



EVALUATION OF EXISTING FACILITIES

The main solid waste disposal facility, the Pinellas County waste-to-energy plant, is operating at optimum levels. According to the 20-year management contract, the contractor has to process or pay penalties based on 928,000 tons of solid waste per year. This means that they have to be able to burn at least that amount of solid waste or pay a penalty. The County Department of Solid Waste Operations monitors all contracts and works closely with the plant management to prevent accidents, insure safety and increase efficiency.

The Bridgeway Acres Landfill, adjacent to the waste-to-energy plant, has an estimated life of 30 years under current conditions. Solid waste is being compacted at the landfill to a minimum density of 1,600 lbs. per cubic yard. These issues will be discussed in more detail in the section on future alternatives.

The recycling goals in the 1988 legislation were implemented in a variety of ways as determined by a subcommittee of the Technical Management Committee. The recycling program, initiated on July 1, 1989, includes an annual report submitted to DEP. Due to the success of the recycling program in reducing the waste stream, and the elimination of flow control allowing non-municipal waste to be legally transported outside of the County for disposal, a previously planned second resource recovery plant has not been necessary and is no longer under consideration.

The next two sections will discuss population and solid waste projections. The solid waste projections used for the first bond issue were lower than the actual tonnages, so the resource recovery plant had to be expanded sooner than was originally planned. It was thought that the additional 1,050 tons per day expansion would serve the County well into the late 1990s. However, when the plant expansion was completed in September, 1986, the Solid Waste Management personnel found themselves in the unique situation of being able to burn more Class I refuse than was generated by households, restaurants, etc. By experimenting, it was found that trash, tires, roofing materials and other types of waste that had previously been landfilled could be burned. Ultimately, it was determined that as much as 95 percent of the total waste stream can be burned, so this minimizes the tons required to be landfilled.

POPULATION PROJECTIONS

Chapter 9J-5.005(4), Florida Administrative Code, requires that each local government comprehensive plan shall include at least two planning periods for displaying future needs and for identifying programs and capital improvement projects: one for at least the first five-year period subsequent to the plan's adoption, and one for at least an overall 10-year period. This Solid Waste Element's planning horizon is through the year 2025 and will have statistical breakdowns for 2005, 2010, 2015, 2020, and 2025. An explanation of how the population projections were developed is found in the Future Land Use Element.

Countywide population projections are shown in Table 12. The planning sectors are shown in Figure 3 in the inventory section and are listed below:

- | | |
|---|---|
| Sector 1 Greater Tarpon Springs Area | Sector 8 Greater Highpoint/Feather Sound Area |
| Sector 2 East Lake Tarpon Area | Sector 9 Greater Seminole Area |
| Sector 3 Palm Harbor Area | Sector 10 Greater Pinellas Park Area |
| Sector 4 Greater Dunedin Area | Sector 11 Greater St. Petersburg Area |
| Sector 5 Greater Safety Harbor/Oldsmar Area | Sector 12 South County Beaches Area |
| Sector 6 Greater Clearwater Area | Sector 13 Mid-County Beaches Area |
| Sector 7 Greater Largo Area | Sector 14 Greater Lealman Area |

The population figures include permanent, seasonal and tourist populations. Both the seasonal and tourist populations were included to develop the solid waste projections because they represent a significant component of our total population and therefore have an affect on the amount of solid waste that is disposed.

**TABLE 12
POPULATION PROJECTIONS
YEARS 2005, 2010, 2015, 2020 & 2025**

POPULATION	2005	2010	2015	2020	2025
Permanent	944,773	964,487	979,488	990,703	999,912
Seasonal	78,116	79,708	80,917	81,824	82,551
Tourist	91,018	91,990	92,706	93,244	93,653
Total	1,113,907	1,136,176	1,153,111	1,165,771	1,176,116

Source: Pinellas County Planning Department, 2004, rev. 02/07

Note: Seasonal Population is defined as persons who reside in Pinellas County for less than six months and declare their permanent home elsewhere. Tourist Population is the impact that tourists have on public services and facilities that are comparable to the impact of permanent residents.

SOLID WASTE PROJECTIONS AND LEVELS OF SERVICE

The per capita disposal (incinerated and landfilled) rate in Pinellas County has decreased from a high of 1.36 tons per capita per year in 1987 to 1.03 in 2005. The majority of this reduction can be attributed to recycling and waste reduction efforts.

