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Solid Waste
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Full Cost Accounting Resource Guide

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Contents

Note: The information in this resource guide was obtained from government and association sources believed to be reliable. Neither the analyses nor the content of the resources necessarily reflect EPA's views.

About This Guide

Full cost accounting (FCA) is an accounting tool that can help decision-makers assess and manage the actual cost of municipal solid waste (MSW) services in their communities. As of 1996, four states (Florida, Georgia, Indiana, and North Carolina) have passed laws requiring local governments to determine and report on the full cost of providing solid waste services. Some communities in other states are implementing FCA voluntarily and are finding it an important and useful tool to help manage their solid waste programs.

Knowing what MSW management costs enables communities to make more informed decisions about their programs, improve the efficiency of services, and better plan for the future. The U.S. Environmental Protection Agency (EPA) believes that understanding the full cost of solid waste services will lead to efficient and sustainable solid waste systems.

This guide is designed to assist local elected and appointed officials and solid waste managers in identifying resources on FCA. It contains listings of federal, state, and local government documents, as well as materials produced by trade and professional groups. Most documents deal specifically with FCA, though some of them cover related topics, such as enterprise funds and activity-based costing (ABC). Each section presents information on how to order documents and their cost, when available. The guide also presents names of individuals in communities that are in various stages of implementing FCA.

Currently, a limited amount of information is available on FCA. EPA produced this resource guide of selected information sources with the intent of publishing future iterations as more information becomes available. If you know of additional information resources, feel free to send a copy of the material and information regarding a contact person to:

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Full Cost Accounting Articles and Reports

This section presents recent journal articles and reports related to FCA. Articles can be obtained from libraries or by ordering back issues from the publisher listed under each entry. Reports can be purchased from the publishing organization, as listed.

***Accounting for the Full Cost of Garbage, Recycling, and Yard Waste Services: Special Report No. 3 to the Indiana General Assembly,* Indiana Institute on Recycling, Indiana State University, School of Education, Terre Haute, IN, February 1993. (No cost in-state, $10 out-of-state; phone: 812 237-3000)**

This report outlines the history and current status of Indiana's statewide FCA law, which requires local governments to calculate and report the full costs of providing waste management services. The elements of an FCA system are discussed and include direct and indirect costs, future liabilities, opportunity costs, and potential environmental costs. The document provides an outline of the full cost reporting system in Indiana and provides brief insights on the development stages, from the steering committee to the final reporting form. Finally, it provides the standardized worksheets that Indiana communities use to report FCA costs, as well as directions for completing them.

"Costing Government Services: Benchmarks for Making the Privatization Decision," Pete Rose, *Government Finance Review,* June 1994, pp. 7-11. Government Finance Officers Association, Chicago, IL. ($5; phone: 312 977-9700)

This article describes a methodology for determining the viability of privately contracting out yard trimmings collection services. Upper Arlington, Ohio, evaluated the cost-effectiveness of proposals and bids in a two-step process. First, the municipality determined the total cost of providing the service over a period of years. (The total cost included direct program costs, as well as indirect costs (overhead) such as administration and support costs at the city, department, and division levels.) Second, the municipality analyzed all costs to determine the effectiveness of privatization. These steps can help local governments make the privatization decision by outlining how to acquire full knowledge of the cost of various service alternatives.

***Full Cost Accounting Fact Sheet,* National Recycling Coalition, Alexandria, VA, 1996. (No cost; 703 683-9025)**

This fact sheet was developed to provide general guidance to local government officials on the principles of FCA and how it can benefit their community's programs. Developed by the National Recycling Coalition's Full Cost Accounting Subcommittee, the fact sheet covers how FCA works, cost components to include, barriers to its implementation, case study information and resources, and how FCA can help a community achieve increased reduction through more informed planning and management decisions.

"Full Cost Accounting in Texas," Dave S. Yanke, *Texas Town and City,* February 1995, pp. 12-15, 24, 28. Texas Municipal League, Austin, TX. ($2; phone: 512 719-6300)

This 6-page article describes two FCA methods: a modified cash basis and an accrual basis. The difference between the systems is that principal payments and cash capital outlays are used to recover capital costs instead of depreciation expenses. The author explains that Texas has chosen to use the modified cash basis because it can help cities prepare and evaluate solid waste rates by recovering the cash costs associated with these services. Establishing the cost of such service-based rates can help cities avoid potential revenue shortfalls and examine different scenarios of services, capital expenditures, and increased capital costs. Through examples and exhibits, the author also addresses the cost components involved when developing cost-based rates, allocating costs among programs, allocating program costs among customer types, and developing user fees.

