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# ***FOOTING THE BILL FOR DIVERSION PROGRAMS: FUNDING OPTIONS***

**-- FINAL REPORT --**

***PREPARED AS PART OF ALAMEDA COUNTY SOURCE REDUCTION AND RECYCLING  
BOARD / 2006 MEASURE D "FIVE YEAR AUDIT" PROGRAM ASSESSMENT***

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# 1. INTRODUCTION AND EXECUTIVE SUMMARY

Recycling and diversion programs generally cannot pay their own way from sales of materials or landfill savings alone – any more than garbage collection programs can pay for themselves. That leaves communities like Alameda County and its member communities (“Agency”) looking for methods to pay for desired programs through other mechanisms. The task is complicated because diversion programs require a change in behavior, practices, and infrastructure – on a small or large scale basis – and if the status quo represents minimum cost, minimum hassle, or has other appealing features, it becomes complicated to try to find funding sources that meet desirable criteria like:

### General Criteria:

- Political acceptability
- Revenue sufficiency, predictability, and sustainability over time
- Administrative efficiency
- Flexibility for modification over time
- Equity, between and among rate-payers, reflecting progressive impact or other standard
- Link to beneficiaries
- Avoiding rate shock

### Waste Management Incentives Criteria:

- Incentives for source reduction and waste diversion
- Incentives for promoting other environmental goals

These criteria, as well as a list of four dozen funding options, are reviewed in this report. Most of the funding options have been known for years, but reviewing the options may provide strategies that represent revenue diversification options to help improve the sustainability of the landfill, integrated solid waste management system, and the component diversion programs. In addition, there are a variety of “time-shift” options – that is, methods for altering the time at which revenues are received, but that are not in themselves, sources of new revenues. These are listed in Table 1, and explained in the remainder of the report.

**Table 1. List of Revenue, Time-Shift, and Service Procurement Options in Solid Waste**

	Revenue / Time-Shift / Service Procurement	Options
Traditional Revenue Sources	<ul style="list-style-type: none"> <li>• Avoided cost</li> <li>• Cash reserves</li> <li>• Deposit / refunds</li> <li>• Districts, special assessments, levies</li> <li>• Economies of scale</li> <li>• Fines, liquidated damages, penalties</li> <li>• Legislative appropriations</li> <li>• Material revenues</li> <li>• Product based fees / taxes including advanced disposal fees (ADFs)</li> <li>• Recycling rebates</li> </ul>	<ul style="list-style-type: none"> <li>• Fees / taxes including:               <ul style="list-style-type: none"> <li>○ General fund revenues</li> <li>○ Generator fees / environmental fees</li> <li>○ Franchising fees</li> <li>○ Import or Host fees</li> <li>○ Export fees</li> <li>○ Permit or business license fees</li> <li>○ Litter taxes</li> <li>○ Single purpose taxes</li> <li>○ County-wide trash taxes</li> <li>○ Parcel, development, or other fees</li> </ul> </li> </ul>

	Revenue / Time-Shift / Service Procurement	Options
	<ul style="list-style-type: none"> <li>• Surcharges / Taxes including: <ul style="list-style-type: none"> <li>○ Business or hauler-assessed</li> <li>○ Landfill / disposal / tipping fee</li> <li>○ Non-disposal based</li> <li>○ Collection taxes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Planning fees</li> <li>• User fees, including: <ul style="list-style-type: none"> <li>○ Customer charges at landfill</li> <li>○ Disposal fees, flat, variable, targeted</li> <li>○ Flat or variable user fees</li> </ul> </li> </ul>
Revenues from Diversified Initiatives; "Next" revenue sources	<ul style="list-style-type: none"> <li>• Airfill space / guarantees</li> <li>• Carbon / emissions credits</li> <li>• Landfill gas recovery revenues, power sales</li> <li>• New services/infrastructure (transfer station, etc.)</li> <li>• Planning fee extensions</li> </ul>	<ul style="list-style-type: none"> <li>• Producer credit systems and processing fees</li> <li>• Shared savings</li> <li>• User fees or Franchise fees on programs developed by the Agency</li> <li>• Charge on materials shipped elsewhere</li> </ul>
Timing Mechanisms	<ul style="list-style-type: none"> <li>• Advanced billing</li> <li>• Bonds (revenues, general obligation, etc.)</li> <li>• Fiscal policy changes or interfund transfers / loans</li> </ul>	<ul style="list-style-type: none"> <li>• Leasing / leaseback</li> <li>• Short term debt</li> </ul>
Service Procurement Alternatives	<ul style="list-style-type: none"> <li>• Contracting</li> <li>• Collection or disposal district</li> <li>• Enterprise fund</li> </ul>	<ul style="list-style-type: none"> <li>• Product stewardship / Producer responsibility</li> <li>• Public-private partnerships</li> </ul>

This report provides detailed information on each of almost four dozen funding, time shift, and service procurement options potentially available to agencies. To help agencies consider which options may be most suited to the specific financial need, we provide background on decision criteria for selecting among the available options. The principles discussed include:

- Match the funding option to the program or funding need in terms of who benefits (beneficiary), cost structure (fixed or variable, on-going or one-time), and timing (current vs. future or past beneficiaries)
- Examine the performance of the funding source relative to key criteria. We outline 26 criteria, generally representing the concepts of equity, sustainability, acceptability, suitability, ability to provide incentives, and other criteria.
- Review the funding options based on characteristics that help move the agency toward goals or that help provide diversity in funding types. For instance, the agency may be most interested in options that are independent of the waste stream (to help improve stability), incentive-based, or share other characteristics of interest.

The discussion of each option provides a categorization of funding type, a description, and a summary of strengths and weaknesses. Beyond the specific objectives of agencies relative to options to support specific programs or activities, the main recommendation is simple – multiple, diversified revenue sources represent the best options for meeting fiscal obligations and achieving key objectives represented by the types of criteria StopWaste.Org or its member agencies would likely deem important. Although there are no “magic bullet” revenue sources, there are several beyond the standard list that are gaining attention, and may bear consideration for StopWaste.Org and member agencies in Alameda County.

