

A RESOLUTION REFERRING THE ORANGE COUNTY SOLID WASTE
ADVISORY BOARD RECOMMENDATIONS ON ALTERNATIVE FINANCING
STRATEGIES TO THE ENVIRONMENTAL ADVISORY BOARD AND THE
PLANNING BOARD AND TO SET A PUBLIC HEARING

Resolution No. 122/2002-03

WHEREAS, the Carrboro Board of Aldermen seeks to provide ample opportunities for the public to comment on existing and proposed policies and programs.

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Aldermen set a public hearing for April 22, 2003 to receive public input on the Orange County Solid Waste Advisory Board alternative financing strategy recommendations, and.

BE IT FURTHER RESOLVED by the Carrboro Board of Aldermen that the Aldermen refer the recommendations to the Environmental Advisory Board and the Planning Board for review and comments.

This is the 18th day of March in the year 2003.

Report to Board of Orange County
Commissioners

Alternative Financing for Solid Waste
Management

Prepared by Solid Waste Advisory Board

February 24, 2003

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Alternative Financing for Solid Waste Management

Purpose of this report:

From its start, a key task of Orange County's Solid Waste Advisory Board (SWAB) was to identify alternative means of financing solid waste management activities in Orange County. In the spring of 2002, the SWAB began a thorough examination of options for financing. This report contains its recommendations, background on current solid waste activities and a brief description about what such financing would enable for implementing the County's solid waste plan.

After thirty years of operating the landfill and recycling programs as a debt-free enterprise fund whose income was 90% or more from landfill tipping fees, the Department has grown to the point where additional funds are required to operate all the programs and activities the Department undertakes on behalf of the county. This report from the SWAB contains recommendations to the Board of Orange County Commissioners for long term future financing mechanisms for Solid Waste Management in Orange County. The SWAB recommends that the staff and Board of Orange County Commissioners develop a short-term strategy that may provide funding until a more comprehensive long term plan can be put in place.

By the end of the current fiscal year, Departmental reserves will be significantly depleted and not replenished due to a combination of loss of some tipping fee revenues, especially in construction and demolition waste, expanded recycling programs, and increased operating expenses. Tipping fees were not increased during 2002-03, yet some waste has migrated out of County to landfills with lower fees. In order to maintain all current solid waste management programs, additional sources of revenue will be required beginning in 2003-04.

Departmental programs and funds have always been treated in an integrated manner wherein all funds support all programs and programs are delivered on a county-wide basis. It is however clear that funding for recycling and waste reduction programs is dependent primarily on landfill tipping fees. Thus, the supplemental funding options until the landfill is closed are viewed as supporting primarily recycling. More specifically, in the availability fee model of funding discussed below, the fee is broken down as needed to support specific waste reduction and recycling programs by each sector -residential, multifamily and commercial/institutional. There could be a tendency to consider these fees and/or taxes only in the context of "Which programs could the County eliminate to lower the potential fee or tax increase?" In the larger solid waste financial picture, these fees or taxes really cover only separable program costs not the total costs; therefore the Department's overall financial picture should continue to be viewed in an integrated manner.

Additional investments in waste reduction will be needed in the next ten years for the County to achieve its waste reduction goals. Further, the County faces a significant expense in the closure of the landfill. This closure is projected to be initiated when the landfill is full in 2009. Once the landfill is closed and waste is transferred out of County, the net revenue received from landfiling, as compared with the cost of transferring waste, will diminish simultaneously with the landfill closure expense and planned increased recycling program expenses.

Even if the County decides not to invest in further waste reduction but to only maintain the current programs and operate the landfill and future transfer station as scheduled there is a projected deficit throughout the period of analysis (2003 - 2013). The table below is generated from a financial model prepared by staff in cooperation with the UNC Environmental Finance Center, shows a financial projection of the solid waste fund for the next ten years a scenario that assumes that the County will continue to aggressively pursue its goal of 61% waste reduction per capita as endorsed by the SWAB. Initially the Environmental Finance Center also analyzed an alternative Case B that assumed very slight growth in existing programs, primarily to keep pace with population growth in the county, but with no significant expansion of existing programs or creation of new ones. The resulting tax or fee to pay for that program was generally within 5% of the funds required for waste reduction program expansion, thus that alternative case is not further analyzed in this report. The table below shows a long-term deficit in operating the solid waste system.

Table Int.-1 Projected Solid Waste Management Department Deficit With No Alternate Financing beginning 2003-04

	2002-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11
Projected Yearly Deficit	1,592,842	3,022,376	3,950,713	3,892,683	4,040,266	4,766,632	4,427,913	6,470,334	6,170,094

NOTE: Departmental Expenses were not projected past 2010-11 at this time.

Executive Summary

This report by the Solid Waste Advisory Board to the Board of Orange County Commissioners investigates the financial situation of the solid waste management department and recommends to the BOCC methods for providing stable, predictable, long-term funding of solid waste management. The SWAB recommendation for the long-term funding is a comprehensive prepaid solid waste services fee to be levied on all improved properties in the County. A similar type of fee is used in Prince William County Virginia and Charleston County South Carolina.

The SWAB with the assistance of the Solid Waste Department Staff has determined that it takes approximately two fiscal years to fully implement the service fee system. A short-term funding system will be needed for the next two fiscal years. The SWAB was not able to come to a definitive single recommendation for this interim funding and recommends that the BOCC work with the manager to determine how best to provide sufficient funds to continue operations at their current level while planning for future needs. Several short-term financing options based on fees or taxes are discussed in this report.

The SWAB has worked primarily on this solid waste financing issue for the past year. In developing its recommendations, it investigated a variety of approaches including property taxes, fees, special district taxes, and a comprehensive prepaid solid waste fee or some combination of those. The SWAB has determined that some type of financing mechanism is required to supplement the current revenue sources of tipping fees, interest income and sales of mulch and recycling materials revenue. These revenues are needed to maintain current programs and operations implement the waste reduction programs to achieve the goals, provide long term, secure disposal options and to maintain necessary reserves.

SWAB has endorsed the County's Solid Waste Management Plan waste reduction goal of 61% per capita and the framework for achieving that goal as outlined in the State Solid Waste Plan. SWAB reviewed a staff analysis of the Department's projected budgets utilizing a status quo scenario without significant expansions in waste reduction efforts. This analysis revealed that, even the status quo, would require substantial additional funding to fully support all current operations.

The SWAB is also aware that the largest current source of revenue -- landfill tipping fees -- is limited by the long-term capacity of the landfill and is incapable of fully funding county programs and services until closure. This net revenue source will diminish significantly in 2009 when the lined landfill is scheduled to close and be replaced by a transfer station with out of county disposal of waste. Income from the transfer station will be largely balanced by the cost of operating the station, hauling, and tipping fees at the remote private destination landfill leaving little surplus. There is further income from the construction and demolition waste landfill, but that will fund primarily C&D landfill operations and the extensive and successful C&D recycling programs now in place. At the same time, the overall fund will incur the large expense associated with formal closure and capping of the MSW landfill that could be as much as \$2 million.

As soon as 2003-04 supplemental funds will be needed to support waste reduction and recycling activities, restabilize the equipment reserves, and begin development of a landfill closure fund. Current landfill income has declined due to success in recycling and waste reduction coupled with a competitive waste management market in which waste flows to the least expensive disposal options. Orange County now has among the highest tipping fees in North Carolina,

hence the landfill has lost tonnage, enabling the landfill to last longer but also diminishing the landfill's operating funds.

Consequently, the SWAB, at the request of the BOCC, has made alternative financing its top priority through most of the past twelve months. After thorough study and investigation of a variety of options available to provide long-term, predictable, stable funding for Solid Waste Management, the SWAB recommends a system used elsewhere that it terms a 'comprehensive services prepaid fee'. For Orange County, this proposed fee would cover the following:

- Mixed solid waste lined landfill operations including replacement of the current tipping fee based system with a funning system based on the projected prorated weight from each type of waste generator e.g. residential, multifamily, commercial (varies by type of business/operation). Under this plan, landfill tipping fees would be eliminated for mixed solid waste and out of county waste would still be banned. There would still be a gate fee for construction waste, demolition waste and vegetative waste.
- Recycling services including a fee based on the level of service for the type of customer, weekly curbside, biweekly curbside, multifamily with carts, commercial recyclers of different sizes and types,
- Administrative services including county-wide solid waste education and universal programs that serve all residents such as hazardous household waste, electronics collection, and dropoff sites,
- Establishment of restricted equipment and landfill closure reserves and maintenance of recommended fund balance
- Implementation of Orange County's Integrated Ten Year Solid Waste Management Plan including necessary programs, services and facilities to reach the waste reduction goal
- Other solid waste services provided by the Orange County Solid Waste Management Department, not including hauling of solid waste which is outside the purview of this Department.

The SWAB envisions this comprehensive fee being charged to all solid waste generators including non-profits such as churches and service organizations. According to one of the SWAB's adopted principles of financing, the fee should be commensurate with the level of solid waste generation and recycling services provided; in other words equitably assessed across all classes of users.