"Full Cost Accounting: What Is It? Will It Help Or Hurt Recycling?", Norm Crampton, *Resource Recycling,* September 1993, pp. 57-61. Resource Recycling, Inc., Portland, OR. ($4; phone: 503 227-1319)

This 4-page article discusses FCA legislation in three states: Indiana, Florida, and Georgia. The states' approaches to FCA are explained, with examples from select cities. Many of the benefits and barriers to various methodologies are presented. A major benefit of FCA is providing cities, towns, and waste districts with a new financial management tool to defend their programs on a cost basis. In Indiana, FCA has allowed the City of Franklin to show the cost relationships between disposal and recycling. Subsequently, a private contractor was hired to provide solid waste services that now include recycling at a lower cost than before. Florida has shown little success in implementing its FCA law due to a lack of resources and enforcement personnel. Many communities in Georgia comply with the law; however, it appears as though few truly understand the methodology or have sufficient records to complete the report adequately.

***Full Cost of Providing Garbage Collection and Disposal, Recycling, and Yard Waste Services in Indiana Cities and Towns During 1993: Special Report No. 5 to the Indiana General Assembly*, Indiana Institute on Recycling, Indiana State University, School of Education, Terre Haute, IN, 1994. (No cost in-state, $10 out-of-state; phone: 812 237-3000)**

This special report outlines the 1993 findings of Indiana's statewide law requiring all cities and towns that provide solid waste services to calculate the full cost of service annually. The cost reports are received at the Indiana Institute of Recycling, where the information is analyzed and used to produce summary documents. Some of the findings contained in this report are as follows: 211 Indiana cities and towns indicate they avoided $3.3 million in dumping costs through yard waste and recycling programs; yard waste diversion programs were found to be the least costly solid waste management program provided by cities and towns; and the percentage of costs associated with specific services are: 41 percent for garbage collection, 23 percent for garbage disposal, 22 percent for recyclables collection, and 14 percent for yard waste programs. A series of 11 charts are included for 1993 and illustrate the summary statistics for solid waste services in Indiana.

"How to Calculate Waste Disposal Costs," Leonard E. Joyce Jr., *Government Finance Review*, August 1990, pp. 20-21, 48. Government Finance Officers Association, Chicago, IL. ($6; phone: 312 977-9700)

This article discusses the costs associated with setting up a landfill facility, including development, initial construction, operation, and closure/postclosure. A worksheet is provided to demonstrate the components and cost categories involved. A cost estimate for a hypothetical landfill also is provided.

***How to Compare Costs Between In-House and Contracted Services*, Lawrence Martin: Reason Foundation, Los Angeles, CA, March 1993. ($11; phone: 310 391-2245)**

Many considerations enter into the decision to contract out MSW services, including cost. This document provides a step-by-step approach for local governments to assess the full cost of these services. Because government activities are typically funded through several departments, officials may be unaware of the full cost of providing a given service. For example, they may not consider indirect costs such as pension plans and administration. This document identifies costs that are often ignored and those that should be considered when comparing service options.

***Issue Paper, Subcommittee on Economics/Full Cost Accounting, NRC Policy Research Committee,* National Recycling Coalition, Inc., Alexandria, VA, September 1995. (No cost; phone: 703 683-9025)**

This paper describes the rationale for encouraging FCA, the issues surrounding FCA, and the historical relationship that FCA has in the National Recycling Coalition. Topics discussed include planning issues, financing, evaluation criteria for FCA models, implementation methodologies, and barriers to implementation. Implementing FCA on the local level will require that significant and diverse barriers be overcome. NRC recommendations include identifying barriers; developing tools, guidance documents, and a standardized methodology; and incorporating the research currently being done on life-cycle assessment for MSW management options into FCA studies. An appendix provides an overview of the existing programs in four states (Florida, Georgia, Indiana, and North Carolina). A table comparing the cost centers (collection, contracting, processing, etc.) in each state also is provided.