- **Shared savings:** This concept of a “shared savings” strategy is borrowed from the energy conservation field. As the Agency develops and delivers programs that save money for a business, the Agency would enter into an agreement that splits or “shares” the bill savings – with the Agency taking half the savings and the business keeping the other half (or some other agreed-upon distribution). This is usually applied for “turnkey” programs – ones in which the Agency comes in and helps “deliver” savings to businesses. This might include

waste audits with changes in operations and maintenance, or helping set up recycling / waste reduction programs, etc. This can be a source of revenues, and although they are usually dedicated to the specific recycling / diversion program, this may be an opportunity for additional funds.

- **Program franchising and user contributions:** As Agencies develop particularly effective “turnkey” programs, attractive program approaches, or effective logos or other “property”, they may choose to franchise or license them to other communities. This can lead to franchising / licensing revenues. It may or may not be a large source of funds for the Agency.
- **Carbon / emissions credits:** With the existence of the Chicago Climate Exchange (CCX) and other entities, there are real markets available for selling carbon or emissions credits. There are also methods for quantifying the carbon credits represented by diversion programs. The Agency should be able to document savings and market those associated credits. This may represent a significant source of funds.<sup>2</sup>
- **Broadened planning fees:** Some communities are charging system planning fees above and beyond California’s statewide planning fees.<sup>3</sup> This may be an option for the Agency.
- **Generator surcharges:** The Agency may be able to implement various residential or commercial generator fees or surcharges, which broadens the source of revenues and can represent a strong source of funds.

Other states and communities are investigating and implementing options for producer responsibility, or for local and regional advanced recycling fees on electronics waste and other products, options that may be feasible in Alameda County or constituent agencies.

The remainder of the report provides a discussion of a process and criteria for evaluating fiscal options; then Table 5 in Chapter 3 includes very brief descriptions of each of the elements that are listed in Table 1.

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<sup>2</sup> A few solid waste agencies have begun to sell credits and others are investigating their options. Complexities in the near term seem to center around establishing guidelines around identifying who may claim credit for the reductions (without double-counting), validating the size of the impact and how much it exceeded baseline and similar issues. However, committees and agencies are working on these issues. There is significant potential. As an example, SERA computed the emissions reductions associated with the PAYT program (and other programs) and demonstrated that millions of dollars of revenues could be achieved through sales on the CCX, and we have conducted similar work for other programs. See, for example Skumatz and Freeman, “2006 PAYT Update: Results and Implications”, Skumatz Economic Research Associates, Inc., Superior, CO, December 2006. Also on EPA PAYT web site.

<sup>3</sup> For example, the City of San Jose implemented a City Disposal Facility Tax, a Local Enforcement Agency assessment, non-franchise hauler fees for recycling, and commercial generator AB 939 fees. Santa Clara County levies AB 939 planning fees. Some of these might be appropriate for StopWaste.Org and can be explored further in interviews with San Jose.

## 2. BACKGROUND AND APPROACH TO ASSESSING OPTIONS

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Jurisdictions – including those in Alameda County – have been considering an array of possible programs to help increase diversion and achieve “green” goals. Virtually always, new initiatives require additional funding. The problem is that funding methods need to balance a wide variety of objectives and concerns – political, administrative equity, and other complicating issues – all of which can make it difficult to identify a source of funding that will be acceptable and meet the needs of the agency.

Many communities rely largely on garbage-based user fees or funding from landfill / disposal surcharges or similar fees. This leaves programs vulnerable to tonnage decreases.<sup>4</sup> Therefore, a key objective for an agency is to develop a list of recommended funding options that will help diversify the revenues for new and existing programs.

### 2.1 Matching Structure, Timing, and Beneficiaries

Examining the best “fit” between specific revenue sources and the application requires a review of key features of the program(s), including:

- 1) Cost structure, including fixed vs. variable cost, one-time vs. on-going, etc.,
- 2) Funding and taxing authority held by the entity, and
- 3) Distribution of benefits, including whether the benefits are to specific users vs. society at large, and benefits received by past, present, and future users.

In order to determine the appropriate method of funding specific types of activities, it is worthwhile to examine the key characteristics of cost items and examine alternatives on the basis of that characterization. The sample funding matrix below identifies ideal funding sources for a hypothetical agency with an array of responsibilities. Note that the decisions on key cost characteristics may vary from agency to agency. Characteristics including whether costs are fixed or variable, current / past / future, and other factors can help identify the types of funding sources that might be most suitable. Hypothetical examples of “matches” to beneficiary, timing, and other factors are provided in Table 2.

**Table 2. Matching Solid Waste Funding Initiatives To Source -- Hypothetical Example**

System Component	Characteristics	Potentially Appropriate Funding
Collection	Variable; current	User fees (utility)
Planning	Fixed, often mandated by state	Grants paid by general fund taxes, utility fee

<sup>4</sup> Many early studies on funding expressed concern about the “death spiral” in which garbage tonnage (and resulting revenues) decreased as recycling and diverted tons – and program costs – increased. However, despite interviews with many communities across the country, we have not seen widespread reports of these fears materializing. Garbage tons seem to continue to grow. A few leading communities in California have needed to identify new sources, but the concerns have turned out to be more fear than reality, at least based on the diversion levels that have materialized in the last 15 years.