The SWAB also realizes that such a system of financing is a radical departure from the current approach where 90% of revenue is from tipping fees and the other 10% from a combination of recycling sales, mulch sales, state grants for tires and white goods and interest on the reserve fund. Establishing a new system with all Orange County property owners pre-paying solid waste fees would likely take two years to implement as it did in Prince William County Virginia.

In addition to the considerable public debate required for such a fee, there are technical complexities of determining the level of fee to be paid by each class of users, especially the variable commercial sector. Thorough integration of operations and data of the Tax Assessor, Revenue Collections, Information Services and Land Records/G.I.S. Departments will be necessary for success. There are also significant public education and outreach efforts involved in consideration of such a fee structure.

The SWAB supports the prepaid comprehensive service fee as it most closely matches the overall set of guiding principles endorsed over the past year including:

- Endorsement of the Solid Waste Reduction Plan goals and framework,
- Capturing revenues from non-profit properties, as they too generate solid waste,
- Using the existing tax collection system to collect solid waste revenues,
- Leveling fees or taxes to prevent yearly fluctuations,
- Creating equity among classes of system users such that revenues collected reflect services received,
- Requiring property owners, rather than occupants to pay the fee or tax,
- Creation of dedicated and restricted reserve funds for equipment and landfill closure are prudent policy,
- Maintaining a healthy fund balance of a minimum of 12% of the annual budget,
- Viewing the fund and the operation as an integrated whole, rather than disparate parts to be completely separated functionally and fiscally.

The SWAB recognizes that there are significant legal issues to be resolved before such a fee could be considered. Even if it is deemed legal for Orange County to enact the fee, there would be significant technical and political work involved in implementing such a fee that would likely take the same two years it took elsewhere. Consequently, the SWAB recommends that the Board and Manager develop a bridge financing mechanism to get the Solid Waste Management Department through the next two years while the permanent financial plan is being developed.

The SWAB discussed in detail the use of availability fees to fund parts of the budget that provide specific services to specific sectors such as weekly curbside recycling in the incorporated areas or biweekly curbside in unincorporated areas. District taxes were considered, as was a general property tax increase earmarked for solid waste. A combination of those fees and taxes was also reviewed. The SWAB ruled out sending a bill to each local government for services rendered and allowing them to find a payment method of their choosing or direct payment by each government for services received. Also deliberated and eliminated were voluntary user fees for non-landfill services such as recycling or hazardous waste collections. It is economically impractical to continue to raise landfill tipping fees and assume the revenue will follow as eventually all privately controlled waste will find it advantageous to leave.

The bridge financing mechanism should not be so small as to leave the Department in a fiscal hole from which it will have to dig itself out using the subsequently selected permanent financing mechanism. There will be still be landfill income that will partly support operations in combination with this proposed bridge financing mechanism, but that will not be enough. In addition the SWAB believes the bridge financing mechanism should, to the extent practicable meet the guiding principles.

There appear to be three basic financing options from which a hybrid involving any combination of the three could be used to supplement current sources of Departmental income between FY 2003-04 and when the permanent financing mechanism is adopted. Those include:

1. A property tax increase where the Board of Orange County Commissioners earmarked a certain portion of the general tax revenues for solid waste management for a year.

2. Creation of special solid waste tax districts where the tax levied in each district reflected, to a certain degree, the level of service provided within it,
3. Development of availability fees in which each member of each class of system user is charged according to the services they have available. In the short run case of bridge financing, the availability fee could be levied on two to four residential classes of system users.

The SWAB was not able to provide a single recommendation from among these bridge financing mechanisms, but it does urge the Board and Manager to use at least one or some combination of funding options to provide adequate solid waste program funding until a permanent, stable funding source can be put in place.

In its deliberations over solid waste financing, the SWAB received considerable technical assistance in development of financial models from UNC's Environmental Finance Center especially Jeff Hughes, and Joe Cook. A presentation by Prince William County's Solid Waste Director Tom Smith informed the SWAB about this innovative model. The Orange County Solid Waste staff provided additional information about the solid waste budget and the waste reduction plan that also helped the SWAB in its deliberations. Finally the SWAB was also able to draw on the work done by the Alternate Finance Committee during the tenure of the Landfill Owners Group through 1999.

I. History & Summary of the Existing Landfill and Recycling Program.

A. Budget

The approved Solid Waste Management Department budget for 2002-03 was \$6,242,696. At mid-year the staff projects expenditures of \$6,097,000 and revenues of \$4,581,000. Historically, there has been an annual shortfall in revenue which has been covered by transferring funds from the fund balance. The fund balance is now depleted and there is no surplus to cover shortfalls.

C&D waste received at the Orange County Landfill declined over the past two years from its high in 1999 of 33,600 tons to 27,700 tons last year. Staff projected a decline of about 15% this year due to the ordinance requiring separation of wood, metal and cardboard. In fact, the decline in C&D waste has been 50% since ordinance enforcement began in October 2002. A great deal of that which has left the county has been from larger haulers taking it private, certified separation and recycling facilities located elsewhere. Solid waste is down 1.4 percent to date from last year. Due to the ice storm, vegetative waste and yard debris income is up 3800%.

At this point, the budget projection for 2003-04 is conservative in both expenditures and revenues in response to the present experience that indicates that the reduction in incoming solid waste may persist for the rest of the year. waste. If the overall integrated ten year solid waste plan is approved by the Board of County Commissioners the land purchase and design of a materials recovery facility will be in 2004-05. The new administration building, which was planned to be purchased for cash next year is now slated to be debt financed due to favorable interest rates. All other equipment and staff required to operate current landfill and recycling programs are adequate and in good operating condition.

B. Programs and last year's performance (tons/program)

Presently (in 2002-03) the Department operates the following programs to manage materials at the landfill:

Table I-1. Landfill Services Provided By Orange Co. Solid Waste Management

Program Type	Units Served	Tons Collected in 2001-02	Contract or In-House	Comments
Landfilling MSW	All homes & businesses in Orange Co.	56,577	In-house	Landfill projected full in 2009-10. Replaced w/ transfer station
Landfilling construction and demolition waste,	All homes & businesses in Orange Co.	27,729	In-house	Current site full in 2003. New site projected useful for 15-20 years.
Processing and marketing yard waste mulch,	All homes & business in Orange Co.	6,465	Contract grinding, in house sales	Operation completely in-house 2003-04 with purchase of new grinder. Routinely sell out of mulch. Now doing bulk hauling too.
Processing & marketing decorative mulch from clean industrial wood waste	Mostly construction and demolition material from Orange Co.	400 (est.)	Contract grinding & coloring, in-house sales	Operation now completely in-house. Expect 3,000 tons due to implementation of new ordinance. May sell as boiler fuel or mulch.
Recovery, transport & sale of corrugated cardboard	Eleven drop off sites, County and town facilities	1,137	In-house collection and marketing	Operation will expand to include compactor at landfill. Anticipate additional cardboard due to ordinance enforcement.
Recovery, processing, transport and sale of white goods	All residents of Orange County	467	In-house processing and marketing, contract hauling	Operation now completely in-house. Own tractor trailer. Revenue increased.
Recovery, transport & sale of scrap metal from C&D	Mostly construction and demolition material from Orange Co.	600	Contract hauling	Now completely in-house. Hauling too. Expect 1,200 tons due to implementation of new ordinance.
Recovery of whole tires for use by others	Residents and small businesses of Orange County	1,083	Contract handling and hauling	Program will continue as is. Site will be relocated to accommodate C&D recycling
Groundwater monitoring and data analysis	Orange County Landfill	10 wells on north side; 11 wells on south side; 5 installed for new C&D; 2 additional on Duke University's property	Samples drawn and analyzed by contract lab.	Semi-annual monitoring. Ranked 'toward the top' for number of monitoring wells at landfills in NC. Also monitor in-stream at tributary of Old Field Creek. \$50,000 annual costs. Also send sample from each load of leachate to OWASA wastewater plant for random sampling.

The Department operates the following recycling programs throughout the County, where appropriate, tonnage is shown for 2001-02 by program.

Table I-2 Current Recycling and Waste Reduction Services by Orange Co. Solid Waste Dept.

Type	Units Served	Tons Collected in 2001-02	Contract or In-House	Comments
Commercial Food Waste	22 from 15 sites	752	Contract	Plan to add grocery store chain in 2002-03
Commercial Cans & Bottles	100 from ~65 sites	463	In-house	Add as possible, also collect plastic bottles
Urban Curbside	16,400	3,302	Contract	Weekly collection. Add about 400 units per year. Universal service
Rural Curbside	9,200	1,056	Contract	Bi-weekly collection. Add 300 Units/year. Over 40% of units served
Multi Family	14,500 (from 210 sites)	919	Contract converting to in-house	Will convert in January 2003. Projected \$100,000/year savings. Over 90% units served
Government Buildings	60 in Carrboro, Chapel Hill and Orange County	70	Converted from contract to in-house mid 2001-02	Program may expand to serve Hillsborough offices. Gradual expansion to quasi government facilities such as Senior Centers
Drop Off sites	11	4,892	Adding new site at Meadowmont February 2003	Wal Mart site in Hillsborough may be eliminated 02/03/, decision pending. Planning to add Southern Village site 04-05
Hazardous wastes: oil, oil filters, batteries, HHW, electronics	Seven public, six drop-off sites plus monthly HHW	129	Combined contract and in-house	Permanent electronics collection January 2003, HHW expands to 4 days/week. Feb 2003. Anti-freeze begins at drop off sites spring 2003
Construction & demolition waste reduction education and enforcement program,		N/A (see landfill table I-1) for tonnages of recycled C&D	In-house	Two full time enforcement & education staff. Two full time materials handlers/ haulers. One 1/2 administrative clerk to process permits.
Education & outreach		N/A	In-house w/ contract design assistance	Advertising, pamphlets, published articles, annual newsletter, classroom presentations, compost demonstrations, landfill tours, etc.