For purposes of analysis, and for determining the capacity of the facility, the Pinellas County Department of Solid Waste Operations analyzes waste generation and disposal rates in terms of tons per year. The management agreement with the facility contractor is also in tons per year. Using tons per year is more accurate because it takes into account all the seasonal variations in the waste stream. Due to high fluctuations in previous years, the base year for solid waste projections is 1991.

Pursuant to Chapter 163.3177, F.S., each Comprehensive Plan must contain "standards to ensure the availability of public facilities and the adequacy of those facilities, including

acceptable levels of service." Rule 9J-5, F.A.C., the minimum criteria for review of local government comprehensive plans, defines level of service in the following manner:

"Level of Service" means an indicator of the extent or degree of the service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity per unit of demand for each public facility.

Chapter 163, F.S., states that "no development order or permit may be issued which results in a reduction in the level of service for the affected public facilities below the level of services provided in the Comprehensive Plan of the local government."

The level of service for solid waste in Pinellas County will be discussed in terms of the ability to dispose of solid waste countywide. The level of service has been determined based on both the capacity at the waste-to-energy plant and the landfill, but it is treated as a single level of service because it is an integrated solid waste system.

The countywide generation rate steadily increased from 1983 to a high of 1.36 in 1987. This increase was probably due to the closure of several landfills within the county and the resultant shift of all the solid waste to the waste-to-energy plant. The factors may include stricter enforcement of the flow control ordinance and waste from Tampa and Hillsborough County may have been taken to the Pinellas facility because of lower tipping fees. Therefore, it appears that these high annual percent increases are anomalies and that the growth in the per capita generation rate has stabilized. For these reasons, and based on both the capacity at the waste-to-energy plant and the landfill, the level of service standard for solid waste disposal was then set at this period high of 1.30 tons per person per year. Any expected annual increase in the generation rate since 1987 would have been offset by an increase in recycling. The analysis section on recycling will deal with the amount of material available for recycling and how different rates of participation can affect the future waste stream.

By taking the average of the generation rates for the last five years from 2000 until 2005 (see Table 8), and with evidence that this rate will remain stable in future years, it is projected that the generation rate through 2020 will be 1.06 tons per capita per year. Thus the projected future level of service for solid waste disposal through 2015 will be 1.06 tons per capita per year. This rate is well below the adopted level of service standard of 1.3 tons per capita per year.

Table 13 shows population figures and solid waste generation projections. Population figures used are those projected by the Pinellas County Planning Department and which are being used by all the elements of the Pinellas County Comprehensive Plan.

From 2005 to 2020, there is projected to be a 6.34 percent increase in the amount of waste to be disposed. In 2004, 15.9 percent of the waste delivered to the waste-to-energy plant was landfilled. Utilizing the minimum contract amount guaranteed to be incinerated, the amounts projected to be incinerated and landfilled in 2010, 2015, 2020, and 2025 are found in Table 14 below.

**TABLE 13
SOLID WASTE PROJECTIONS**

YEAR	PROJECTED TOTAL POPULATION	TOTAL PROJECTED TONS PER YEAR TO BE DISPOSED
2005	1,113,907	1,145,161
2010	1,136,176	1,204,345
2015	1,153,111	1,222,297
2020	165,771	1,235,717
2025	1,176,116	1,246,683

Source: Pinellas County Planning Department, 2007

**TABLE 14
YEAR 2010, 2015 and 2020 PROJECTED LEVELS OF
SOLID WASTE INCINERATED AND LANDFILLED***

YEAR	MAXIMUM PROJECTED WASTE	INCINERATED (CONTRACT MINIMUM)	LANDFILLED WASTE	LANDFILLED ASH	TOTAL LANDFILLED (CUBIC YARDS)
2005**	1,145,161	890,907	254,254	267,272	674,067
2010	1,197,409	950,000	247,409	285,000	665,511
2015	1,209,263	950,000	259,263	258,000	680,329
2020	1,218,320	950,000	267,832	285,000	691,040

Source: Pinellas County Planning Department, 2007

* Units are denoted in tons, unless otherwise specified.

** Tonnage for 2005 is actual tonnage

To calculate the amount of solid waste land-filled and incinerated, the maximum amount to be incinerated, per the contract guaranteed amount is subtracted from the total solid waste projected. The amount in excess of the contract guarantee is considered to be disposed of by being land-filled without incineration. Ash generation is calculated as 30% of total waste incinerated. Historic data has shown that landfill material (a mixture of ash and solid waste) at the Bridgeway Acres landfill is compacted to approximately 1,600 pounds per cubic yard. Therefore, the projected amount of landfill space can be determined by dividing the total amount land-filled (in pounds) in each year by 1,600 to yield the cubic yards land-filled.