**Table 2. Matching Solid Waste Funding Initiatives To Source -- Hypothetical Example**

System Component	Characteristics	Potentially Appropriate Funding
Administration	Fixed, non-capital; current	User fees (utility)
Waste reduction	Activity necessary due to waste production	Tax or fee on waste producers
Program start-up costs	High one-time costs; ongoing benefits	Debt, repaid over the life of the program
Recycling	Variable; benefits current and future users of landfill; economies of scale if widespread; often mandated by state or community (ordinance)	User fees, grants
Hazardous waste remedy	Specific potentially liable parties (PLPs)	User fees from PLPs, and/or grants funded by taxes on substances
Disposal operation	Somewhat variable; current	User fees (tip fee or utility)
Disposal closure	Past generation/users benefit	Property tax
Disposal siting (new)	Future benefit	Bonds from future revenues

## 2.2 Criteria For Evaluating Funding Options

Another consideration is that the funding option should be equitable, sufficient in dollar value, and meet a host of other relevant criteria and priorities. That is, in order to determine the most appropriate source or sources for meeting revenue requirements, funding options should be assessed on the basis of criteria that represent the most important factors for an agency. As examples, about two dozen criteria are listed below, and can be sorted into classes:

- Equity
- Sustainability
- Acceptability
- Provides incentives
- Suitability, and
- Other.

We have assembled a list of key or priority criteria, with some explanations in Table 3 and the paragraphs following. Note that these criteria are in some cases competing, and that no funding source will be able to score highest on all criteria – that is, there are tradeoffs.

**Table 3. Listing of Sample Funding Option Evaluation Criteria**

Potential criteria	Description
<b>Equitable</b>	
1. Equity – horizontal	Those who use similar amounts pay (or are taxed) similar amounts.
2. Equity – vertical	Those who use more pay more.
3. Equity – non-regressive	Those with limited abilities to pay are considered.
4. Equity – fair in apportioning costs	Apportions cost to the appropriate customer groups and in accordance with the level and types of costs.
5. Equity – non-discriminatory	Does not unduly assess some users disproportionately or promote large subsidies between customer groups.
<b>Sustainable (revenue-related)</b>	
6. Revenue adequacy	Generates sufficient revenues to fund the costs of the solid waste system, and provides adequate revenue through periods of economic fluctuations.
7. Appropriate base, broadens revenue base	Rates are levied over a broader customer base and derive revenues from an appropriately-broad range of agency's beneficiaries.

Potential criteria	Description
8. Reliability	Revenue should be stable and unlikely to deviate from expectations.
9. Predictability	Rate adjustments should occur in a predictable and orderly manner to facilitate business and household planning. Rate changes may need to phase in to avoid rate shock to existing customer groups.
10. Efficiency	Funding structure discourages wasteful use of resources and reflects present and future private and social costs and benefits.
11. Responds to changes – dynamic efficiency	The system does not need to be significantly restructured on a frequent basis in order to reflect changes in the market place or in the economy, etc. Responds economically to changing demand and supply patterns.
<b>Provides incentives</b>	
12. Appropriate pricing reflected	The structure of the prices generally reflects the long run costs of service and the waste management hierarchy.
13. Waste reduction incentive	The rate structure provides incentives to encourage waste reduction, reuse, and recycling.
14. Neutrality	The structure of the charges does not affect economic decisions in inappropriate or unintended ways.
<b>Acceptable</b>	
15. Economic impacts	Considers the economic impacts on waste generators and ratepayers.
16. Affordability	The ability of those paying for the programs to bear the cost they are responsible for is considered.
17. Responds to changes	The system does not need to be significantly restructured on a frequent basis in order to reflect changes in the market place or in the economy, etc.
<b>Suitable / Implementable</b>	
18. Appropriate to agency	Funding source relates to agency's activities and responsibilities.
19. Consistent with agency goals	Provide consistency with agency's planning objectives.
20. Implementability	The relative cost and effort of implementing and administering the rates is reasonable relative to the revenues.
21. Simple, unambiguous, administratable	The rates are easily understood, administered, verified, and enforced. Free from ambiguities in interpretation. Minimizes the cost and effort to pay, collect, and audit the fee. Minimize potential for legal challenge. Compatible with collection mechanisms.
22. Acceptable, feasible	The charge is feasible and will be considered acceptable by ratepayers, political groups, and others.
23. Agency has (legal) authority to implement	Agency has or can obtain the authority to implement the fee.
24. Appropriate for agency's cost elements	The fee can be structured to provide an adequate match for subsectors of agency's cost structure.
25. Integrates well with other funding mechanisms	Should more than one fee or revenue source be explored, they should be non-overlapping or should integrate in such a way that they reinforce rather than undermine the incentives provided, etc.
<b>Other</b>	
26. Credit rating impacts	Considers effect of funding structure on agency's credit rating.
27. Track record	Fee method has been used successfully in other jurisdictions, by similar type of agency, and/or for similar types of expenditures.
28. Other issues and priorities	As appropriate to the agency, political or other groups.

Based on a review of funding related ordinances from communities and a review of a variety of literature on tax and non-tax related options, we find repeated patterns on key criteria for different types of funding options.

- Tax-related options: Basic principles indicate that tax based funding mechanisms should be equitable, simple, and economically neutral. They should generate sufficient revenue to

finance desired services over time (adequate), and be administratively simple. Criteria include: equity (horizontal, vertical, and non-regressive), simplicity, neutrality, adequacy, and administration.

- Non-tax (rates-related) options: Based on the literature for rates related funding mechanisms, key attributes relate to equity and efficiency for a sound rate structure. Specific criteria include efficiency, equity, nondiscrimination, and dynamic efficiency.

In addition, the authority available to different entities or agency types may differ – county, city, joint powers authority, etc.<sup>5</sup>

As previously noted, these criteria are often competing; therefore, no funding source will be able to score highest on all criteria. For example, a source that broadens the base is almost certainly going to score lower on implementation issues than any method that affects the current revenue base. Judgment in balancing priorities and objectives is needed in order to tailor an appropriate set of revenue sources.

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<sup>5</sup> For example, JPA agreements are usually required to provide for the disposition of any property or assets acquired as the result of an agreement. After the agreement has been completed, these resources must be returned to the parties to the agreement in proportion to their contributions. For example, funds generated through fees for garbage collection would not be evenly divided among the governments who signed the agreement unless the governments contributed equally. Parties to a joint powers agreement may also establish a joint board that may issue revenue bonds or obligations. The revenue from those bonds must be used for the purposes presented when the bonds were issued and are the responsibility of the joint powers board. (from [www.extension.uwm.edu/distribution/citizenship/components/6541\\_05.html](http://www.extension.uwm.edu/distribution/citizenship/components/6541_05.html); for example).