***Modeling University City's Integrated Waste Management System in WastePlan*, 1994-1998, Paul Ligon, September 1995; *Modeling Park Hills' Integrated Waste Management System in WastePlan,* Paul Ligon and Robert Graff, December 1995; *Existing and Future Solid Waste Management Systems in the Regional Plan Association Region*, November 1992, Tellus Institute, Boston, MA. (No cost; 617 266-5400)**

These three documents profile three cities' waste management systems and plans using WastePlan, a user-friendly computer modeling tool developed by Tellus Institute. WastePlan creates a model of current solid waste systems that is used to investigate how changes to the system would affect system costs and revenues. It presents outcomes in terms of waste flows, diversion rates, collection truck and labor requirements, processing and disposal capacity needs, total costs, and costs per ton. In essence, WastePlan simulates a full cost accounting approach to solid waste planning. In University City, WastePlan projected the additional equipment and labor costs that would be incurred from expanding the recycling program, as well as the cost reduction realized for each ton of recyclables handled. The Park Hills analysis shows that changing from a flat fee system to a pay-as-you-throw system would meet several of the city's goals, including reducing waste generation, increasing recycling rates and balancing waste disposal costs and revenues. In 1992, WastePlan found that if New York City implemented recycling, composting, and waste prevention education programs, overall solid waste management system costs would decline significantly in the New York Metropolitan Area and would be no more expensive than alternative programs that would rely exclusively on landfilling and incineration.

"Public/Private Competition in the City of Phoenix, Arizona," Jim Flanagan and Susan Perkins, *Government Finance Review,* June 1995, pp. 7-12. Government Finance Officers Association, Chicago, IL. ($6; phone: 312 977-9700)

By initiating a competitive process for all city services, Phoenix, Arizona, created a system that provides the best service for the least cost. By involving city departments in competition with private contractors in a public-bid situation, and by using FCA, it has been able to compare 13 service areas and save a total of more than $27 million. The competitive process demands that efficiency and customer satisfaction be established as the most important values. The attention paid to these factors also leads to creative approaches to equipment design, staffing, and costs. Because of this approach, solid waste programs in particular have benefitted—better equipment has been purchased, the life of a landfill was extended by providing a contractor with monetary incentives to compact materials, and a transfer station was developed.

"Solid Waste Forum-Full Cost Accounting," Abraham Michaels, P.E., *Public Works,* November 1995, pp. 60, 62. Public Works Publications, Osterville, MA. (No cost; phone: 508 428-9282)

This editorial provides an overview of FCA principles and explains that it is a practice that has been used for many years. Many communities may be using FCA without being aware that the term "FCA" is applicable to their practices. The American Public Works Association has been promoting FCA in its documents since the 1960s. The author reviews two of these documents. In addition, the author suggests that the recent interest in FCA might be due to recycling. He suggests that while in the past, the financial factors that influenced costs and management of solid waste services were under the control of local governments, these governments have no control over the value of recyclables. He also believes that the recent movement to encourage local governments to take into consideration the closure and postclosure costs in their budgets encouraged the use of FCA. The author also mentions EPA's efforts to promote FCA by working with a workgroup and preparing outreach and technical materials, and reviews some of the communities and states that are promoting FCA as well.

Integrated Municipal Solid Waste Management, Solid Waste Association of North America (SWANA), 1995, Silver Spring, MD. (For full report, $255 for SWANA members; $300 for nonmembers. For summary report, $42.50 for SWANA members; $50 for nonmembers; phone: 301 585-2898 ext. 239)

This 1,000-page report presents principal findings from case studies on six integrated solid waste management systems: Minneapolis, Minnesota; Palm Beach County, Florida; Scottsdale, Arizona; Seattle, Washington; Sevierville, Tennessee; and Springfield, Massachusetts. The purpose of the case studies was to develop and present consistent cost, resource use, and environmental regulation information on each system. A full cost accounting approach was used for the cost analysis in each of the six case studies. Major findings include: (1) examining program costs on an incremental basis proved to be extremely useful for decision-making; (2) collection of MSW, recyclables, or yard trimmings represents the most significant system cost; (3) additional energy consumed to collect and process recyclables and yard trimmings is relatively small. Detailed descriptions are provided for all findings. A summary report is also available.

Full Cost Accounting Handbooks

The following handbooks and guidance manuals are produced by or for local communities that are implementing FCA. They can be obtained directly from the federal, state, or local entity, as listed.