Total space available (2005) at Bridgeway Acres landfill is 20,793,283 cubic yards. Utilizing the average cubic yards landfilled per year for the period from 2005 to 2020 yields an estimate of 10,166,051 cubic yards landfilled over this 15-year period. This amount is 48 percent of the total landfill space currently available. Including potential increases in per capita generation and any unforeseen events such as hurricanes, an estimated 30-year life of the landfill is

conservative. It is likely that the landfill's life will extend beyond 30 years. The County has submitted a permit modification to the Florida Department of Environmental Protection requesting an increase in the permitted height of the landfill from 90 feet (50 feet at the Sod Farm) to 150 feet. This height increase will increase the available capacity of the landfill, and extend the life expectancy of the landfill for an additional 40 years. Lateral expansion is not possible at the existing solid waste disposal facility because the surrounding properties have all been developed. There are no other locations in Pinellas County where a Class I landfill could be successfully sited. Therefore vertical expansion is the only method available to extend the life of the disposal facility, other than shipping waste out of the County. Engineering studies were conducted to determine the maximum height to which the landfill could be developed. Additional factors that were considered including the proximity of the Clearwater-St. Petersburg Airport and potential impacts on the dispersion characteristics of the waste to energy plant. The maximum height of 150 feet was primarily predicated on the geotechnical evaluations, as well as effectiveness of operation of the facility.

The most current (calendar year 2005) adjusted recycling rate in Pinellas County is thirty-one percent. Using this figure, it is projected that, accounting for population growth, the County's landfill has a useful life of at least 30 years and the resource recovery facility will be sufficient to accommodate waste disposal for the County and meet the established level of service for solid waste disposal throughout the current planning horizon.

IMPACT OF FACILITY ON NATURAL RESOURCES

The landfill and waste-to-energy plant seem to have a minimal effect on natural resources. As was mentioned in the inventory section on landfills, the entire 705 acres where the County landfill and waste-to-energy plant are located is surrounded by a bentonite slurry wall that connects with the underlying natural clay soil. The 705 acres are a self-contained system. The landfill has a stormwater control system so that all rain that falls on the site gets reused and recirculated. There is no stormwater discharge from the landfill, except as allowed under the NPDES permit for emergency discharges.

All ash produced is utilized at the Bridgeway Acres site. A comprehensive ash management assessment was initiated in 1989 which included the following:

- A. Ash embankment (highway fill applications)
 - 1. Engineering characteristics
 - a. Compaction
 - b. Grain size analysis
 - c. Permeability
 - d. Storage/aging
 - e. Moisture density
 - f. Florida bearing ratios (insitu)
 - 2. Environmental characteristics
 - a. Leaching - primary/secondary drinking water standards
 - b. Runoff - class III surface water standard

- B. Ash characterization as non-hazardous
- C. Developing ash reuse guidelines with Solid Waste Association of North America (SWANA) and the Florida Department of Environmental Protection (FDEP).
- D. Current ash utilization in landfill as daily/intermediate cover

Favorable results have been realized for the use of ash as an embankment, a soil substitute, cement aggregate and landfill cover. Ongoing tests continue to categorize the ash as nonhazardous. Much of the research outlined in the 1989 comprehensive ash management assessment is also ongoing.

Federal and state agencies have expressed concern regarding the disposal and reuse of resource recovery residue or ash. Resulting from such concerns, an Ash Beneficial Use Determination developed by the FDEP requires very stringent testing and long-term, on-going monitoring. In response to these concerns, the County will continue to analyze ash utilization practices at the Bridgeway Acres Landfill; assess the potential migration of leachate from the landfill; determine if there is a potential health risk due to use of these materials; and evaluate current and potential methods and processes to reuse and recycle ash materials.

RECYCLING

In 1988 the Florida Legislature passed the Solid Waste Management Act (Chapter 88-130), which included recycling mandates and goals. The statewide goal was to reduce solid waste by 30 percent by 1994. No more than half the 30 percent goal can be met with the recycling of yard trash, white goods, construction and demolition debris, and tires. The state provided approximately \$15 million in recycling grants and \$5 million in education grants annually. An annual report was required of counties each October to show the Department of Environmental Protection the progress made toward achieving the recycling goal. The statewide goal of recycling 30 percent was reached in 1993. In 2001, the Solid Waste Management Act was amended to eliminate recycling and education grants to counties with a population of over 100,000. Waste tire and playground grants were eliminated in 2004. As part of these changes, the methodology for calculating the recycling rate was also adjusted and specific commodity based recycling goals were eliminated to allow more flexibility to recycling programs. Current efforts by Pinellas County municipalities to recycle and a discussion of the County's recycling plan are described in the inventory section on recycling.