### 3. DESCRIPTIONS / DISCUSSION OF FUNDING OPTIONS

States and jurisdictions have used a variety of revenue-generating strategies to fund solid waste initiatives, but new initiatives usually require new funding options – options that can and should be assessed on a variety of criteria, as discussed earlier in this report. This is particularly useful as communities look for options that provide specific advantages; for example, they might add diversity in funding, provide better incentives, or help balance weaknesses in funding methods currently in place in the jurisdiction. Table 4 categorizes the variety of fees, surcharges, taxes, general fund, grants, and other sources by some of these key characteristics or objectives.

**Table 4. Solid Waste Revenue Options – by Characteristics**

(Source: Adapted from Skumatz, Lisa A., Ph.D., “Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa”, 2000)

OPTIONS BY CHARACTERISTICS	
Incentive-based funding options <sup>6</sup>	<ul style="list-style-type: none"> <li>Advanced disposal fees and product-specific taxes / fees and producer responsibility options</li> <li>Carbon / emissions credits / green revenues</li> <li>User fees – variable, by commodity, quantity, etc.</li> <li>Disposal-based fees / taxes / surcharges</li> </ul>
Funding options that are waste-stream or service authority dependent	<ul style="list-style-type: none"> <li>Rates or usage charges (tipping fees, weight/volume, customers, materials)</li> <li>Disposal or tip fee surcharges</li> <li>Facility host fees</li> <li>Disposal taxes</li> </ul>
Funding options that are more independent of the waste stream	<ul style="list-style-type: none"> <li>Advanced disposal fees (not based on disposal) and niche / single item product taxes, and producer responsibility strategies</li> <li>Generator fees (residential, commercial; per household, square foot, flat, etc.); environmental fees (not based on actual disposal)</li> <li>Broad based taxes, general fund</li> </ul>

A detailed list of dozens of funding options, along with key advantages and disadvantages, is provided in Table 5 below. The funding methods are grouped into three main categories (see “type”):

- Strategies that actually raise new revenues;
- Alternatives for getting diversion services provided, perhaps by outside entities<sup>7</sup>; and
- Tools that help shift the time that revenues are available, potentially helping address temporary funding barriers.

Note that many options are very similar, and may in some cases be portrayed as a fee, tax, or surcharge. Which of the variations on the theme is implemented in a community may depend on the political authority or solid waste purview awarded to that type of jurisdiction, or to the political will of the elected officials. Whether to “name” the new option a fee, surcharge, tax, deposit or other item may depend on the judgment of the agency’s attorney. In any case, the four dozen strategies actually include many more “names” for solid waste funding options – however, many are extremely similar and related strategies are grouped together in this table. States, cities, counties, and joint power authorities have implemented a wide variety of the options discussed below.

<sup>6</sup> Generator fees might be added; however, many of these are based on business or household type, not individual behavior, so the incentive is muted.