C. Waste management and on percent reduction since 1995-96, with base year of 1991-92

Orange County adopted recycling efforts early on, starting its first public dropoff programs in May 1987 and progressing toward the present comprehensive program described in table I-2 above. Prior to that, for several years, the Town of Chapel Hill had paid two private non-profits a tip fee diversion payment for each ton they diverted from the landfill and managed at the sites they operated in the Chapel Hill-Carrboro area. This arrangement continued through last year.

In 1991, the State of North Carolina adopted a statute establishing waste reduction goals of 25% by 1996 and 40% per person by 2001. As part of that statute, the state determined that each County should use the waste landfilled per person in 1991-92 (or some other approved year) as the benchmark from which to evaluate its progress toward the goal with 1995-96 being the first year of measurement.

Orange County's progress towards the state waste reduction goal is summarized in the table below and culminates in last year's achievement of the 40% goal set for the state:

Table I-3. Waste Landfilled per person in Orange County 1992-2002

Year	1991-92	95-96	96-97	97-98	98-99	99-00	00-01	01-02
Tons per person	1.36	0.85	0.94	0.87	0.89	0.91	0.91	0.81
% Reduced compared to 1991-92	N/a	37.2%	31.1%	36.4%	34.2%	33.1%	33.1%	40.1%

Although Orange County was among the first in the state to achieve the State's 40% goal, its internal waste reduction goals and those adopted as part of the approved state plan submitted in 1997 and reaffirmed in 2000 are 45% per capita by 2001 and 61% per capita by 2006. This report details programs the County may adopt to reach that goal and recommends funding mechanisms to support investments in those programs.

II. Review of Proposed Integrated Ten year Solid Waste Management Plan & Adopted Reduction Goals

A. Solid waste reduction plan goals and details

In 1997, the County and Towns adopted a goal of reducing waste by 61% per capita by 2006 and approved the framework of a plan to move toward this point. Three general approaches to expanding municipal solid waste (MSW) reduction were initially evaluated and analyzed. (see Appendix 1) Of these three, the approach that seemed the most cost-effective and practical way to reach the goal included:

- broad expansion of recycling to the commercial and institutional sector,
- universal County-wide curbside residential recycling ,
- commingled collection of clean recyclables with sorting, processing and marketing at a central facility, and
- aggressive waste reduction education and regulation, once the recycling collection infrastructure was expanded.

The SWAB has endorsed this plan as a sound basis for achieving the County's waste reduction goals.

The adopted waste reduction plan did not address construction and demolition waste which is managed and landfilled separately and for which the County has implemented an aggressive reduction plan described in section II-B below.

Source-Separated v. Commingled Recycling Collection Practices

Until now, all Orange County's programs have operated as source-separated programs. Source-separated programs are those where either the generator or the collection contractor is responsible for separating recyclables at the point of generation - household, apartment, government building or restaurant. Further expansion of source-separated programs is limited by the cost of labor to separate on-site, the number of materials that can be practically sorted on board a collection truck, and the greater variation in types of recyclable materials that might come from non-residential facilities than residential. This increased variability would require greater collection flexibility than residential sector programs.

Staff and previous consultants' reports leading up to adoption of the County's goals concluded that the current programs have reached their practical, cost-effective limit of expansion in material types. **Thus reaching the goal would involve expansion of the types of materials to be collected, expansion to the commercial/institutional sector, using commingled materials collections of clean recyclables, and then sorting, processing and marketing them at a centralized facility.**

The proposed commingled approach to implementing universal recycling service differs from the current approach used here in Orange County. The County's source-separated collection programs focused predominantly on recycling municipal solid waste from the residential sector, including both single family and multifamily housing. Those two sectors generate about sixty percent of the MSW landfilled in Orange County. While recycling participation rates are high,

significant potential remains for recycling even in the residential sector from mixed paper (17% of residential waste), other rigid plastic containers (3%) and conventional recyclables that are still discarded (20%). (Total potential recycling remaining in residential waste stream = 40% of current waste landfilled)

Experience elsewhere (e.g. Virginia Beach, VA) shows that residential programs that collect a broader range of materials with fewer required separations at the source garner more tonnage from all types of recyclables, albeit with somewhat higher residue rates from processing commingled materials.

The other forty percent of Orange County's current MSW is considered "commercial" or institutional waste, which includes waste from governments, institutions, and non-profits. Of that 40% commercial waste, thirty seven percent could be readily recycled using a more flexible commingled collection approach that would collect more types of materials with fewer required sorting separations. This could result in greater diversion of waste from a broad variety of businesses and institutions than using a source-separated program that collected exactly the same materials as curbside does now.

B. Construction and demolition waste

While construction and demolition (C&D) waste was not included in the adopted 1997 reduction plan, it was decided the County would address it separately. C&D has historically represented about one-third of what is received at the Orange County Landfill. As the unlined section of the landfill receiving this waste was scheduled to be full in 2001, the County initiated a Construction and Demolition Waste Task Force in 1999 to consider alternatives to landfilling. In its final report in 2000, that Task Force recommended that the County acquire a new site for C&D disposal and implement a comprehensive C&D recycling ordinance. The County has accomplished both tasks.

The County has just completed acquisition of the 14 acres of land for a new C&D landfill, which will be constructed and begin operating subsequent to closure of the current facility later this year. C&D, along with all other materials listed in Tables I-1 and I-2 above, will continue to be managed in Orange County. The C&D costs far less than to bury than the \$41 tip fee we charge. The surplus or 'profit' can be considered as funds used to support recycling. In the future, this level of funding will not be as great as projected for this, due to a steep decline in C&D received and the increase in expenditures due to aggressive C&D recycling and waste reduction programs.

Last year, the County enacted a RRMO ordinance that banned the landfilling of clean wood waste, scrap metal pallets and corrugated cardboard. The result has been a decline of almost 50% in the amount of C&D landfilled from Orange County in the four months since the ordinance has been in place, compared with the same period in the previous year. In one response to the ordinance, much of the wood, metal and cardboard from the C&D sector and other commercial sources is now brought to the Orange County Landfill source-separated for recycling at lower tipping fees – another reason our success at recycling has resulted in reduced revenues.

In another response to the new ordinance, about half of what formerly was received for burial in-county now goes to out-of-county, private, certified recycling facilities. Between 35% and 60% of what is received at those facilities is recycled, thus meeting the County's recycling facility certification requirement. Consequently, Orange County expects in 2002-03 to realize significant further waste reduction from the reduction in C&D landfilled and projects its newly acquired C&D landfill site to last from 15 to 20 years, instead of the originally estimated twelve years.

The County's investment in personnel, equipment, rolling stock and facilities to handle the thousands of tons of separated wood, scrap metal, pallets, and corrugated cardboard exceeded \$1.7 million dollars. It is paying off in the form of landfill space savings, increased revenue from sale of scrap, resource conservation, and increases in waste reduction, all of which move the County towards our 61% goal, but also reduce the revenues from landfilling.

As of January 2003, Orange County has met the State of North Carolina waste reduction goal of 40% per person. By the end of the current year, with nearly a full year of C&D recycling the County expects to approach 45%.

C. History of solid waste reduction plan adoption and current programs from 1995 consultant's report through 2000 reaffirmation of state plan

Beginning in 1992, the County and the Towns (Landfill Owners Group) went through an extensive search and hiring process through which a consulting team was retained in 1994 to develop and analyze approaches to reducing waste County-wide. The report was completed in 1996 and showed three options for waste reduction plans. **The LOG member governments and the Citizens' Solid Waste Advisory Committee all endorsed the approach that included commingled recycling coupled to a centralized recycling facility to achieve its waste reduction goals. The Solid Waste Advisory Board now adds its voice to that endorsement.**

The approved goals and this reduction plan framework were included in the report to the State required in 1997 and reaffirmed in the 2000 update of Orange County's state plan. Another triennial update is due in June 2003.

In the years since the plan's initial approval, none of the measures recommended in the plan has been implemented. Instead existing programs have been expanded modestly to accommodate growth in the number of residences and food and drink related businesses. Mixed paper collection was added only at drop-off sites in 1998. All plastic bottles and aerosol cans were added in 2001. Commercial food waste and bar glass tonnage have increased over the past three years at about 10% annually. In 2002, a recycling drop-off site was replaced in Carrboro and a new site added at Meadowmont in February 2003. Some multifamily housing complexes have been added gradually from the stock of existing complexes and new ones built in Carrboro and Chapel Hill; no complexes in Hillsborough are on the program yet.