***Component Cost Summary,* Solid Waste Authority of Palm Beach County, West Palm Beach, FL, March 1995. ($7.20; phone: 407 640-4000, ext. 4220)**

This document summarizes the cost components of the Solid Waste Authority's integrated solid waste management system in fiscal year 1994. The focus of the report is on the direct costs of operating the solid waste facilities and programs, including upfront and backend expenditures (e.g., acquisition of land and materials and postclosure care of the landfill). Palm Beach County uses the FCA data to improve decision-making. The report presents a comprehensive flow chart of the county's waste flow and tables showing landfill tonnage per year, recyclables revenues per ton, cost of landfilling per ton, etc. It describes many of the Authority's programs and its methodology for finding the full costs.

***Full Cost Accounting for Municipal Solid Waste: A Handbook*, Office of Solid Waste, U.S. Environmental Protection Agency, EPA530-R-95-041, October 1995. (RCRA Hotline, phone: Washington Metro Area: 703 412-9810, or TDD: 703 412-3323; Long Distance: 800 424-9346, or TDD: 800 553-7672)**

This handbook is a comprehensive source of information on FCA for MSW programs. The key concepts and benefits of FCA are explained. Some of these principles include clarifying what and whose costs to cover, identifying activities to be costed and resources involved, supplementing available financial data, allocating overhead costs to solid waste services, and reporting cost information to different audiences. The benefits of FCA include determining the actual MSW management costs, explaining MSW costs more clearly to citizens, adopting a businesslike approach to providing MSW services, and increasing cost-effectiveness through fine-tuning MSW management. While the handbook is not a step-by-step "how-to" document, it does describe the steps involved with implementing FCA for solid waste management. References and a glossary of terms are included.

***Municipal Solid Waste Services Full Cost Accounting Workbook for Texas Local Governments*, Texas Natural Resource Conservation Commission, Austin, TX, April 1995. (No cost; phone: 512 239-0010)**

This workbook provides Texas municipalities with a system for collecting cost data and establishing rates that reflect the full costs of providing solid waste services. An outline of direct and indirect costs and other revenue is provided along with a diagram of the steps leading from costs and revenues to solid waste service rates. Fourteen forms and detailed instructions (methodologies) for allocating "part-time" costs, as well as direct costs, revenues, and additional services, are included in this workbook.

***Solid Waste: Full Cost Accounting Manual for Georgia Local Governments*, Georgia Department of Community Affairs, Atlanta, GA, May 1991. (No cost; phone: 404 656-3879)**

This manual was designed to assist local government officials in complying with the reporting requirements of the Georgia Comprehensive Solid Waste Management Act, which became effective January 1, 1992. The manual consists of a set of forms and procedures that are designed to provide long-term, continuous, accurate cost data for local solid waste operations. The accounting system outlined is designed to capture all of the costs in providing services such as direct costs, indirect costs, billable costs, debt retirement, and interest expense. Ten forms, trial balance sheets, and a list of definitions are included.

***A Solid Waste Management Full Cost Determination Guidance Document for North Carolina Local Governments*, North Carolina Department of Environment, Health, and Natural Resources, Division of Solid Waste Management, Raleigh, NC, March 1992. (No cost; phone: 919 733-0692)**

In 1989, the State of North Carolina passed a bill defining solid waste management responsibilities of local government. This document provides a methodology for local governments to determine the cost of solid waste services on a per-user or contractual basis. Many definitions are cited throughout the document to aid in identifying appropriate user categories. Descriptions, instructions, and blank copies of worksheets for four levels of full cost determination are included. Numerous examples are outlined within the document as well as the accompanying worksheets.

***The Full Cost Analysis Guide for Municipal Waste Managers*, Action on Waste, Alberta Environmental Protection, Alberta, Canada, September 1995. ($25 Canadian; phone: 403 422-2079)**

This reference document is the first comprehensive guide of its kind to be prepared in Canada. It is designed to guide MSW managers through an orderly analysis of the full costs of MSW programs. "Full Cost Analysis" is an economic tool used to compare projects for decision-making. Unlike the definition of FCA, "Full Cost Analysis" includes environmental, health, and social costs, as well as revenues generated and any benefits that might come of the external costs (e.g., pollution abatement or employment opportunities). The document provides checklists and worksheets for managers to use in determining the full costs and to rank external considerations.