<sup>7</sup> Which can help ease an agency’s direct fiscal responsibility.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
1			<b>SOURCES OF REVENUES</b>		
2	Revenue	Airfill Space / Guarantees	Airfill Space Guarantees: Landfill / disposal site sells off rights to future disposal at the site and space is reserved.	Users pay; Could be source of significant revenue; Retains incentive for local jurisdiction to reduce disposal; Provides revenues earlier; Could even be purchased by those wanting to assure space isn't used / incentives.	May be difficult to price appropriately / forecast future needs; May reduce incentive for the other jurisdiction to recycle; Local jurisdiction may resent selling off space to others.
3	Revenue	Avoided Costs	Avoided Costs: Revenues can be gained by the savings from lower use of solid waste services and applied to funding the recycling or diversion activities. Avoided cost methods including avoided collection, disposal, transfer, hauling, tip fees, and inter-jurisdictional agreements to achieve economies of scale in facility size or market prices. If the jurisdiction provides both refuse and recycling services the costs are recovered directly. Some jurisdictions have recovered credits in contract clauses.	Can avoid increasing budget requirements through savings in the system.	Not usually large new source of funding; More difficult if responsibility for aspects of system (disposal vs. recycling) are delivered by different entities / potentially addressed by credit system.
4	Revenue	Carbon / Emissions Credits	Carbon / emissions credits: Diversion, reuse, and waste prevention programs can lead to significant reductions in green house gases. With documentation, a market is becoming available for selling carbon equivalents on the marketplace (for example, on the Chicago Climate Exchange and other venues). This can be a significant source of revenue.	Rewards reductions in emissions and more reductions lead to more funds; Can result in substantial funds; Markets available.	Some documentation needed; May require sustained reductions and budget commitments.
5	Revenue	Cash Reserves	Cash Reserves: Jurisdictions use existing cash reserves to fund the construction of new facilities. Elections would not be required and no debt costs are incurred.	Flexible; Avoids interest cost; Avoids administrative costs associated with debt management.	Jurisdiction may not have adequate cash on hand to perform required solid waste management services.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
6	Revenue	Deposit / Unredeemed Deposits	Deposits: Deposit programs charge consumers an additional fee on the purchase of certain defined products / product categories which is returned to the consumer when the product is returned to the retailer or redemption center. Manufacturers must then accept returned items and refund the retailer for the amount of the deposit plus a handling charge. Deposits are not designed to generate revenues, but to provide an incentive to consumers to separate and return the targeted products and to force manufacturers to take responsibility for their products after their useful life. Deposits may be assessed for C&D tonnages, bottle bills, or other sources. The unclaimed deposits may represent a substantial revenue source for recycling or other services.	Economic incentive for proper disposal; Can represent significant source of funds for some programs.	Not usually source for large revenues (although unclaimed deposits are becoming a source of funds); At local level may cause purchasers to shop across jurisdictional boundaries; If revenues are large, may indicate fees are not high enough.
7	Revenue	Districts / State Authority Funds	Districts, Special Assessments or Levies: Special assessments raise revenues through the imposition of assessments on properties within identified geographic areas for specific projects that will benefit those properties. They frequently require voter approval. State Authority Funds/Districts: Many states have the ability to create special state authorities such as a solid waste authority. This authority can levy specific taxes to fund a revolving solid waste fund. These monies can then be returned to local governments in the form of grants, low interest loans, or used as credit enhancement for a bond issue	Can be good source of revenues for specific needs.	Usually need voter approval.
8	Revenue	Economies of Scale	Economies of Scale: In some cases, revenues are gained by making an agency's facilities available to surrounding communities for use, and charging fees that reflect the cost of doing business at a lower volume than might be seen by each participating community.	Lower costs overall; Improves economics of recycling.	Difficult to get surrounding communities to cooperate in many cases; Ownership can be a complicating issue.
9	Revenue	Fines, Liquidated Damages, Penalties	Liquidated Damages, Fines and Penalties: Fines and penalties may provide a small source of additional funds. In most cases, they are fines for substandard performance on contracts; in some cases, they have been assessed as higher tip fees or penalties for not reaching goals. Given the small size, these funds may be best suited to special education or publicity projects.	Assesses users / abusers of system	Not usually a large source of revenues; Difficult to identify offenders in some cases - owners / dumpers, etc.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
10	Revenue	Grants	Grants: Grants are awarded to local governments for many purposes from state and federal government sources and from private foundations. Grant monies, when available, are an excellent way to finance local government projects. They are usually applicable to capital purchases, and on-going expenses are usually excluded from grant funding.	Allows service to be provided or enhanced without direct impact on local taxpayers or ratepayers; May free other budget money for local government activities or tax / fee reductions; Politically popular since portion of costs are borne by people who do not vote in local elections; Equitable / can help recover revenues from groups not contributing through other means.	Funds may not be available; Eligibility issues may arise; Funding tends to be volatile; Usually only available for certain types of expenditures (not on-going).
11	Revenue	Infrastructure Fees	Infrastructure fees: Jurisdiction may introduce new facilities / build new (needed / recycling) infrastructure and introduce fees incorporating surcharges or other fees to help fund additional recycling / diversion initiatives.	Introduces needed infrastructure and provides revenue option; If tonnage-based provides diversion incentives.	Raising up-front cash may be problematic unless facilities are needed.
12	Revenue	Legislative Appropriations	Legislative Appropriations: State legislators may sometimes help fund necessary regional facilities.	Strong funding source.	Rarely granted; Requires lobbying and justification.
13	Revenue	Material Revenues	Material revenues: Revenues from the sale of recyclable materials is another source of income. It fluctuates with markets for materials and can be unstable.	Can help offset some operating costs.	Fluctuates with markets and can be unstable; Usually covers a minority of costs of system / program.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
14	Revenue	Product-based ADF Fee / Tax	Advanced Disposal fees (ADFs), Product Taxes: These are essentially sales taxes or disposal taxes on single items, or selected product categories, usually ones that pose unique disposal challenges (like tires, batteries, white goods, etc.) to offset the cost of managing the wastes. These taxes can be imposed by local, state, or federal government agencies. Besides raising revenues the taxes often attempt to influence consumer purchasing behavior. They are usually assessed on manufacturers and passed onto consumers. ADFs are usually levied at the state or regional level because of the difficulties of transport of goods across boundaries to avoid the extra fee. Revenues are often specifically earmarked for the management of wastes resulting from the product, although they are also used for general solid waste services. ADFs are desirable because they can provide a consistent source of revenue and place the costs of disposal of a product up front. These systems can be complicated to administer and implement, including estimating the cost of disposal, the perception as a tax, and balancing the size of the fee and incentives, with political acceptability.	Equity from charging users of problem materials / services; Uses markets (not regulation) to accomplish environmental goals; Promotes diversion and environmentally benign behavior; Can provide significant revenue; Can target problem materials.	ADF fees may be set too low to affect behavior; Design & administration complicated; Resistance from lobbyists; Best administered at state or higher level (not local); Consumers may perceive as "tax"; Fees can be regressive; Where to assess fee complicated; Not well suited to products without substitutes.
15	Revenue	Product-based Disposal Tax	Product-based disposal taxes: Product-based disposal taxes are levied on manufacturers based on materials used in the products and packaging, ideally reflecting the cost of disposal. This kind of disposal charge (most effective at the federal level) is attractive because it incorporates the disposal cost into the manufacturing process and compensates for market systems and helps embed life-cycle cost into product prices. It is very similar to ADFs; however, there may be an option to charge other ways than ADF.	Popular; Easy to apply / collected on easily defined product at defined place; Easily monitored; Feasible form of taxation for local government; Equitable / directed toward amount of waste generated; Can be applied to all haulers and users of system.	High taxes may lead to illegal dumping and avoidance; Difficult to assess on tons that do not stay local / may bring tons outside the jurisdiction.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
16	Revenue	Product-Based Manufacturer Scrap / Producer Responsibility Fee	Credit systems and processing fees: These systems refer to financing methods in which manufacturers guarantee some minimum level of recycling or minimum scrap value for their product. Under credit approaches, manufacturers guarantee by recycling the products themselves or purchasing a recycling credit from independent recyclers, essentially paying others to recycle their products. Processing fee mechanisms (like California's bottle bill) offer manufacturers two options: they may guarantee scrap prices sufficient to cover recycling costs, or may pay the government a processing fee equal to the difference for each product sold. The revenue from the fee is used to reimburse recyclers for their costs, and money paid by manufacturers goes directly to recycling. Revenue can be difficult to predict.	Places some burden for disposal-related fees on manufacturers; Can be significant source of revenues or program funding.	Difficult to set up / get agreement; Revenue can be difficult to predict; Level must usually be larger than city/county to be successful or negotiated.
17	Revenue	Program / Service Franchising Revenues	User fees for services or program franchising: If a community develops a program design, logos, or other marketable products, it may legally protect those products and assess franchise or other fees as it markets them to other jurisdictions.	Source of revenues for well-defined, transportable programs developed by agency.	May not be large revenue source; Must patent/ protect the products; Not yet used much by solid waste agencies.
18	Revenue	Recycling Rebates	Recycling Rebates: As part of a collection contract, private haulers handling collection of both waste and recyclables may be required to pay a recycling rebate to the municipality. The hauler rebates the municipality a specified amount per ton of recyclable material collected, and helps realign disassociation of costs and benefits of recycling.	Provides revenues back to the community for recycling.	Hauler may not encourage recycling if they have to pay.