Biweekly curbside recycling routes in the unincorporated part of the county have grown by a few hundred homes each year, primarily due to infill expansion and growth predominantly in suburban style neighborhoods adjoining current recycling routes. The biweekly program currently serves an estimated 50% of households in the unincorporated areas of the County. New single family residences in incorporated areas are served as they are built.

Drop-off and multifamily recycling programs have been taken in-house along with commercial glass. In all programs, the source-separated approach has remained the same as when they were contracted out but operating costs are lower and tonnages are up. A small recyclables intermediate processing facility has been added at the landfill to upgrade the quality of materials going to market. Materials collected by staff from drop-off, commercial glass, and now multifamily are brought to this facility and dumped on a pad where trash is manually removed. This facility would have to either be replaced by a materials recovery facility or relocated due to expansion of the C&D landfill to the area where it's now located. Cleanup of these primarily source-separated materials has improved the County's market position, such that, even with the relatively small quantities of material, the County receives top dollar for products sent to market. **No further cost-effective expansion to new materials or into segments of the commercial sector other than food service sector is possible using the current approach to collection and processing.**

D. Transition from landfill to transfer station and landfill closure

The MSW lined landfill is expected to reach capacity and close in 2009. It will be replaced by a transfer station, from which waste will be trucked to a landfill located outside Orange County. During the period leading to landfill closure, the County will have to finance, site, design, permit, and build the MSW transfer station, so operations can be initiated as soon as the current landfill is closed. The transfer station will initially handle only MSW, which has to be shipped to a lined landfill. The County projects transfer station design and construction costs at: \$2,440,000. The integrated ten-year plan assumes debt financing of the transfer station.

The Solid Waste Advisory Board favors locating the transfer station at the current landfill unless it can be co-located with the Materials Recovery Facility. In fact, some financial advantage could likely be achieved if the materials recovery facility and transfer station were co-located as one multi-purpose structure with a single set of scales, roadway and other supporting infrastructure.

MSW landfill closure was originally projected in 1997 by the consulting engineers responsible for landfill design and closure. This closure date was pushed back to 2007 due to combination of the use of alternative daily cover that reduced volume at the landfill, coupled with the ban on landfilling corrugated cardboard, aggressive waste reduction, higher compaction rates of waste, and a decision to raise the landfill's finished height further above grade. In the summer of 2002, as a result of aerial photogrammetric survey of the landfill, the County found it had gained two more years of landfill life as waste volumes were lower than predicted and compaction rates were higher.

The added years of landfill life are a fiscal and environmental benefit to our community, allowing further income to be realized from burying non-recyclable waste and continuing the County's sound stewardship of the current landfill. **The inevitable will occur and then the County will be subject to two financially adverse events " of funding a landfill closure estimated at close to \$2 million? at the same time as we lose the excess revenue from tipping fees that has historically enabled Orange County to operate a broad variety of high-quality recycling programs.**

E. How to get there from here: Why a Materials Recovery Facility is needed.

The SWAB has endorsed the County's waste reduction goals set back in 1997. After investigation, the SWAB believes it is highly unlikely that the County can meet this goal by continuing the current course of modest expansions to the source-separated recycling programs that are limited to newspapers, glossy magazines, metal cans, and glass and plastic bottles and, at dropoff sites only, corrugated cardboard and mixed paper.

The most cost-effective plan framework identified for enabling the County to meet its waste reduction goal calls for a materials recovery facility wherein mixed, but clean, commingled recyclables, not mixed with waste, would be sorted, processed, and prepared for market. A materials recovery facility or access to one would enable the County to more cost effectively collect a broader range of materials from a wider variety of sources than is presently allowed with the source-separation requirements. Specifically, mixed paper, corrugated cardboard, and all rigid containers could readily be collected mixed with other recyclables now collected. This approach adds over 20% potential from new materials in the recycling stream and enables flexible commercial/institutional sector collection.

The projections prepared as part of the financial model of the ten year implementation plan assumes the County purchases land for a materials recovery facility in 2004-05 for \$200,000, combined with design in 2004-05 at a cost of \$389,000, construction in 2005-06 and operation of the facility beginning in 2006-07. In this model, cost of the building shell would be debt-financed by the County, but the operating contractor would finance all the equipment and operate the facility. Other owner/operator options are possible. The model proposes a tipping fee, but revenues from sale of recyclables are shared between the County and the contractor. The 'status quo' case that is not further analyzed would not include a materials recovery facility or attaining the County's Solid Waste Reduction Goal. A more detailed discussion of MRF operations, successes and failures is contained in Appendix 2.

F. Other strategies to boost waste reduction -- C&D, organics composting

The solid waste plan, as construed is projected to closely approach 61% through only collection of conventional recyclables and an estimated 20% of C&D that is wood, cardboard and scrap metal. Conservative staff projections show Orange County reaching at least 57% by 2010 if all planned programs are implemented. Other materials may need to be added to reach or even possibly exceed our goal, including further components of the C&D waste stream such as shingles, or inert rubble. In addition, a full-scale organics separation and composting system could provide the means to divert conventional organics such as food waste and wood waste, and the flexibility needed to accept low-grade paper or dry wall when other markets are poor.

Adding other materials and processes to the overall solid waste plan is worth examination as part of a larger, longer-term strategy to maximize cost-effective, environmentally sound diversion of waste from the Orange County landfill. Ability to economically or legally direct the flow of solid waste would help ensure a greater percent of materials were recycled or reduced rather than simply landfilled elsewhere.

G. Detailed implementation schedule for the integrated ten year plan beginning with C&D expansion in 2002-03 through implementation of PAYT/mandatory in 2008-09

The plan framework as adopted by the Board of Commissioners and projected by staff proposes the following schedule:

- 2002-03: Complete C&D Recycling facility, implementation of regulated recyclable materials ordinance.
- 2003-04: Ban disposal of unpainted drywall, if markets appear, expand commercial food waste. Begin selection process for materials recovery facility designer and site
- 2004-05: Purchase land design and permit Materials Recovery Facility
- 2005-06: Construct materials recovery facility, plan for expansion to 'universal' rural and urban curbside service and service to all multifamily using a commingled recycling system including all types of paper fiber and all types of rigid containers to increase diversion. Hire personnel to plan new curbside routes and plan program expansion
- 2006-07: Expand curbside recycling to all accessible households, distribute 2nd bin to all, (one for paper, one for cans and bottles), convert multifamily to commingled recycling. Open and operate material recovery facility to take commingled materials from County programs and UNC, plan commercial recycling program. Purchase trucks and hire personnel for commercial program.
- 2007-08: Initiate general commercial/institutional recycling program serving 50% of businesses/institutions. Purchase additional commercial recycling truck and hire operator.
- 2008-09: Expand commercial/institutional recycling to 75% of sector, initiate pay as you throw or mandatory recycling. Close and cap MSW lined landfill. Open and operate transfer station.
- 2009-10: Complete expansion of commercial recycling to all of commercial/institutional sector. Fine-tune mandatory/PAYT.

This schedule would achieve the maximum possible waste reduction, given current materials markets. The staff has conservatively estimated the waste reduction rate of at least 57%. The remaining percentage to reach the goal would have to come from further reductions in C&D waste or greatly expanded organics collection, neither of which is currently in the plan. Other materials and processes could be added to enhance recycling and increase waste diversion still further.

III. Financing Mechanisms Used by Other Local Governments

Local governments throughout the nation are confronting this problem of increased demand for solid waste services coupled with a decline in the revenues that have traditionally supported those types of services. Many governments long ago converted to a variety of fees-for-service type arrangements and removed solid waste collection from the ranks of tax-supported services.

Historically, most publicly provided residential waste services that were not tax-supported were financed by flat fees. Commercial services have generally been financed by fees that vary based on frequency, volume and type of waste collected. Most were privately provided. In recent years many residential programs, public and private, have also adopted a variable fee for waste. The result of employing this economic incentive has generally been a reduction in waste and increased recycling. Recent research shows an average of 16% reduction in residential waste.

Governments have employed a variety of ways to fund recycling and other related services such as hazardous household waste collection, including but not limited to:

- flat monthly fees to all potential users usually billed on another utility bill such as water or power,
- annual fees earmarked for solid waste but billed on the tax bill; these fees sometimes vary based on size or type of building served, assuming those variables affect the potential amount of recyclables that could be generated there,
- use of volume-based waste fees that cover some other costs,
- voluntary payments for recycling services,
- incorporation of the fee into other broader categories of service, e.g. special taxing districts.
- prepaid availability fees for a variety of services to guarantee a level of income to support all or part of a solid waste system.

North Carolina has been partial to the use of residential fees to finance a variety of residential solid waste services. Most Triangle counties, other than Orange, have adopted some type of fee, at least for those residences in the unincorporated areas, although the Wake County fee is levied on all residential units both single family and apartments incorporated and unincorporated. Wilson County and Franklin County use special solid waste taxing districts combined with household fees in North Carolina. The table below shows a variety of North Carolina local governments that use different types of fees to finance all or part of their solid waste operations.

