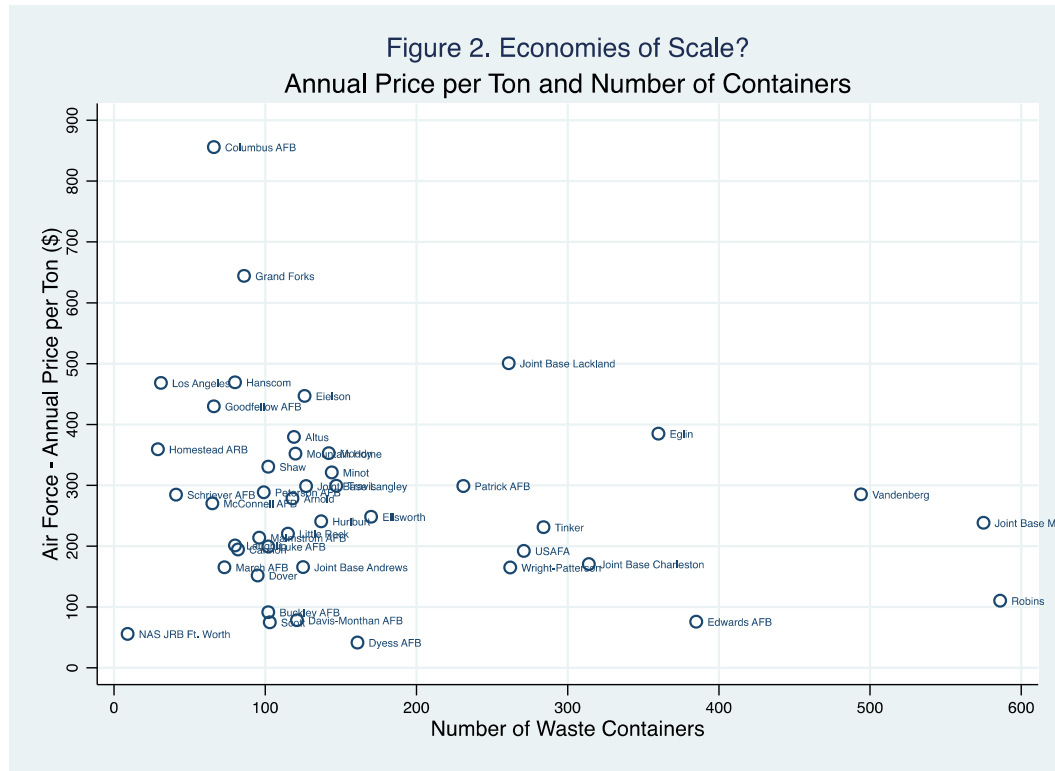
Figure 4: Cost per Ton on Waste Disposal
Bases w/ Fewer than 75 Containers



Larger Bases



Fixed cost of contracting with an AF base?



Conclusion

- No significant differences on average in prices paid per ton between AF bases and neighboring cities.
 - But, when we split the sample by size:
 - Bases with fewer than 75 containers pay significantly higher per ton compared to neighboring cities.
 - Fixed regulatory cost of contracting with an AF base?
- In regression analysis, economic conditions across bases are uncorrelated with prices paid per ton.
 - Number of containers is negatively correlated with price per ton.

Recommendations

- Smaller AF bases should review their contracts and coordinate with their neighboring city.
- AF should standardize the cost data across bases.
 - Each base formats their data differently.
- AF bases should follow industry standards and report their data in costs per cubic yard.
 - Cities are following industry standard.
- We should make it easier for contracting officers.
 - Information on prices paid per ton should be shared across bases along with city prices.