Related Documents

These documents relate closely to FCA and discuss the concepts of activity-based costing and enterprise funds. ***Activity-based costing*** *(ABC) uses many of the same concepts as FCA but concentrates on the activities that consume resources (e.g., training employees, processing orders), rather than on how resources are spent (e.g., supplies, equipment). It is a tool that identifies and computes costs for activities, processes, and outputs of activities, such as products or services.* ***Enterprise funds*** *help local governments run their accounting systems like businesses, accounting for all of the costs associated with a program and keeping the budget separate from all other municipal functions. These documents can be ordered directly from the organizations listed.*

An ABC Manager's Primer, **Gary Cokins, Alan Stratton, and Jack Helbling, Institute of Management Accountants, Montvale, NJ, 1993. ($15; phone: 800 638-4427)**

The authors explain that computers have allowed rapid reorganization of data, which has given birth to a new concept of management, organization, planning, and cost analysis: ABC. While general ledger reports describe only what is spent and items that are purchased (supplies, equipment), ABC reports describe activities and therefore how money is spent (training employees, processing orders). The primer explains how ABC can be coupled with activity-based management (ABM) to empower employees to seek creative methods to become more efficient and reduce waste. It explains the importance of understanding how ABC systems are designed and uses simple charts and diagrams to illustrate the difference between ABC and other accounting and management techniques.

Enterprise Funds for Solid Waste Management, **Dolores M. Eggers, Department of Environmental Sciences & Engineering, University of North Carolina at Chapel Hill, Spring 1994. ($10; phone: 919 966-7301 or 919 932-5168)**

This document outlines the fundamental aspects of enterprise funds for integrated solid waste management. These independent, self-sustaining funds are supported primarily by user fees charged for solid waste services. Some of the advantages of enterprise funds are outlined and include accounting for system costs individually, providing better financial and information tracking, using designated user fees to finance activities and reduce the burden on the general tax fund, and allowing profits that remain in the fund to secure debt for capital investment. The document provides general guidance on user fees, rate systems and rate setting, solid waste flow control, and privatization. In addition, case studies are presented to illustrate the various sources of revenues, system costs, cost allocation alternatives, and budget

options currently in use. The document also discusses the steps required to establish an enterprise fund: determining local government authority, gaining support, establishing a system of user fees, accounting for the full costs, choosing a budget planning period, educating the public, and recognizing that enterprise funds are part of entrepreneurial government. The case studies included are Seattle, Washington; Mecklenburg County, North Carolina; Cape May County, New Jersey; Prince William County, Virginia; Sacramento, California; and Burke County, North Carolina.

"Government Solid Waste Enterprise Fund Full Cost Accounting in Prince William County, Virginia," Thomas J. Smith and Kenneth W. Shafer, Prince William, Virginia, Solid Waste Division. Presented at the ASTSWMO 1993 National Solid Waste Forum, July 1993. ($10; phone: 703 792-6254)

This presentation paper outlines the establishment of an enterprise fund and FCA practices in Prince William County, Virginia. The specific steps followed to establish this local enterprise fund are discussed. Legislative impetus, cost/revenue projections, and financial management/assurance are covered, as well as Government Accounting Standards Board requirements for state and local governments. Accounting for capital assets and liabilities through detailed measurement and recording also is outlined. The report recommends that a community compile an accurate history of all operating costs and future expenses prior to establishing an enterprise fund. It also suggests that communities perform a cash flow analysis periodically to protect against cash shortfalls, consider the potential liabilities associated with contaminant release and remediation, and track all revenues and expenses to provide benchmarks and operations analyses.

***Implementing Activity-Based Cost Management*, Robin Cooper, Robert S. Kaplan, Lawrence S. Maisel, Eileen Morrissey, and Ronald M. Oehm, Institute of Management Accountants, Montvale, NJ, 1992. ($35; phone: 800 638-4427)**

This book presents the results of a research study on ABC systems. It examines the actual experiences of eight manufacturing, financial services, and distribution companies that implemented ABC. The study found that ABC information enables managers to make more informed decisions with an integrated view of their organizations. ABC was used to make major decisions about products and services as well as process improvements and activity management. The ABC model can coexist with traditional financial systems. The case studies examine the implementation experiences, as well as specific actions taken and organizational barriers.

