The Impact of the Economic Downturn on Solid Waste Services

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Summary

Providing the essential public service of solid waste management is the responsibility of local government. The manner in which the service is provided varies widely among jurisdictions but, in all cases, the cost of the service to the residents and businesses is based upon the cost of each component of the system - collection, processing, and ultimate disposition. Each of these components can be affected by the economy and local jurisdictions may or may not be able to address these effects depending upon the case-specific revenue scenarios.

This paper is intended to serve as an educational vehicle to legislators and regulators to highlight the impacts to local government of ever-increasing, and costly, regulatory requirements especially acute given the state of the economy.

How the Economy Affects the Amount of Waste Generated

Non-hazardous municipal solid waste (MSW) consists of three major categories of waste: residential, commercial/industrial, and construction/demolition. The generation of waste from each of these categories can be affected by the economy.

<u>Residential Waste</u>. Residential areas are highly individual and diverse so blanket conclusions about residential waste generation in a slow economy cannot be made; however, some general trends can be expected. Consumers buy less in slow economic periods as evidenced by manufacturers' and retailers' reports of declining sales (U. S. Census Bureau http://www.economicindicators.gov/). When people are spending less money on goods, the amount of waste placed at the curb may decrease; for example, they generate less waste packaging material. Also, economy-driven shifts in behavior at home, such as using cloth napkins or towels in the kitchen to save money on paper ones, would logically have a ripple effect on disposal rates. With free access to newspaper websites now available, newspaper subscriptions have declined thus reducing newspaper in the trash.

<u>Commercial and Industrial Waste</u>. The generation of the commercial portion of MSW can be significantly impacted by a slowing economy. As noted above, there is less demand for products and services, which in turn affects businesses' bottom line. Many retailers such as Mervyns, Circuit City, Linens 'n Things, and even Starbucks have either closed stores or gone out of business entirely. Store closures translate into less commercial waste generated in those areas.

Industries have also reorganized and closed facilities as a result of economy including Smurfit-Stone, which manufactures cardboard, shut down a facility in Fresno in late 2008 to consolidate operations elsewhere. This followed an announcement that International Paper was closing its plant in Hanford, California. Earlier this year, chocolate maker Hershey closed two plants in California. Superior Industries International, a company that makes aluminum wheels for cars, announced plans to shut it doors in Van Nuys as well. When large plants or facilities such as these close, waste quantities can be dramatically reduced.

Construction and Demolition Waste. One of the most visible affects of a slow economy is a slow down in the construction and demolition industry. The construction industry has almost come to a standstill with new housing starts (and jobs) at the lowest level in recent years. Regional differences can become important factors in terms of how much the economy is affecting construction and demolition waste generation which will vary among urban and rural areas or in industrial versus residential areas.

As an illustration, the attached graph shows the declining tonnage rate for Sacramento city and county as well as California.

Lower Waste Quantities Equals Lower Revenues

A recent presentation by the Los Angeles County Department of Public Works indicated that disposal in Los Angeles County had decreased by almost 20% since 2006. Isn't having less waste generated a good problem to have? For conserving disposal capacity, yes, but for generating revenues, no. As discussed below, in many cases, local solid waste management programs are funded through gate fees at landfills. For the jurisdictions and agencies that rely on gate fees as the largest mechanism to fund their services, lower tonnages can impact revenues in a serious way.

Agencies that are operating solid waste facilities predominantly rely upon these gate fees to provide the lion share of revenue. These fees cover any number of expenses including operation and maintenance, business taxes, closure / post-closure care, capital recovery, capital for future infrastructure, and community benefit programs. Without waste supply contracts, the landfill is reliant upon the market for revenue and if the gate rate is raised above market rate, tonnage and associated revenue can drop.

Some jurisdictions that rely on a "General Fund with Franchise Fee" mechanism have, in many cases, no city/county-run operations; collection and disposal is conducted by the private sector. This approach can provide more or less security depending upon the financial health of the jurisdiction and the negotiated contract terms. The actual cost of services may be unknown to the residents. Alternatively, the cost of the service may be passed along to the residents and businesses through direct billing, an approach that works out well for the hauler when there is a downturn in the economy since there are fewer trips to the landfill (i.e., less cost) but the revenue level to the hauler is stable.

Some jurisdictions add an assessment to property tax rolls to cover solid waste services, otherwise known as "Parcel Fees". While adding or increasing these fees is controversial, this mechanism can provide a stable source of revenue to local jurisdictions regardless of the amount of waste generated by the community. However, in the case of the ongoing recession, with the decline in housing starts and the increase in foreclosures, property taxes may be depressed.

Other sources of revenue for solid waste programs include sales of salvaged materials, energy sales from landfill gas systems, grants, or bonds all of which as affected by the economy in some ways. For those jurisdictions that have relied on a single source of revenue to support programs, it may pay dividends to look at a more diverse revenue picture to support program management, particularly during times where collection volumes are challenged.