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Table III-1 Solid Waste Fees Charged by Local Governments in North Carolina

City or County	Type of Fee	Annual Fee	Who Pays	What it Covers	Comments: provided from jurisdiction
Wake County Ken McArtor, Finance Dept. (919) 856-7117	Household Fee	\$20.00	All residential occupied units in the County including Multifamily	Non-landfill related programs (including; School Recycling Program. Convenience Center Program, Multi- Material Drop-Off Facilities, Household Hazardous Waste Program, Special Collections, Solid Waste Education, etc.)	Fee began 1995. In the past, revenue from the \$20 household fee has not been "ear-marked" for certain programs, but has been considered revenue to the Enterprise Fund as a whole. This year the household fee will be compared to the total cost of services for all the programs it is supposed to fund. A fee adjustment will be requested where necessary over the 3-yr budget.
Wilson County Steve Clayton Solid Waste Director (252) 291-7335	Solid Waste District plus availability fee	\$35 per unincorporated household plus \$0.0325/\$100 district tax	Unincorporated households pay the fee for solid waste convenience centers. All property owners pay the special district tax	12 Convenience Centers with recycling, litter and special collections in uninc areas	Had tax up to \$0.12/\$100 and then switched to combination fee and tax. Eal Although all property owners in tax district pay only residences are allowed to use the convenience c Centers. So far, few complaints. Tax in place since 1972..
Chatham County Robert Holden, Solid Waste Director (919) 542-5516	Availability Fee and Disposal Fee	Two fee system: Availability Fee \$45 covers the costs of the collection centers. Charged to all dwelling units in unincorporated areas, An additional Disposal Fee {\$55} is charged to "dwelling units" in the unincorporated area who do not have a private garbage hauler.	Fees are only for "all" dwelling units in unincorporated areas. Mobile home parks are charge per utility hook up. Multi families up to 4 units, not apt. complexes. It is set up to cover the costs of the collection centers.	Fees along with recycling revenues should cover Hauling (H) and Disposal (D) costs. Availability fee: Current H & D = 44%, Revenue = 32%. Disposal Fee: Current costs = 40% Revenue = 32%.	When this structure was set up, solid waste fund was receiving General Fund money for programs such as Environmental Enforcement, Environmental Education, HHW, Access to the collection centers etc. that everyone in the County has access to, was being paid from the General Fund. Those who benefit pay. This year with NO general fund money, policies did not Change.

Table III-1 (cont.)

City or County	Type of Fee	Annual Fee	Who Pays	What it Covers	Comments: provided from jurisdiction
Durham County Mike Turner Director of General Services (919) 560-0430	Solid Waste Fee	\$65.00	Single family unincorporated, trailer parks, exemption for vacant pads, not vacant trailers.	Convenience center operations (4) and curbside recycling 14,000+ hh's	Fee in place since 1993. This is not the only source of funds, SWCCs collect motor oil, batteries, pesticide bottles, site attendants, recycling staff (in house for County buildings).
City of Kernersville Myllinda Jacobsen, Solid Waste Director (336) 996-6417	Recycling Fee	\$26.50	Single family households. Duplex pays two fees (2 carts)	Curbside recycling	Covers cost of contract only, no administrative or education costs. Billed on property tax bill.
City of Wilmington Bill Reid Superintendent of Operations (910) 790-2376	Solid Waste Fee	\$229.20 for 90g roll out garbage cart \$193.20 for smaller 40g cart General fund pays public waste and dead animal fees.	Single family households or others who can use roll out carts e.g. small business	Residential solid waste, yard waste, curbside recycling, bulky, all admin. Overhead.	Billed on water bill monthly. The solid waste dept pays the City \$400,000 year for HR services, IT services, billing, and other services.
City of Hickory Tim Bennett Solid Waste Supervisor (828) 323-7439	Solid Waste Fee	\$66.00	Single family households, multifamily under six units some small businesses and other non-residential that use one roll cart	Curbside recycling Includes other recycling programs, residential solid waste, bulky goods, white goods, yard waste	Billed on water bill. Individual bills sent to those on private wells. It does not cover enough. Should be charging about \$121 - \$144/ year) for the level of service provided and covering overhead, HR costs, etc. Subsidizes all Solid Waste programs for disposal and recycling The fee is collected as part of enterprise fund used to pay for curbside recycling plus residential and commercial waste collection and disposal. Any shortfalls are absorbed by general fund. Set up in about 1996 and was in the \$2-\$3/month range then.

Prepared January 2003

IV Fiscal Overview of Solid Waste Department and Financing Options for Future

A. Capsule history of solid waste fund including some detail on the current status.

The landfill has operated as an enterprise fund since its inception in 1972. Aside from the seed money from the towns of Carrboro and Chapel Hill that was used to purchase the initial land and equipment, all funding has been self-generating, predominantly from tipping fees. In 1987, the landfill began funding publicly operated recycling programs starting with five drop off sites. The programs expanded to include all those shown in Table I-2. Those programs generate about \$100,000 annually from sale of materials. Those programs do not include the construction and demolition recycling programs that are integrated with C&D disposal but will account for several thousand tons of recycling tonnage this year. Other sources of funds are mulch sales, interest on income, reimbursements from the State for tires and white goods, landfill penalties and occasional grants.

Over 90% of departmental operating funds still come from tipping fees and therefore are directly proportional to the amount of waste disposed, even though the cost of the overall SWM program is now more dependent on other factors, most notably the number of residents living in the county. All new residents receive solid waste services even if the overall amount of waste is falling or waste per person is reduced. Other counties that have implemented per household fees have seen their revenue increase even as they reduce the amount of waste disposed of

Department expenditures in the past three years have included:

Table IV-1 Capital expenditures and New Program Developments from 2000-2003

Year	Capital Items and equipment purchased, list of programs implemented	Capital Expense	Comments
2000-01	Shelter for processing pad	\$98,000	More efficient, safer, protected area for processing recyclables.
	Phone books collected year-round at curb and combined with news at dropoff sites		
	Salvage shed at High Rock Road site	\$4,000	Four of six convenience centers now have salvage sheds, space limitations at other two sites prohibit sheds there

Table IV-1 (cont.)

Year	Capital Items and equipment purchased, list of programs implemented	Capital Expense	Comments
2001-02	Water line for Rogers Road community	\$620,000	As required by BOCC for neighborhood adjoining landfill.
	Rolloff containers	\$24,000	Self-hauling magazines & newspaper from dropoff sites lowered operating cost and increased sales revenues
	Recycling Collections truck (in-house paper and electronics)	\$32,000	Improvements to collection programs required paper and electronics collection truck and rolloff containers, new skid steer
	Construct Carrboro Plaza site,	\$42,000	New recycling site Carrboro Plaza
	Vertical baler and conveyor for steel cans	\$27,500	Improve processing capabilities
	Expand collections to all plastic bottles & aerosol cans	\$14,600	Contractor added \$0.05 per household served per month for this service
	Take office paper recycling in-house		Projected savings over six years of \$68,000
	Battery recycling begun for all types.		Collected at all six solid waste convenience centers
2002-03 (to date)	Wood grinder,	\$1,300,000	C&D recycling operations required wood grinder, screen and loading
	Screening equipment, track loader, coloring equipment	\$440,000	equipment, compactors and processing area.
	C&D processing facilities		
	Two multifamily trucks	\$215,000	Takeover of Multifamily recycling
	2000 Roll carts	\$78,000	required two collection trucks, skid
	Skid Steer Loader	\$20,000	steer, carts
	Electronics Recycling	\$35,000	Permanent electronics recycling
	Meadowmont drop off site	\$35,000	program required new building.
	Roll off containers	\$24,000	Meadowmont required rolloffs, pad,
	Antifreeze recycling (pending)		newspaper and cardboard dumpsters
	Expand food waste recycling to mainstream grocery chain (pending)		Antifreeze recycling tanks

In FY 2002-03, the Department purchased over \$1.7 million dollars in C&D recycling equipment and facilities to manage materials diverted by the new Regulated Recyclable Materials ordinance, and took the multifamily program in-house, buying two new trucks, 2,000 roll carts, and hiring two drivers and two processors. These programs are projected to save money and landfill space, but a significant initial investment was required. The Department

also created permanent collection programs for electronics and household hazardous waste to be implemented later this spring.

Reserve funds were liquidated and consolidated into a single fund balance. Those expenditures and fund consolidation, coupled with the decline in tipping fee revenues in the past two years, have created a fiscal situation in which the Department faces a possible deficit beginning in 2003-04 without new sources of revenue or cutting back its programs and operations.

B. List of potential options for financing the Integrated ten year solid waste management plan compared to maintaining the status quo

The Solid Waste Advisory Board endorsed the integrated ten year solid waste management plan and its goals, and proposed an approach to reaching those goals. As such, the SWAB did not consider a scenario under which recycling and waste reduction programs were cut back to avoid a budget shortfall next year. Instead the Solid Waste Advisory Board considered primarily five approaches to solid waste financing as supplements to or replacements for the current funding. In the long term, a comprehensive prepaid fee is recommended. The SWAB recognizes that such funding would be needed even if there were no further expansion of recycling and waste reduction programs and the County intended to only maintain the status quo plus incremental increases to cover natural population growth.