***Solid Waste Enterprise Funds—A Review of Four Case Study Communities,* Solid Waste Association of North America (SWANA), Silver Spring, MD, November 1993. ($35 for SWANA members; $55 for nonmembers; phone: 301 585-2898 ext. 239)**

This document reviews the enterprise funds of four case study communities: Cape May County, New Jersey; Mecklenburg County, North Carolina; Sacramento County, California; and Seattle, Washington. The document shows that by implementing solid waste enterprise funds communities are able to plan, budget, and monitor costs more effectively. They are able to set rates that accurately reflect the full costs of providing services, improve their level of reporting to management through the use of enterprise funds, and operate these funds on a self-sustaining basis. The typical enterprise fund develops varied revenue sources to support the services it provides rather than being totally supported by user fees. The full cost of providing services is sometimes underestimated due to indirect costs; therefore, full cost recovery is a goal rather than a reality in most of these communities. Communities found that access to capital markets is not guaranteed by the use of an enterprise fund. Communities must first establish a sound system of fees, provide a sound financial plan, offer the necessary level of service without significant waste, and demonstrate the ability to manage the fund through accurate accounting, auditing, and reporting.

"Using Activity-Based Costing for Efficiency and Quality," Bridget M. Anderson, *Government Finance Review*, June 1993, pp. 7-9. Government Finance Officers Association, Chicago, IL. ($6; phone: 312 977-9700)

ABC is an accounting system that determines exactly what services are provided to citizens and the true costs of providing these services. ABC can be used for comparing costs and efficiency by identifying component cost details, cost impacts, and savings from alternative courses of action. Key components of an ABC system include the activities and tasks performed by personnel and equipment, the costs and resources that are allocated to activities, and the outputs or results.

State and Local Contacts

State Government

The following state government offices and organizations are tasked with developing and implementing FCA in local communities or with providing policy advice oversight to state or local governments.

Florida Department of Environmental Protection (DEP)

Solid Waste Division
2600 Blairstone Road, Tallahassee, FL 32399-2400
Contact Person: Fred Wick or Erika Frederick
Phone: 904 488-0300 or 904 921-9975

Florida mandates FCA for all of its local governments. The Florida DEP can provide information about the development of its program, lessons learned, obstacles overcome, and plans for the future. The DEP plans to publish a short booklet for local governments to explain what FCA is and how it can be practiced successfully. The publication should be available in 1996.

Georgia Department of Community Affairs

100 Peachtree Street, Suite 1200, Atlanta, GA 30303
Contact Person: Ruben Burney, Analyst
Phone: 404 656-3879

Georgia mandates FCA for all of its local governments. Mr. Burney was involved in developing a guidance manual that is distributed to all communities to assist with FCA implementation. He continues to provide support for the program.

Indiana Institute on Recycling

921 School of Education, Indiana State University, Terre Haute, IN 47809
Contact Person: Norm Crampton, Executive Director
Phone: 812 237-3000

Indiana has a mandatory FCA reporting law. The institute collects FCA data from communities throughout the state and compiles this information into summary reports. Mr. Crampton oversees the implementation of FCA in the state and has provided guidance from the beginning of the initiative in Indiana.

Maryland Department of the Environment

Waste Management Administration
2500 Broening Highway, Baltimore, MD 21224
Contact Person: Regina Rochez
Phone: 410 631-3314

Maryland is in the beginning stages of developing an FCA program. The state has held several workshops to elicit the interest of elected officials, solid waste and planning personnel, and citizens and to provide information about FCA. Information regarding the results and feedback from these workshops is available. In addition, Ms. Rochez serves on EPA's FCA Workgroup, which is developing several outreach and technical assistance materials.

North Carolina Department of Environmental Protection

Office of Waste Reduction
3825 Barrett Drive, Raleigh, NC
Contact Person (1): Scott Mouw, Manager
Phone: 919 715-6512
Contact Person (2): Michael Shore
Phone: 919 715-6521

North Carolina mandates FCA and is in the beginning stages of developing training for local governments and enforcement procedures. The towns of Cary and Apex, as well as Chatham County, have well-developed FCA programs.