The primary solid waste management benefits from waste reduction and recycling programs is increased disposal capacity (i.e., extended landfill life). In addition, capital expenditures for future disposal facilities or future costs for transportation and disposal of waste can sometimes be postponed. A second benefit from recycling programs is the recovery and sale of valuable materials for revenue. On a national scale, \$236 billion in gross annual revenue and 1.1 million jobs can be attributed to recycling and reuse operations (U.S. Recycling Economic Information Study, R.W. Beck, Inc., 2001, <http://www.nrc-recycle.org/resources/rei/studyresults.htm>). There are also a number of indirect benefits that are not always recognized as being attributable to recycling because they do not have an easily perceived impact on the local solid waste management program. However, these are often the motivating forces behind community support for recycling programs and include:

resource and energy conservation, pollution prevention, community pride and environmental awareness.

Nevertheless, there are some obstacles and limitations to recycling programs that must be considered. Recycling has a role in waste reduction but is not, in itself, the comprehensive solution often portrayed by some recycling zealots. First, while the sale of recyclable materials generates revenue, the costs of collection and processing are considerable. As a result, municipal recycling programs generally operate at a net cost. Second, recycling requires readily available markets for collected materials to actually be reused. Local and global markets for recovered materials vary depending on their grade (e.g. “high grade office paper” versus “mixed paper”) or level of contamination, and in response to supply and demand. Further complicating the efficiency of recycling are the issues of education and convenience. The public tends to exhibit a throw-away mentality. Establishing a recycling program requires changing these attitudes and habits by providing convenient alternatives and a consistent message. Educational programs designed to teach the importance of recycling may help to change attitudes, but old habits will remain if access to recycling is not convenient. Because the value of recovered materials is affected by contamination, clear instructions about how to properly recycle are just as important where and why to recycle.

All of the above factors contribute to the overall cost of administering a municipal recycling program. Glass exemplifies many of the challenges. “Mixed cullet” (various colors of glass combined) has limited markets; even color-separated glass has low values compared to other recyclable commodities. Few citizens or businesses are willing to separate glass by color, and processing commingled glass – whether just mixed colors, or mixed with other recyclables – is relatively expensive compared to other recyclables. Not only is recovered glass easily and often contaminated, but it can even contaminate other recyclables – most notably paper. As a result, many administrators have opted to stop collecting glass in their recycling programs in order to save money. However, just educating citizens about this change and removing residual glass “recycled” by well-intentioned participants is an ongoing cost.

From 1989-2001, Pinellas County received over \$5.5 million in “Recycling & Education” grant money from the Department of Environmental Protection (DEP) which was provided for cities and counties for capital costs, planning studies, and temporary operating subsidies, as well as for public education and promotion. The County also was awarded numerous Florida Solid Waste Management Trust Fund grants during this period. Following updates to the Solid Waste Management Act in 2001, state recycling grants provided to counties with populations over 100,000 were discontinued. Currently, all counties are still eligible for “Innovative Recycling Grants”. The Technical Management Committee and the Recycling Committee are currently developing plans to attempt to mitigate this loss of funding. As discussed in the inventory section, the Pinellas County Utilities, Solid Waste Operations currently offers limited recycling grants to the cities. Furthermore, Pinellas County Utilities, Solid Waste Operations is currently studying other options to significantly increase countywide recycling and waste reduction.

Recycling Programs

The three basic approaches to recycling are:

- (a) removing recyclable materials at their source--before they are discarded into the municipal solid waste stream (source separation), which can either be through drop-off centers or curbside pickup, which can further be divided into various degrees of commingling of recyclable materials (single-stream versus dual- or multi-stream);
- (b) removing recyclable materials from the mixed solid waste at a central processing facility (front-end separation); and
- (c) removing recyclable metals after incineration (rear-end separation), which is presently utilized at the resource recovery facility.

Each city and the unincorporated county currently uses a type of program discussed under "a" above. Informing and motivating citizens to participate in the process of separating recyclables from trash is essential to the success of source-separation programs, and therefore requires on-going education and marketing expenses. Success could be enhanced by providing more convenient access to and incentives for recycling. Single-stream curbside pick-up services are simpler (all recyclables are put in one bin) and tend to be more productive than multi-stream pick-up or drop-off centers, but there is some debate in the recycling industry about contamination. Likewise, volume-based variable-fee (pay-as-you-throw) programs are receiving attention for their ability to provide incentives for waste reduction and recycling; however, they may require more administrative expenses. Though the costs and benefits of program details continue to be debated, developments in the recycling industry have evolved towards providing simpler and more convenient collection services in order to capture more recyclable materials from the waste stream.