Future financial stability of the solid waste fund could include development of some type of flow control to ensure solid waste revenues. Other significant interrelated issues include how the County's Solid Waste Convenience Centers could be integrated into Solid Waste operations and how future disaster debris should best be managed. That is, should future planning include investment in a debris management facility. Managing large amounts of C&D and storm debris on very limited space and shrinking space available at the existing landfill compromises the quality and effectiveness of that management.

C. SWAB principles

The SWAB developed several guiding principles in considering the various funding mechanisms from which it might select a financing option. Although it has tried to adhere to those principles, some of them may contradict what is feasible in the short run or what is most effective for the County to collect sufficient funds to operate its programs.

Those principles include:

- Endorsement of the Solid Waste Reduction Plan goals and framework
- Capturing revenues from non-profit properties as they too generate solid waste
- Using the existing tax collection system to collect solid waste revenues
- Levelling fees or taxes to keep prevent yearly fluctuations.
- Creating equity among classes of system users such that revenues collected reflect services received
- Property owners, rather than occupants should pay the fee or tax
- Creation of dedicated reserve funds for equipment and landfill closure are prudent policy,
- Maintenance of a healthy fund balance of 12% to 16% of the annual budget is desirable,

- Viewing the fund and the operation as an integrated whole, rather than disparate parts to be completely separated functionally and fiscally.

D. Five funding options given serious consideration up to this point include:

Availability fees: wherein each class of user is charged for services available to that user class. e.g. weekly curbside recycling in incorporated areas of the County, biweekly curbside in the unincorporated area, multifamily recycling and users of only drop off sites and hazardous waste collection, each class of user would pay a rate that would capture program costs not covered by tipping fees and other revenue sources.

Property Tax supported programs: wherein all of the solid waste deficit, current and proposed, is to be funded by a single addition to the property tax that would be assessed at a uniform rate to all property owners in the county, regardless of the specific services they were provided. These funds would then be 'earmarked' by the BOCC specifically for solid waste.

Solid Waste District Tax where the County and all participating municipalities agree to establish special solid waste taxing districts based on the level of service received. These would be structured similar to rural fire districts, but boundaries would be more fluid where services changed from year to year, especially regarding curbside recycling in the unincorporated areas. Municipal approval would be required. Development of these districts would require fairly elaborate coordination the revenue department, tax collections, GIS, budget and finance to ensure thorough implementation. This is especially true in the oddly shaped rural curbside recycling districts that will result from changing service boundaries. Because municipal approval would be required significant coordination would also be required n with those revenue departments.

A blend of taxes and availability fees that provided sufficient financing for all programs using taxes for certain programs and fees for others

A prepaid, comprehensive solid waste availability fee by all Orange County residences, businesses and institutions that covered all costs of Solid Waste Management Department's operations. Operations exclude hauling of solid waste that is done by individual governments or private haulers. This prepaid fee model is used in Prince William County Virginia and Charleston County South Carolina and they have eliminated landfill or incinerator tipping fees as well as charges for other solid waste services to those who prepay the annual fee.

Construction and demolition waste is not included in this model. The haulers pay directly for C&D disposal at the facility. Solid waste hauling is not covered either, unless franchised. Implementation could require development of solid waste franchises to ensure that fees were prepaid, regardless of where a hauler chose to take waste. That may not be possible under North Carolina statute if the hauler is already contracting privately with a customer to take waste somewhere else and the customer's fee includes the disposal charge. This constraint is still under legal review.

The comprehensive prepaid solid waste services fee model was most appealing to the SWAB, but the County attorney has determined that utilizing a sanitary district commensurate with County boundaries would be required if it were to be exactly like Virginia's approach. (see

appendix 3) Such a district would require separate governance and an elected board. It is unlikely that would be feasible in Orange County now. It is not clear whether a Sanitary District would be required in North Carolina. Counties in South Carolina have managed to implement a similar system without establishing a sanitary district with its own separate governance and taxing authority. Elements of the pre-paid fee model can be adopted without adopting the sanitary district model. The table below details some of the advantages and disadvantages of each funding mechanism considered:

Table IV-2 Advantages and Disadvantages of Supplemental Solid Waste Funding Mechanisms

Type	Advantages	Disadvantages	Comments
Availability Fees	Most equitable and understandable. Allows charging fees to tax-exempt institutions that require solid waste services. Well understood and widely used in NC. Can be attached to tax bill annually.	Requires additional administration. Fee calculations and classification system required to match fees to waste/recycling generation levels. Ability to effectively collect all fees may be limited.(per Orange Co. tax collection Dept.). Not deductible on income taxes	Fees could be phased in & implemented in those sectors now receiving universal services e.g. urban curbside and allow later implementation of fees for sectors with now limited services. E.g. commercial or rural without curbside. Smaller general fee could be applied to those sectors now to support overhead, HHW and dropoff sites.
Property Taxes	Most easily administered and readily understood. High collection rate (>98%).	Doesn't allow collection of revenue from tax-exempts. e.g.churches. Some inequity as service level may not differ with building size, especially residential variations. Use of general fund breaches the 'fire wall' b/w the enterprise fund and County's general fund. General fund revenue is legally not 'earmarked' and could be used elsewhere if BOCC decides. Solid waste fund is then vulnerable.	A property tax could be a 'bridge financing mechanism, readily put in place and used for a year to enable more thorough analysis of other mechanisms. Use of County tax money may require a reconsideration of interlocal agreement which now seems to prohibit that.

Table IV-2 (cont.)

Type	Advantages	Disadvantages	Comments
Blend of Property Tax and Availability Fees	Spreads the burden more broadly. Universal services could be funded with tax and particular services with fees.	Complex to administer and may be confusing to public.	Use of taxes is potential problem as noted above. The mix could be developed in a variety of ways. One proposal is that universal services such as HHW and dropoff sites are tax supported while curbside and apartment recycling are fee-supported.
Comprehensive Prepaid Availability Fee (Prince William County Model) also used in Charleston County, Berkely County and Dorchester County South Carolina.	Comprehensive single fee for landfill and recycling services. Predictable income source. Creates economic flow control as waste haulers have no incentive to go elsewhere may recapture waste now leaving. Successfully implemented elsewhere.	Complex administration requiring significant development time and staff for fee structure. Radical departure from current funding mechanisms. Known uses limited in the country. May be subject to challenge in NC. Reduces economic incentive to recycle to avoid landfill tip fee costs as they're prepaid. Not deductible on income taxes.	The appeal of a prepaid fee that stabilizes Departmental revenues is great. Separate fees would have to be negotiated with UNC, as they do not use County recycling services that equal about 35% of current tipping fees.
District Tax	Relatively equitable as various districts are created to provide different service levels.	Difficult to determine districts, especially rural curbside as it fluctuates. Services within a district may differ by residence type (single v. multifamily). One known use in NC for solid waste financing. Tax exempt entities don't pay for recycling. Vacant property does. Requires municipal approval.	While this has appeal on its face, there are complexities of having at least three districts. One for fixed for incorporated areas. Two more for unincorporated areas that would have shifting boundaries if and when expanded curbside recycling services are provided.

E. Options that were considered and rejected as impractical or unrealistic

(Voluntary) user fees: Where these have been used, recycling has generally been undermined as many on the routes opted out and therefore programs became inefficient and too costly.

Laissez-faire system: Where all hauling and disposal of all materials is completely private and there is no public role except to ensure that there is a collection company serving residential customers. This is antithetical to Orange County and the Towns' very public approach to waste

management where most collection and disposal services have been publicly provided. An open system provides no public services of any kind nor provides financing for them and is not really under consideration.

Charging each government directly. Under this mechanism, each government would decide how to fund its 'share' of services. This approach makes the whole system vulnerable to withdrawal of funds by any municipality or the County's general fund contribution. Many services cross boundaries or are universal in nature such as Hazardous Household Waste collections. This approach also stands in opposition to the long-endorsed concept of an integrated program. The level of fiscal uncertainty would make long-term solid waste planning or any type of financing impossible and would likely increase costs.

F. Detailed analysis of tax and fee scenarios

The tables in appendix two detail the levels of taxes and/or fees needed to support the programs at two levels, Case A, the proposed solid waste plan is the only one shown as the Case B without the plan was only about 5% less, but included only maintaining all disposal and recycling programs at their current level. In either case, supplemental funding is needed. A summary of the projected fiscal impact of the options is shown below:

Table IV-3

Taxes and Fees Charged in Each Sector Under Case A, Full Implementation of Waste Reduction

Year	2003-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11
Property tax only variable	\$0.0362	\$0.0525	\$0.0411	\$0.0449	\$0.0521	\$0.0474	\$0.0681	\$0.0641
Availability Fee Only								
Urban (varied)	\$84.23	104.64	103.27	83.75	86.95	81.76	111.54	108.60
Single Family (levelled)	91	91	91	91	91	91	110	110
Multifamily (varied)	49.85	63.97	42.01	55.15	57.98	48.59	77.34	72.97
(levelled)	53	53	53	53	53	53	75	75
Rural (varied)	60.54	75.52	95.94	65.42	67.56	61.48	90.43	85.28
Single Family (levelled)	71	71	71	71	71	71	88	88
General (varied)	31.44	45.62	24.84	35.12	36.81	30.09	58.38	53.80
Recycling, no curbside (levelled)	34	34	34	34	34	34	56	56

Tax and fee scenarios were developed for both scenarios over ten years from projected levels of waste disposal and Solid Waste Department income. The scenarios define detailed program costs including all personnel, overhead, operations and capital requirements. The resulting deficit in each year was then funded through a variety of options shown in the tables. The level of fees or taxes in these analyses will change slightly as the budgets are fine-tuned, but should not vary more than 10% from those shown below.