Texas Natural Resources Conservation Commission (TNRCC)

P.O. Box 13087, Austin, TX 78711-3087
Contact Person: Robert Schultz, Solid Waste Department
Phone: 512 239-0010

TNRCC has embarked on a comprehensive statewide effort to encourage local governments to implement FCA on a voluntary basis. The commission researched programs nationwide to learn about the many different ways of implementing FCA and now advocates an FCA program on a modified cash basis. TNRCC conducts training programs statewide and has developed a workbook to help communities develop an FCA system.

Local Government

The following local governments are at various stages of developing and implementing FCA. Many of these governments have enterprise funds, which can serve as a basis for FCA.

Mesa, Arizona

Department of Public Works
20 East Main Street, P.O. Box 1466, Mesa, AZ 85211
Contact Person: Jack Friedline
Phone: 602 644-4567

Mesa has been operating its solid waste program like a business, using FCA and an enterprise fund, for the past five or six years. It uses FCA to help determine its solid waste rates and compete in the open market. By sharing full cost information with trash haulers, the city has been able to increase its efficiency and keep services public.

Los Angeles, California

Sanitation Department
419 S. Spring Street, Suite 900, Los Angeles, CA 90013
Contact Person: (1) Jorge Santiesteban, Engineer
Phone: 213 893-8254

200 Main Street, Suite 1400, City Hall East, Los Angeles, CA 90012
Contact Person: (2) Drew Sones, Manager
Phone: 213 485-5112

Los Angeles first became involved with FCA because of the mayor's interest in privatizing solid waste services. The city used FCA to determine its full costs. Now, FCA is used primarily as a measure of performance for each of the five district managers. FCA is helping district managers cost out each program's components, compare budgets with each other and other agencies, and bring down costs.

Sacramento, California

Department of Public Works
9850 Goethe Road, Sacramento, CA 95827-3500
Contact Person: John Abernethy
Phone: 916 366-2625

Sacramento operates an enterprise fund and has been using FCA since 1968. The city keeps track of the costs of each solid waste program and uses FCA information to improve service and monitor trends in collection efficiency and management. FCA has helped the city streamline its day-to-day operations as well as facilitate larger changes such as switching from manual to automated refuse collection trucks. FCA also has helped the city in bidding with the private sector.

Laramer County, Colorado

P.O. Box 1190, Fort Collins, CO 80522
Contact Person: Janelle Henderson, Director of Natural Resources
Phone: 303 498-7000

Since 1983, Laramer County has been operating an enterprise fund and practicing FCA as part of that fund for internal management purposes.

Dade Metro Area, Florida

Solid Waste Division, Dade Metro Area
4200 NW 36th Street, Suite 300, Building 5A, Miami, FL 33122
Contact Person: Diane Kamacho, Financial Director
Phone: 305 592-1776

Dade Metro Area developed and implemented an FCA program after the state law was passed. Not only did the municipality follow the state requirements, it began developing a computer program for FCA as well. It uses FCA for internal decision-making and evaluation of the solid waste program.

Broward County, Florida

Office of Integrated Waste Management
201 South Andrews Avenue, Ft. Lauderdale, FL 33301
Contact Person: Tom Henderson, Director
Phone: 954 765-4202, ext. 269
Email: thenderson@co.broward.FL.US

Broward County provides a wide variety of solid waste management services and operates its system under four separate enterprise funds. The county implemented FCA by modifying existing accounting software to accommodate FCA data and used these data to help the county obtain the cost data necessary to manage its systems more efficiently. The county has been using FCA since 1991.

Jacksonville, Florida

Solid Waste Division
515 North Laura Street, 6th Floor, Jacksonville, FL 32202-3156
Contact Person: Fred Forbes
Phone: 904 387-8922

Jacksonville has used FCA to learn the costs of each component of its solid waste program. It tracks equipment usage and employee time as a way to measure and increase efficiency. It also uses FCA to help with privatization decisions.

Palm Beach County, Florida

Solid Waste Authority
7501 North Jog Road, West Palm Beach, FL 33412
Contact Person: Daniel Pellowitz, Financial and Operations Analyst
Phone: 407 640-4000, ext. 4609

Palm Beach County uses FCA to cost out special projects, make long-term projections, and evaluate trends in the county's activities. The county also uses FCA to evaluate privatization decisions. The county operates its solid waste program under an enterprise fund.