19	Revenue	Revenues - Energy or Landfill Gas	Landfill Gas or Energy Sales: Revenues from the sale of energy produced from WTE, landfill gas extraction, or other resources can be used to offset the cost of operations.	Provides diversification of revenue source for programs and activities.	Must have the resources to sell; Revenues may be assigned to general fund unless enterprise fund, etc. established.
20	Revenue	Shared Savings	Shared savings: Jurisdictions that help commercial businesses implement waste prevention or recycling programs that save money may consider entering into contracts to provide turnkey services and share the solid waste bill savings with the business. This is modeled after similar strategies use in energy conservation.	Provides funding related to program performance; Can provide significant revenue source for cost-effective programs; New revenue source for most jurisdictions.	Need to convince businesses by providing trouble free, cost-effective program; Unpredictable revenue source / possible slow ramp-up.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
21	Revenue	Surcharge / Tax - Business - General or Hauler	Business or Hauler Surcharge / Tax: Special weight-based taxes may be assessed on landfills and set aside specifically for the funding of diversion programs. Similar taxes can be assessed on refuse collectors. The taxes can be shaped to create incentives; for example, Seattle refuse collectors are exempted from paying taxes on revenues from recycling collection. In other cases, businesses are charged a tax to assure that they pay their "fair share" toward closure of past landfills. The fees may be assessed by business type, etc. Related to Surcharge / non-disposal below and Hauler-based below.	Flexible fees that provide options to raise fees directly or indirectly from generators; Can be generally related to generated materials; Relatively easily computed / assessed.	Need to affirm legal authority to implement various options; May have some political difficulty implementing; Need to select level that doesn't adversely affect local business development.
22	Revenue	Surcharge / Tax - Disposal or Tipping Tax	Landfill Surcharge, Disposal Tax, Tipping Tax: These revenues have been a traditional funding source for waste management and waste reduction programs. States, counties, or other entities may be able to collect a surcharge at the transfer station or landfill (public or private) to fund solid waste management within the County/jurisdiction. Surcharges must be structured to avoid driving tons away from the facility. Fees at the point of disposal are also called tipping taxes, charged as part of the tipping fee, and paid by the waste haulers or a franchise or landfill tax, paid by the facility operators. They are popular with local and state jurisdictions to fund solid waste management funds in general and recycling in particular. They are easy to administer (quantified at defined place), equitable (related to tons delivered) and generally do not encounter significant political opposition.	Fees charged to users of system that contribute to waste stream; Clear place to assess charge / ambiguous; Increases tip fees providing incentive to use less service.	Revenues decline if tonnages fall leading to potentially unstable revenues; Increases tipping fees providing incentives to dispose less / divert more.
23	Revenue	Surcharge / Tax - Non-disposal based	Surcharges: Surcharges on generators, license fees, local income taxes, special assessments, land use fees graduated to reflect waste generation propensity by category of use to help pay for programs, planning, or services. Surcharges can be imposed at the point of disposal (see other entry) or at the point of generation or collection. They are popular with local and state jurisdictions to fund solid waste management funds in general and recycling in particular. They are easy to administer and generally do not encounter significant political opposition. Related to Surcharge / Tax Business or Hauler.	Flexible fees that can achieve different objectives / provide incentives; Funds may be applied as defined.	Need to affirm legal authority to implement various options.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
24	Revenue	Surcharge / Tax: Hauler or Collection Tax	Collection Tax: This levies a recycling tax on residential and commercial trash collection service (entity may or may not have authority).	Bills those that use service; Simple administration; Can be designed to reflect level of service; Can provide incentives; Increases as cost of collection increases / steady source of revenue.	May be more difficult administratively with hauler unless implemented as revenue tax; May not be popular; May be hard to pass.
25	Revenue	Tax / Fee - General Fund, Property / Sales Tax	General Fund Revenues: The primary source of general fund revenue is the property tax, although sales and public utility taxes, business license fees, and special assessments contribute to the fund. However, these funds suffer from many competing demands for funds and legal limitations. Solid waste systems are very commonly funded through general revenues, derived from property taxes or sales taxes. Individual users don't pay additional out-of-pocket amount to receive waste services. However, there is generally considerable competition for the funds from municipal departments and programs.	Relatively stable revenue source; Equitable in that it spreads cost of solid waste service to all citizens who benefit from public health improvements from solid waste services.	Taxes are politically unpopular; Sales taxes tend to be regressive; General taxes do not create incentives to reduce waste
26	Revenue	Tax / Fee - Generator Fee / Environmental Tax	Generator Fees / System Management Fees / Environmental Fee: A generator fee broadens the revenue base to wider segments of the solid waste system users within a region. They can be assessed per household, per business, revenue-basis, or varying fees depending on business type, etc. These fees may be assessed on tax bills or other mechanisms and are closely related to disposal taxes.	Flexible in design; can be structured to reflect services provided / received to generators; Can be designed to reflect relative generation / disposal / services; Used in many jurisdictions; Revenues are sufficient, stable, predictable; Implementation can be straight-forward.	No waste reduction signal; Agency needs to direct access to property tax or other charging method; Not usually "up the chain" at point of production.
27	Revenue	Tax / Fee - Hauler Franchise Fees	Franchising fees: Franchise fees are paid by collection contractors to the local government, and can be assessed on a flat or tiered percentage basis. These fees can be based on gross receipts or other metrics, and represent a significant revenue potential for a solid waste agency.	Strong source of revenues; Can be structured to provide incentives for diversion (rewarding haulers meeting goals with lower franchise fees); Can	Requires franchising / districting for private haulers which can be difficult to implement politically.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
				be adjusted periodically.	
28	Revenue	Tax / Fee - Host Fee, Import Fee, Export Fees	Import or Host Fees: Cities or counties that accept waste from other jurisdictions sometimes establish fees on imported waste to compensate for the use of the facility and the loss in capacity. This compensation, along with local mitigation fees, can be included in franchising agreements or other established fee mechanisms. Host fees are paid to the local government jurisdiction in return for "hosting" a (private) solid waste facility within its boundaries. Host fees are usually negotiated at the time the facility is sited, and are contractual arrangements between the government and the private firm. Most host fees are structured as a percentage of gross sales, although other forms are open to negotiation and are designed to relieve impacts caused by the facility. Export fees: These fees may be possible (especially if generator based or if based on material managed or accumulated at local transfer stations and shipped outside for disposal) but fees must be structured that don't interfere with interstate commerce.	Provides revenues based on relieving impacts caused by a facility. Export fees based on generation of waste to be managed.	Host / Import fees increase costs and may make a facility less competitive. Export fees may lead to greater use of local facilities, which may be a problem if space is constrained.
29	Revenue	Tax / Fee - License Fees	Permit or Business License fees: Permit fees for landfills or firms that provide waste management services is a source of revenue, and a mechanism for bringing the commercial sector into the fee system. New permits or fees can be established or existing fees may be increased to create revenues for new programs. Haulers can be charged fees for the right to operate in the area. Fees can be structured as per-business fees, per truck, or other structures. Revenues are usually limited to recovering administrative or direct costs of oversight.	Flexible / adaptable; can be based on revenues, customers, tons, trucks, capacity, flat; Can be priced to cover costs / stable revenue source; Can tweak for incentives; Source of revenues related to management of solid waste.	Administration, accounting, enforcement needed; Revenues may be low - only enough to cover direct costs; More complex fees will be equitable but more complex to administer.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
30	Revenue	Tax / Fee - Litter Tax	Litter taxes: Several states have enacted litter taxes, typically based on corporate earning or property tax assessments. A few states charge all businesses within the state; others specify that only "litter producing" companies must pay. Generally these measures are easy to administer because computation and collection is simple, and they product a consistent revenue stream. Keeping taxes low is one way to minimize backlash.	Exist in several states; Can be assessed on broad categories of goods / products; Provides producer incentive to produce products with less packaging and using less of target component; Funds can be used for cleanup, recycling, etc.; Can be assessed locally or higher level; Stable source of significant funds; Easily implemented especially if piggy-backed with other fees; Can be linked to problem goods; Broadens funding base / not tonnage dependent.	Not based on usage / may be considered unfair; Taxing limits; Can be unpopular and difficult to pass; Assessing at "point of sale" may be difficult depending on program; May not affect behavior if integrated into product price; May not be large revenue source.
31	Revenue	Tax / Fee - Parcel, Land, Development Fees	Parcel, Development, or Other Fees: Parcel fees can be levied on the purchasers or developers of land to support solid waste planning services.	Can be source of revenue but not usually large; Can be structured to provide planning or other incentives / equitable by parcel size, value, class, zoning, etc.; Administratively easy to implement.	Does not provide incentive for reducing use of service unless specially designed.
32	Revenue	Tax / Fee - Planning Fees	Planning fees - basic or broadened: The jurisdiction may assess planning fees, usually as a surcharge on disposal tons, but other options may be available. In California, some fees are already assessed; these may possibly be broadened by the jurisdiction. Related to Surcharge / Tax - disposal-related.	Easily computed and collected; Can raise very significant revenues for solid waste and program planning and development.	May be difficult to get implemented; Need authority to implement.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