In the initial analyses fees or taxes are allowed to fluctuate to cover the individual year's deficit. In other scenarios, fees or taxes are 'leveled' over six years to avoid changing the tax or fee each year. The SWAB favors leveling the fee or tax through the first six years. In the seventh year, 2008-09, when the landfill is projected to close and transfer station opens, a new level of financing will be required to maintain services. If the taxes or fees are not all implemented for all sectors in 2003-04, but phased in as programs are phased in, the magnitude of the fee or tax would increase significantly in later years to make up the difference from not providing advance program funding in the early years.

G. Debt Financing

The Department has just begun using debt financing on several large pieces of equipment to spread costs over future years and ease pressure on the fund balance which had been depleted for other uses. Further, interest rates are very favorable now. Similarly, debt financing is assumed in the financial model (appendix 4) to finance the transfer station, new administration building and, the proposed materials recovery facility building; (MRF equipment could be financed by the operator). Use of general obligation bonds or other types of bond funding could also be considered for financing some of these larger items but has not been analyzed in this report. All these methods of financing supplement or replace current sources of revenue.

H. Recommendations and Options for Implementation

The SWAB has considered the complexity and timetable for implementing any of the financing measures considered. Its recommendations included:

As a body its primary recommendation was the fully prepaid comprehensive availability fee as used in Prince William County Virginia and Charleston County South Carolina. The SWAB is aware that this is a radical departure from the current modes of funding or even those considered prior to December 2002 and may very well require a longer period of time to implement, as much as two years, if considered feasible in North Carolina. The Town of Carrboro in its recent discussion has expressed positive interest in this fee model. The SWAB is further aware that the legality of using such a fee is subject to North Carolina statutes and that the County attorney advises against the use of this model based on utilization of sanitary districts. in his letter of February 7 to the manager and the SWAB. Such a fee might need to be endorsed by each of the local governments in the County prior to its County-wide adoption. It could also require franchising and other changes to the hauling structure. Alternative means of pursuing the comprehensive prepaid options are being analyzed by the attorney.

The solid waste fund will face a potential deficit in 2003-04 that would result in program reductions without additional funding. Implementation of any new financing measures would take at least a year to fully and properly implement. Therefore, the SWAB recommends that the staff and BOCC work together to develop and implement the short term financing measures that would enable smooth program continuation for 2003-04.

The SWAB recommends that the BOCC and manager consider options to fund the projected 2003-04 shortfall including funding from property taxes, fees, or other sources of revenue.

I. Implementation issues

The short term approach is necessary to provide some 'bridge' financing until a more comprehensive financing system can be implemented. Both the short term and the comprehensive system require significant help from the Tax assessors Revenue Collections Land Records/GIS, Budget and Finance Departments, revisions to their tax collection software, assurances of ability to collect fees as effectively as taxes are collected, development of accurate customers lists for each category of customers assessed the various fees. Again, in both short term and comprehensive systems, there are some policy details to be worked out that include but are not limited to:

- paying for the needed program expansions where new growth occurs in housing stock in mid-year,
- coordinating all governments information systems to ensure accurate tax and property records,
- dealing with requests for variance or relief based on property vacancies and other circumstances e.g. a house with a separate unit that received two bills due to provision of two services, is re-converted to use by a single family only.
- use of curbside recycling by non-residential type customers e.g a church or school on a curbside route would not pay into the short term system as proposed. There are about 1,000 such bins in place.
- Long term vacancies

In a longer term availability fee based model, the County would have to develop a system of determining the level of fees for non-residential properties. Such a system would be based on at least the variables of size and type of facility. The size and type determine the potential level of waste and recycling generation, therefore the potential cost to service the program, clearly a two chair barbershop will not generate as much waste as a shopping center. Development, testing and implementation of such a system could take as long as a year. It could be ready for FY 2004-05. In the interim, the costs of the very limited non-residential programs could be absorbed into the current operation with a possible infusion of some cash through user fees for the participants. There are also related policy decisions about how to treat non-profit and tax exempt entities such as churches and schools including public, charter and private.

J. Establishing revenue collection system(s)

Use of the current tax collection system is the simplest way to ensure revenue collection. Other counties routinely use their tax collection system and simply attach the fee or additional tax to the tax bill. In Orange County there is no other comprehensive billing system such as a water or electric utility that could be used to collect taxes. The tax office reports over 98% collections annually. Incorporating an availability fee into the tax bill is possible. Other types of fees are collected as part of the tax system such as personal property.

Further at this time, the level of cooperation that is required of the municipalities in implementation of these new fees is uncertain. The SWAB recommends full consideration by the municipalities of any funding options proposed. If an option is adopted, would any revisions to the interlocal agreement be required?

V. Next Steps

A. Suggested timetable for consideration for implementation in 2003-04 and beyond (phasing)

The SWAB recommends that the BOCC and the manager consult and develop funding mechanisms for the upcoming two years. This level of financing would not fund full implementation of the Solid Waste Plan but would be required simply to get through the 2003-04 and 2004-05 fiscal year. Implementation could take two years.

B. Legal Issues

The SWAB is not including a short-term funding recommendation. Its long term recommendation of a comprehensive prepaid solid waste services fee is subject to legal and institutional scrutiny. For this longer term solution, the County Attorney is now researching the legality and applicability of all the types of fees and taxes considered and proposed in this report. His preliminary findings are in appendix 3.

C. Conference with individual municipalities. What they want, what they want to pay for

The matter of alternative financing for solid waste has been under discussion since 1997 and at least some members of all local elected bodies are aware of it. Over the coming months, it will receive a full airing and a strategy of how specifically to present the issues to both elected officials and the public could be developed in time for the scheduled April meeting of the Assembly of Governments. Specific details will be developed between County and town staff.

D. Public hearing/public education

Staff will prepare a comprehensive education and outreach plan.

E. Logistical considerations working with Tax Assessor, Revenue, Budget, Finance, GIS and others.

Solid waste staff is currently working with all relevant departments to determine mutual needs and how to meet them. Three meetings have already taken place, problem areas pinpointed in for example tying GIS Land Records to tax records and physical property records. These and other details could possibly be completed in time for an accurate 2003-04 tax bill.

F. Other issues: Flow control, bond financing (e.g. of material recovery facility, administration building), integration of Solid Waste Convenience Centers, creation of debris management facility

These issues will be taken up by the SWAB in the coming year, they all have potential impacts on long term financing and other solid waste policy matters.

The issue of flow control is complex and legally challenging. Orange County has kept the majority of its waste but each year, more goes to other facilities as tipping fees rise, other private facilities develop and regulations change. It may be possible for the County to ensure that all MSW collected in the County is directed to County facilities under some new interpretations of the previous legal decisions in the arena. Certainly franchising is an option

Several more immediate measures can be taken to ensure control of some waste including: franchising of haulers in Orange County and requiring that their franchise to collect waste include hauling to Orange County's landfill. The Town of Hillsborough has successfully done this in its commercial sector by using a bid process to franchise collections to a single hauler. Complete negotiations with UNC in order that they could become a signatory to the interlocal agreement pledging their waste to Orange County Landfill.

Economic flow control is the soundest way to ensure that sufficient waste is captured to continue to provide some security in solid waste financing. Tipping fees cannot continue to rise indefinitely to pay all solid waste program costs. Limiting or eliminating them in favor of a series of prepaid fees such as Prince William County, would certainly guarantee that more of the waste generated in Orange County would remain in Orange County. While this would shorten landfill life to a certain extent, it would solve a more pressing fiscal problem for Solid Waste management.

G. Recommendations

The SWAB recommends that the BOCC adopt some type of short term financing for solid waste shortfalls projected for 2003-04. In the longer term, the SWAB recommends the County adopt a prepaid comprehensive solid waste fee from all solid waste generators that would cover all costs for the County's municipal solid waste management services including landfilling, recycling, hazardous waste and waste reduction but excluding solid waste hauling. This would not include construction and demolition waste management and certain financial considerations would have to ensure the solvency of an integrated fund.

SCENARIOS FOR FEBRUARY 26 BOCC WORKSESSION

This document outlines several different alternative funding scenarios for the Orange County Solid Waste Department over the fiscal years 2002-03 to 2010-11.