Solid waste management is carried out by a combination of public and private entities. The private sector has a much greater flexibility to respond to the short-term changes in the market, especially if "vertically integrated," meaning the company provides collection and also owns a materials recovery/transfer facility and/or a disposal facility. Costs can be internalized - at least for a time – in a way largely unavailable to public agencies.

Ultimately, when severely financially constrained, a jurisdiction will view collection and disposal of trash as a core public health need whereas recycling may be viewed as discretionary, particularly if there are limited markets for commodities which is discussed further below.

Adding Insult to Injury - Mounting Pressure from the Legislature and Regulatory Agencies

The sharp focus on global warming and climate control has spurred new initiatives aimed at the solid waste industry. Proposed regulations aimed at reducing emissions of greenhouse gases could dramatically impact solid waste management costs through mandates for clean fuel trucks and greatly expanded landfill gas monitoring and collection.

In addition, alleged fears about the long-term risks of landfills after closure, with an associated perception of weak enforcement tools, will result in increasing financial resources put toward financial assurances. Overall, the industry is expected to be as environmentally safe as is thought possible without regard to costs impacts, realistic risk, or even actual environmental benefit.

Diversion program proliferation has had a significant beneficial impact on the overall waste stream. Over the last 20 years since Assembly Bill 939 was enacted in California requiring local jurisdictions to implement waste diversion programs, the statewide diversion level has steadily risen and now exceeds 50% statewide. Yet there continues to be increasing pressure from the State and from environmental groups to further increase the level of diversion and to expand recycling programs. In addition, the list of materials prohibited from disposal with MSW, such as electronic wastes and compact fluorescent bulbs, continues to grow prompting haulers and local jurisdictions to implement new screening and collection programs – which in turn cost more money. The low hanging fruit has been picked – these new programs will come at substantial cost.

It hasn't helped the state of affairs that the commodities market has collapsed. Even though the AB 2020 deposit has buffered beverage containers somewhat from material price decreases, cardboard and newspaper prices have fallen from over $100 per ton to about $40 per ton over the past year. Prices for HDPE plastic have dropped from close to $0.80 per pound to less than $0.40 per pound during this same period. Aluminum prices fell from over $0.50 per pound to less than $0.20 per pound. This situation has caused tremendous financial strain on those that operate facilities.

Cutting Costs in Solid Waste Operations

One might charge that, faced with declining revenues, solid waste operations should simply reduce costs; however, several confounding factors are at work. The current state of the economy has had an adverse impact on aspects of landfill operations other than gate revenues in that fuel and raw material costs have increased. With lower annual landfill disposal volumes, the unit costs for landfill operations may be higher for some facilities.

A thorough review of O&M expenses is key to identifying the universe of opportunities for cutting costs although, in many cases, O&M cost reductions will be dwarfed by the daily loss in revenue due to tonnage drops. This is, in part, because of the capital-intensive nature of solid waste operations coupled with the often long-term uncertainty of incoming tonnage.

The major approaches to reducing costs are related to staffing (hiring freezes or layoffs), deferred maintenance or deferred capital expenditures. This can be damaging to succession planning efforts to accommodate future growth in demand for services as well as optimal operation.

It's not all gloomy. In some cases this economic impact has been positive, for example, with better competition, the cost of construction has, in some instances, decreased. Also, technology keeps getting better. Collection equipment over the years has evolved from a highly manual approach (driver with crew to lift and dump trash into bins) to those with hydraulic lifts to tip waste into the bin thereby reducing labor costs. At materials recovery facilities, electronic sorting lines have reduced labor requirements, improved throughput rates and increased overall quality of the output by reducing the amount of contaminants in sorted products – all of which translate into a better bottom line.

Alternative Revenue Sources

As noted above, cutting O&M costs is not always sufficient to make up for declining revenues. The approaches below offer some promise as long as state support is present.