*(Adapted from Skumatz "Financing Alternatives Analysis for Strategic Solid Waste Planning in Iowa", SERA, 2000)*

N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
33	Revenue	Tax / Fee - Single Purpose	Single Purpose Taxes: A single purpose tax is a tax levied to fund one activity. Some states have provisions for a special solid waste management mill levy to support solid waste management activities within the area. A special solid waste sales tax can be initiated in many areas to support solid west activities.	Steady / secure sources of funding / not based on volume.	Can be difficult to get passed; not usually hard to administer.
34	Revenue	Tax / Fee - Trash Tax	County-wide Trash Tax: This recycling tax is levied on residential and/or commercial trash collection services based on establishment of a solid waste management district (or under home rule arrangements). This may require voter approval. Related to Planning fees and to Hauler fees.	Easily computed and collected; Can raise very significant revenues for solid waste and program planning and development.	May be difficult to get implemented; Need authority to implement.
35	Revenue	User Fee / Rates - Customer Charge / Flat Fee at Disposal	Customer Charge at Landfill: Authority charges a deposit or annual fee for customers to use the facility (helps cover fixed costs), and customer pays weight or other fee beyond the annual fee.	More accurately reflects cost structure; Helps stabilize revenues; Needs to be designed to assure equity, non-burden.	Not clear how to incorporate at non-owned facilities; Administration and compliance more complicated than simple tip fee.
36	Revenue	User Fees / Rates - Disposal Fee	Disposal fees: Disposal or tipping fees are assessed on the number of tons (or cubic yards) of waste accepted at a transfer station, landfill, or incinerator. The fees are set to recover costs (plus a profit margin), and provide a substantial source of revenue.	Non-controversial; Unambiguous; Linked to usage	Subject to increasing per-ton fees if revenues not diversified; May drive customers to other facilities; May not affect all cost factors in management, transfer, hauling of waste; Treats all types of waste the same.
37	Revenue	User Fees / Rates - Flat	User Fees – Flat: User fees, assessed to households and/or commercial waste generators, are an equitable means of funding solid waste management systems. Flat rate fees can be assessed for a wide variety of solid waste services.	Assessed on users; Significant source of funds; Stable source of revenues; Relatively simple to administer.	Does not encourage reduction / recycling.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