Scenarios Presented:

1. No new sources of revenue
2. Fees change each year to balance the budget in that year,
- 2b. Revenue generated from taxes which change each year to balance the budget in that year
3. Property taxes increase in 03-04 to cover general services, but availability fees are implemented in 03-04 to cover all other service areas.
4. Flattened Availability Fees: fees are implemented in 03-04 and raised again in 09-10 to balance the budget. No property tax increases.
5. "Prince William" scenario--tipping fees eliminated except for UNC MSW tonnages. UNC pays a 10% discounted tipping fee.

Assumptions:

1. Implementation of approved SWM Plan--expansion of rural curbside service, MRF, commercial recycling expansion, etc.
2. Landfill Closure Fund--sinking fund created and funded by annual contributions from annual budget. Contributions start in 03-04 to cover closure costs in 09-10 (\$2.513 million).
3. Greene Tract Reimbursement: Since reimbursements are still uncertain, they are not included in the financial model.
4. The total assessed value of taxable properties increases 2% per year.
5. The number of all customers is assumed to grow at 2% per year (see below). Though the total number of rural households is assumed to grow at 2% per year, the percentage of these households that receive curbside service jumps dramatically in 2006-07 as a result of aggressive expansion of recycling services.

No. of Customers in Each Class		No. Units 2002-2003 Growth Rate Assumed
Cambridge	Urban curbside	3,484 increase 2% per year
	Multifamily	4,945 increase 2% per year
	Nonresidential	247 increase 2% per year
Chapel Hill	Urban curbside	9,830 increase 2% per year
	Multifamily	9,285 increase 2% per year
	Nonresidential	799 increase 2% per year
Hillsborough	Urban curbside	1,779 increase 2% per year
	Multifamily	370 increase 2% per year
	Nonresidential	284 increase 2% per year
Unincorporated	ALL UNITS	21,886 increase 2% per year
	Rural curbside	9,875 (grows 300 per year to 05-07, then set at total rural households less 10% inaccessible.)
	Res. no curb	12,211 (difference between ALL UNITS and rural curbside)
	Multifamily	200 increase 2% per year
	Nonresidential	351 increase 2% per year
TOTALS	Urban curbside	14,873
	Rural curbside	9,875
	Res. no curb	12,211
	Multifamily	14,806
	Nonresidential	1,721
TOTAL		53,286

6. Equipment reserve fund created and funded by periodic contributions from the annual budget.
7. According to the OC Tax Assessor's office, there are 121 mobile home parks in the county with approximately 2,510 spaces. Assuming a 7% vacancy rate, we assume that there are 2,334 mobile home customers in the county. For now, they are all assumed to be in the unincorporated area, and since they will likely receive service as a single family customers, they are included in the unincorporated single-family scenario.
8. Although projections are based on 2002-03 data, any new source of revenue would begin in 2003-04.

SCENARIO 1. No New Sources of Revenue

Service Level "A"

Cash Flow	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Cash Flow DEFICIT/SURPLUS	(3,022,736)	(3,950,713)	(3,892,683)	(4,040,266)	(4,766,632)	(4,427,913)	(6,470,334)	(6,170,094)
Closing Fund Balances	2003-2004	2004-2005						
Beginning Balance--ALL Funds	1,723,947	(727,800)						
Undesignated Fund Balance	(2,442,202)	(6,392,915)						
Equipment Replacement Fund Balance	1,355,364	1,673,595						
Landfill Closure Fund Balance	359,039	718,078						
Ending Balance--ALL Funds	(727,800)	(4,001,243)						
Percent of Expenses								

SCENARIO 2. What Fees or Property Tax Increases Would be Necessary Each Year to Balance the Budget?

Customer Fees in Use	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Urban curbside customer	\$84.23	\$104.64	\$103.27	\$83.75	\$86.95	\$81.76	\$111.54	\$108.60
Multifamily unit customer	\$49.85	\$63.97	\$42.01	\$56.15	\$57.98	\$48.59	\$77.34	\$72.97
Nonresidential (Comm and Tax-Exempt)			\$149.92	\$168.57	\$438.33	\$418.16	\$534.47	\$449.09
Rural Curbside	\$60.54	\$75.52	\$95.94	\$65.42	\$67.56	\$61.48	\$90.43	\$85.28
Residential no curbside	\$31.44	\$45.62	\$24.84	\$35.12	\$36.81	\$30.09	\$58.38	\$53.80

The table above shows what fees would be for a particular type of customer in order to balance the budget each year. For example, an urban curbside customer in 02-03 would pay \$31.44 for general services (admin, landfill, haz waste, etc.) and \$52.79 to cover urban curbside services, a total of \$84.23. Note that fees jump in 2009-10 because of lost tip fee revenue.

The table below shows the amount that property taxes would need to be raised to substitute for the service area fees calculated above. For example, if it was decided to cover urban curbside services with a general property tax increase while charging availability fees for all other service areas, the County would need to raise property taxes by \$0.0096 per \$100 property value. This is the equivalent of charging all curbside customers \$84.23. If it was decided to cover general services AND urban curbside with taxes, but charge fees for all other service areas, the County would raise taxes by \$0.030 per \$100. To cover all solid waste services with property taxes in 03-04, the County would need to raise taxes \$0.0362 per \$100.

Scenario 2b. Property Tax Increases Equivalent Property Tax Increases								
	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Urban curbside service	\$0.0096	\$0.0107	\$0.0142	\$0.0088	\$0.0091	\$0.0094	\$0.0096	\$0.0099
Multifamily service	\$0.0033	\$0.0033	\$0.0031	\$0.0038	\$0.0038	\$0.0033	\$0.0034	\$0.0035
Nonresidential (Comm and Tax-Exempt) service			\$0.0026	\$0.0028	\$0.0084	\$0.0081	\$0.0100	\$0.0083
Rural Curbside service	\$0.0035	\$0.0036	\$0.0086	\$0.0073	\$0.0074	\$0.0075	\$0.0077	\$0.0076
General Services	\$0.0204	\$0.0296	\$0.0161	\$0.0228	\$0.0239	\$0.0195	\$0.0379	\$0.0349
ALL PROGRAMS TOTAL	\$0.0362	\$0.0525	\$0.0441	\$0.0449	\$0.0521	\$0.0474	\$0.0681	\$0.0641
Cash Flow								
Cash Flow DEFICIT/SURPLUS	0	0	0	0	0	0	0	0

SCENARIO 3. Increase Property Taxes in 2003-04 to cover general services, implement availability fees in 2002-03

In this scenario, property taxes are increased in order to cover the general services, but availability fees are charged for all other services areas. The tax increase and the fees were calculated as the average of the tax/fee needed to balance that service area's budget from 03-04 to 08-09. Neither fees nor taxes are raised again, though the fiscal situation gets much worse in 09-10.

\$0.0221 per \$100 valuation

Property Tax Increase=

	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Customer Fees In Use								
Urban curbside customer	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Multifamily unit customer	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
Nonresidential (Commerec and Tax-Exempt)	0.00	0.00	175.00	175.00	175.00	175.00	175.00	175.00
Rural Curbside	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Residential no curbside	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cash Flow								
Cash Flow DEFICIT/SURPLUS	544,748	(306,150)	149,766	683,518	51,628	486,712	(1,457,416)	(1,058,918)

SCENARIO 4. Implement Availability Fees in 2003-2004, Raise Fees in 2009-10, No Property Tax Increase

This scenario assumes that availability fees are implemented in 03-04 and raised again in 09-10. Property taxes do not increase. As before, the initial fee is calculated as the average fee needed over 03-04 to 08-09, and the fee increase is calculated as the average fee needed in 09-10 to 10-11.

Customer Fees In Use	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Urban curbside customer	91.00	91.00	91.00	91.00	91.00	91.00	110.00	110.00
Multifamily unit customer	53.00	53.00	53.00	53.00	53.00	53.00	75.00	75.00
Nonresidential (Commerc and Tax-Exempt)	0.00	0.00	209.00	209.00	209.00	209.00	491.00	491.00
Rural Curbside	71.00	71.00	71.00	71.00	71.00	71.00	88.00	88.00
Residential no curbside	34.00	34.00	34.00	34.00	34.00	34.00	56.00	56.00
Cash Flow	286,279	(571,799)	(60,990)	257,850	(382,553)	43,847	(212,931)	212,457
Cash Flow DEFICIT/SURPLUS								

SCENARIO 5. Prince William Scenario

This scenario is the Prince William scenario. The tip fee for non-UNC tonnage is eliminated. UNC tons pay a tip fee discounted 10%. This shows what the fees would need to be to balance each year's budget.

Customer Fees In Use	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Urban curbside customer	109.07	129.83	127.92	107.65	111.07	106.07	136.00	133.18
Multifamily unit customer	74.68	89.16	66.67	80.05	82.11	72.91	101.81	97.54
Nonresidential (Commenc and Tax-Exempt)	56.28	70.80	174.57	192.47	462.46	442.48	558.94	473.67
Rural Curbside	85.37	100.70	120.60	89.32	91.69	85.80	114.89	109.86
Residential no curbside	56.28	70.80	49.50	59.02	60.94	54.41	82.84	78.37

Cash Flow	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Cash Flow DEFICIT/SURPLUS	0	0	0	0	0	0	0	0