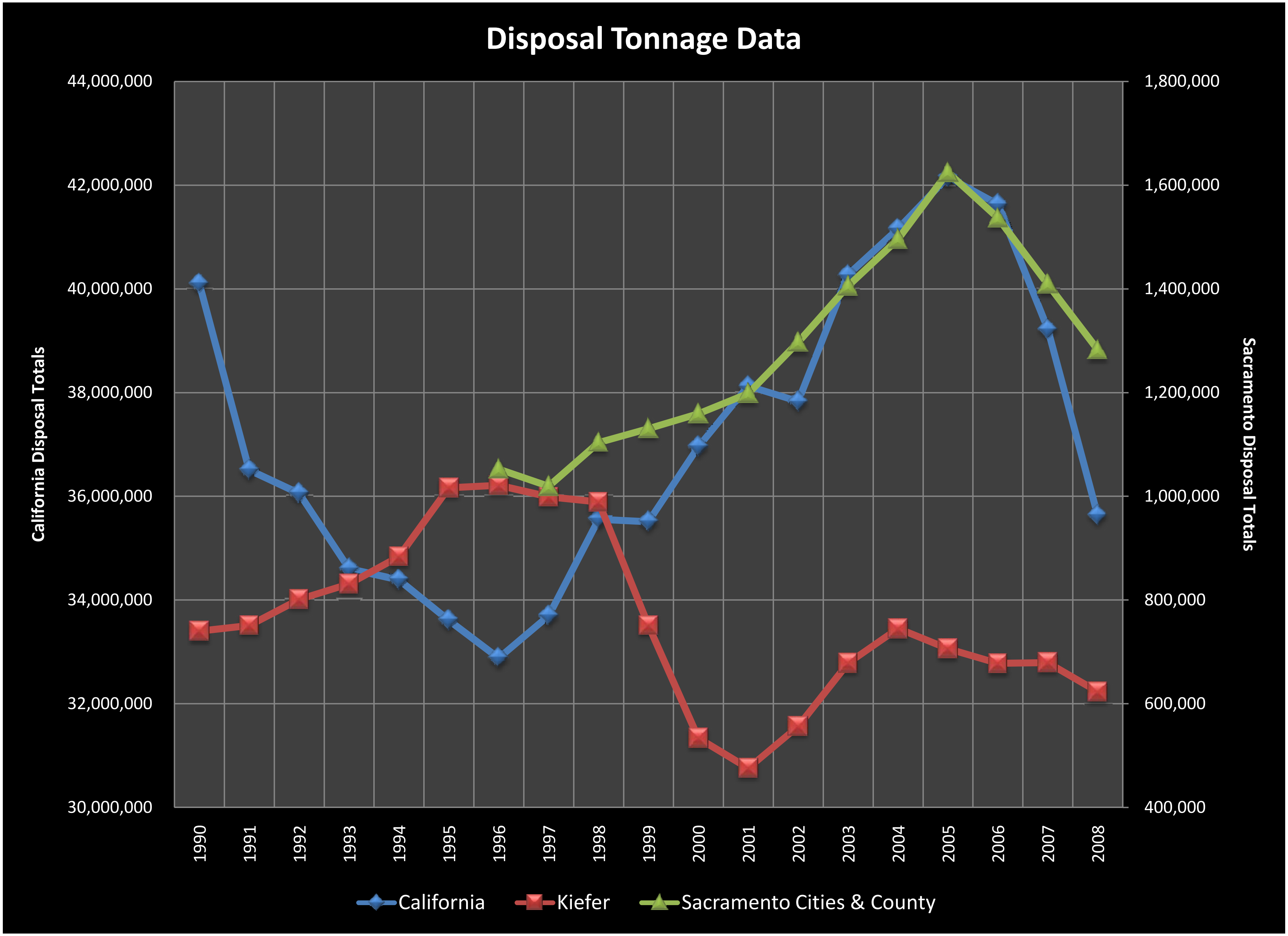
Energy recovery **–** As technology advances, a much broader range of options for energy recovery from waste is coming into the industry. Markets for green power have risen dramatically providing a new, long-term source of revenue. Although technology is advancing making energy recovery equipment more affordable at smaller sites, generally these facilities can have high capital costs. Some emerging technologies are available that, will allow for refuse to be processed into liquid fuels. Support for these technologies at the state level through funding and diversion credit is vital for these technologies to reduce disposal and create new jobs and green power.

MRF operations and associated commodity sales –Management of commodity sales can and should be conducted to maximize financial benefit; however, many of these facilities do not break even. It is critical that the state take the lead in developing new and more stable markets.

Staying in the Game for the Long Term

Ongoing self-evaluation to cut costs and increase revenues will buffer a jurisdiction somewhat from an economic downturn. Should our city/county seek regional partnerships or instead manage our waste in ways unique to our community? Should I seek additional long-term financial stability albeit at a cost? Should our commitment to a specific recycling program (e.g., organics) be immutable given lack of infrastructure or higher cost? There are no right or wrong answers to these questions – given the diverse nature of California, the questions must be decided based on the specifics of an individual community.

Despite the ultimate choices made by local government for the good of communities, it is always critical that legislators and regulators carefully consider the impacts of their actions on the provision of solid waste services, perhaps never more so than during tough economic times. Full cost accounting and life cycle analyses must be considered by the state to ascertain actual costs and benefits to proposed programs. The historical cooperation between local government, the solid waste industry, and the state can continue even in tough economic times, but only with thoughtful scrutiny of uncertainties that influence the provision of solid waste services, one of the most basic societal needs.



Disposal Tonnage Data
California Disposal Totals
Sacramento Disposal Totals
44,000,000
42,000,000
40,000,000
38,000,000
36,000,000
34,000,000
32,000,000
30,000,000
1,800,000
1,600,000
1,400,000
1,200,000
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