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N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
38	Revenue	User Fees / Rates - Variable	User Fees – Variable: User fees, assessed to households and/or commercial waste generators, are an equitable means of funding solid waste management systems. These options may include Pay as you throw (PAYT)/variable fees, flat fees, or other options. Solid waste service fees can be assessed based on volume, tons, or other unit or by business type, or by type of waste (either to reflect costs, provide incentives, etc.)	Fair / assessed on users; Significant source of revenues; Flexible; Can be structured to reflect costs of handling different wastes; Can provide incentives to separate waste or find alternative handling method; Keeps capacity for preferred users.	May lead to revenue risk / under-recovery of fixed costs; May provide incentive to deliver "mixed" or contaminated waste to reduce costs; Involves additional billing, handling, enforcement burdens; Administrative difficulties; more complicated rates / calculation / approval.
<b>SERVICE PROCUREMENT OPTIONS</b>					
39	Service	Collection District / Disposal District	Collection / Disposal District: This option (described as State Authority above) can provide greater authority and provides enhanced revenue options.	Can be good source of revenues for specific needs.	Usually need voter approval.
40	Service	Contracting / Franchising	Contracting: Service can be procured without capital investment by contracting for service and using revenues from service to pay contractor. Additional fees to fund broader programs can be raised. Franchising allows rights to collect in jurisdiction or districted areas of jurisdiction, and assessed fees upon haulers.	Allows community to get service without investment of up-front capital.	May make community "beholden" to service provider; Service provider will need long enough contract to amortize the debt.
41	Service	Enterprise Funds	Enterprise Fund: Services can be provided in a more integrated fashion after establishing an enterprise fund. An enterprise fund is established by resolution and serves as a method of separating and accounting for revenues and expenses of a given authority, removing the account from the general fund. Advantages of an enterprise fund include: easy mechanism for accounting to citizens; easier to obtain financing for larger waste management projects; and financing can be obtained without impacting general obligation debt ratings; and the funds are separated from competing uses and used to establish a 100% self-supporting program.	Can provide revenue source within a broader budget; can be significant source of revenues; Equitable; Relatively easily implemented.	More difficult to implement if solid waste and recycling delivered under different entities / may require organizational change or other.

**Table 5. Description of Funding / Service / Time Shift Options, Strengths, and Weaknesses**

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N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
42	Service	Product Stewardship	Product Stewardship: If producers are required to set up programs for recovery of their product, that provides the jurisdiction with potentially-needed programs at little cost to the jurisdiction.	Provides needed services at low cost to community; Extra services for residents; Responsibility placed with manufacturer, potentially leading to better / environmental product processes.	Difficult to pass; Usually requires whole state or nation to pass - requires large, discrete market jurisdiction; Not integrated with other diversion options.
43	Service	Public-Private Partnerships	Public-Private Partnerships: The jurisdiction may be able to procure more services or infrastructure of interest if it enters into partnerships with the private sector. These partnerships may help shift capital costs or provide opportunities for revenues, taxes, or surcharges; May relate to lease-back option below.	Provides needed services using relative expertise of public vs. private entities; May help retain competition in a community if jurisdiction-owned with limited term contract for operation.	Depending on arrangement, community may need up-front funds; If jurisdiction contracts with hauler, other haulers eliminated at least temporarily.
			<b>TIME-SHIFT STRATEGIES FOR REVENUES (Not sources of new revenues)</b>		
44	Timing	Advanced Billing	Advanced Billing - Capital may be raised for the set up costs by billing customers in advance for their first month or two of service. Requiring up front cash flows can also be used to help reduce non-payment of final bills.	Provides up-front money to get program started; Fee for service; Reduces bad debt; Relatively easy to implement.	Administration sometimes complicated (especially if rebate required for cessation of service).
45	Timing	Bonds - GO or Revenue	General Obligation Bonds: GO Bonds are bonds to be retired (paid off) using the general taxing authority of the government entity. These are paid off by property taxes or sales taxes collected by the entity. Revenue Bonds: These bonds are secured by an incoming stream of revenue, usually a user fee. Revenue bonds are usually given a lower interest rate than general obligation bonds particularly if the general obligation debt of the local government is already high.	Creates access to funding when active revenue sources are not available; For capital spending enhances equity by spreading construction or other start-up costs to citizens who benefit throughout life of project rather than only current users.	Creates lasting financial obligations for agencies; Cost of option is related to market conditions beyond management control.

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N	TYPE	NAME	DESCRIPTION	STRENGTHS	WEAKNESSES
46	Timing	Debt-Short Term	Short Term Debt: Short term debt financing is used to cover cash flow shortfalls due to a lag in revenue collection. These are usually paid back within the same fiscal year and include tax anticipation notes (TAN), revenue anticipation notes (RAN) and bond anticipation notes (BAN).	Provides funds on short term basis to cover shortfalls; Not very difficult to obtain.	Costs associated.
47	Timing	Fiscal Policy Changes / Interfund Loans	Fiscal / Accounting Policy Changes: The community may alter its debt reserve policies or the amount it collects for landfill closure or identifies inter-fund transfers to free up more cash for investing in needed services or infrastructure.	Provides monies sooner for use for potentially-needed services; Can be fairly large source of revenue.	May not be fiscally responsible, depending on decisions; Likely requires vote of council or other.
48	Timing	Leasing / Lease back	Leasing / Lease-back: Upfront capital cost barriers may be avoided by leasing or lease-back options. Cities have used this for acquiring containers, trucks, and other equipment.	Provides opportunity to get needed equipment or infrastructure even if capital funds not available.	Extra fees incurred; Need to find supplier.