Indianapolis, Indiana

Solid Waste Division
2700 S. Belmont Avenue, Indianapolis, IN 46221
Contact Person: Mike Carter, Chief Financial Officer
Phone: 317 327-5680

Indianapolis established an ABC system for each activity within each department in the city. ABC uses many of the same concepts as FCA but concentrates on the activities that consume resources (e.g., training employees, processing orders), rather than on how resources are spent (e.g., supplies, equipment). It identifies costs for activities, processes, and outputs of activities. Using ABC has helped the city reduce its budget by $16 million because of initiatives to increase efficiency and streamline services.

Montgomery County, Maryland

Recycling and Collection
Contact Person: Allison Clark, Business Manager
Phone: 301 217-2373

The county's collection operations are managed under one enterprise fund and disposal operations are managed under another enterprise fund. FCA has been used to assist with the internal management of different aspects of the MSW program as well as to report cost data to the public.

Seekonk, Massachusetts

Board of Selectmen
100 Peck Street, Seekonk, MA 02771
Contact Person: Pat Vieira, Board Member
Phone: 508 336-7400

Seekonk used FCA to develop its unit-based pricing (pay-as-you-throw) program. By determining its full costs, it was able to set a flat and a variable rate to ensure that sufficient funding would be generated to cover the costs of MSW services. FCA also enabled the town to explain to citizens exactly how the new fee system worked and how rates were determined.

Burke County, North Carolina

Department of Public Works
P.O. Box 1486, Morganton, NC 28680
Contact Person: Dale Meyer, Director
Phone: 704 439-4391

Burke County operates an enterprise fund and has implemented an FCA program.

Raleigh, North Carolina

Department of Public Works
222 W. Hargett Street, Raleigh, NC 27602
Contact Person: John Cummings
Phone: 919 890-3475

Raleigh set up an FCA system as the basis for establishing an enterprise fund. The department has developed user-friendly spreadsheets for implementing FCA.

Austin, Texas

206 East Ninth Street, 17th Floor, Austin, TX 78701
Contact Person: Catherine Gambrell, Financial Analyst
Phone: 512 499-3544

Austin has been using an enterprise fund and FCA for almost a decade for its solid waste program. It uses FCA as a means to justify rates and provide an incentive for managers to be as efficient as possible.

Houston, Texas

Department of Solid Waste Management
601 Sawyer, Suite 500, Houston, TX 77007
Contact Person: Daniel M. Gutierrez, Assistant Director of Administration
Phone: 713 865-4114

Houston has been using FCA for more than a decade for making privatization decisions, ensuring optimal efficiency, and initiating new programs. It has implemented a comprehensive education and outreach program for citizens about the costs and issues surrounding solid waste.

Chesapeake, Virginia

Southeastern Public Service Authority
P.O. Box 1346, Chesapeake, VA 23327-1346
Contact Person: John Hatfield
Phone: 757 420-4700

The Authority uses an enterprise fund and FCA to manage the solid waste services for the six cities and two counties under its jurisdiction. The Authority uses a cash basis accounting system for budgeting purposes and an accrual system for auditing. All services are funded through user fees.

Williston, Vermont

Chittenden Solid Waste District
209 Redmond Road, Williston, VT 05495-9133
Contact Person: Tom Moreau, General Manager
Phone: 802 872-8100

Chittenden has used FCA to provide financial accountability for funds spent on solid waste activities and to keep track of all costs. Because Chittenden is an Authority not a municipality, there are few indirect costs that must be accounted for under its system. All collection activities have been privatized. A combination of tipping fees and tax revenues are used to fund all activities under the MSW program. The district began using FCA in 1995 and expects to have a comprehensive FCA program by 1997.

Seattle, Washington

Solid Waste Utility
710 Second Avenue, Room 505, Seattle, WA 98104
Contact Person: Nick Pealy
Phone: 206 684-7646

Seattle has utilized FCA for every aspect of its solid waste program. FCA is used to justify costs, ensure accountability to its residents, set appropriate rates, and provide the most efficient service possible. Seattle also operates its solid waste program as an enterprise fund.

Casper, Wyoming

200 North David Street, Casper, WY 82609
Contact: Linda Witko, Assistant City Manager
Phone: 307 235-8296

The city has been using a cash basis enterprise fund for its solid waste management activities and is in the process of developing an FCA system. Casper has not yet implemented FCA, but it has completed a comprehensive study and is investing substantial effort into the development of an FCA system.

United States Environmental Protection Agency
(5306W)
Washington, DC 20460

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