Front-end separation ("b", above) has received mixed reviews because removing recyclables from mixed solid waste is often inefficient and the commodities are generally of a lower value due to contamination; however, this process is being adapted in some places where generators of fiber-rich, "dry" garbage can be processed while excluding "wet" mixed solid waste. Rear-end separation ("c", above) also has its limitations. It does not effectively capture small pieces of metal and leaves an ash residue on the metal that has to be removed – reducing its value. When maintenance is conducted on rear-end separation equipment and when waste is diverted from the waste-to-energy plant, no metal is captured. Furthermore, non-combustible, recyclable metals do not add energy to the waste-to-energy process; instead they displace volumes of other combustible materials.

Measuring Recycling Program Success and Opportunities

The Florida DEP requires counties to provide annual Municipal Solid Waste (MSW) Management reports that detail the collection and final disposition of all municipal solid waste. Due to the nature of what is to be measured, many assumptions are built into these reports. Solid waste generation estimates are based on a combination of demographic information, disposal and recycling receipts, and results of aggregated waste composition analyses.

Information provided by waste and recycling collectors, plus surveys of citizens provide rough estimates for program participation. This macro-level MSW management report is useful for indicating the County's overall recycling rate (see Table 10 for current and historical rates), but a waste composition study is better suited for determining what recyclable materials are available in the County's waste stream.

Pinellas County is currently preparing to conduct a waste composition study (WCS) during the 2007 calendar year. The study will include segregated loads of commercial and residential waste, and will cover two seasons to assess seasonal variations in waste composition. The results of the WCS will be compared with those from the last WCS (completed in 2000) to gauge the effectiveness of current recycling programs, and help the County determine how best to proceed in the future. Table 15 shows the composition of solid waste by weight based on the waste composition study conducted in 2000.

While a WCS provides empirical data regarding what is in the disposal stream, other information is needed to determine how to successfully extract recyclable materials and reduce waste generated (or specific wastes, such as toxic materials). For this information we rely on an annual recycling awareness survey and other measures that gauge the public's response to education and program promotion.

Professional organizations help to evaluate evolving technologies and techniques used in recycling programs around the world, such as those discussed on the previous pages. The varied interests of public, private, and non-profit sectors help to make these organizations and their publications very useful for planning purposes.

Recycling Interlocal Agreement

The recycling interlocal agreement encourages the municipalities and the County to have programs for newspaper, aluminum, cardboard and plastic beverage containers. The interlocal agreement also details the reporting requirements that the County must comply with and the statistics which must be collected and reported to the County to be included in the annual recycling report.

Recycling Other Types of Wastes

Yard Waste: First initiated in August of 1989, the yard waste recycling project, which processes yard waste into free mulch, is now ongoing. There were 13 local municipalities that participated with the County in this pilot program. Currently, the yard waste recycling program accepts yard waste from all 24 municipalities, private haulers, and citizens. Although all are charged a fee for delivering and processing the yard waste, the municipalities are offered a rebate if processed yard waste, or mulch, is taken back by that municipality for distribution to their residents or use in city projects.

Construction and Demolition Debris: According to Chapter 88-130 (Laws of Florida), Section 11 (2)(a), "Construction and demolition debris must be separated from the solid waste stream prior to final disposal at a solid waste disposal facility and must be offered for recycling." Construction and demolition debris (C & D) in Pinellas County is disposed of in a variety of manners. There are two companies in Pinellas County which recycle construction and

demolition debris for use in road construction. The County accepts large pieces of clean concrete, such as culverts, which are used in the artificial reef construction process. At the solid waste disposal facility, C & D that is received for disposal may be burned (i.e., wood waste); other materials such as rubble and dirt may be used in the berm core and as a soil substitute in the landfill. A separate area has been established at the landfill for C & D material in accordance with the 1988 Solid Waste Management Act.

Waste Oil: The Department of Solid Waste Operations closed its six oil collections sites in 2000 due to excessive dumping and contamination. Currently, Pinellas County promotes private oil collection sites where residents can take used oil to be recycled.

HAZARDOUS WASTE MANAGEMENT

The federal government passed the 1987 Emergency Planning and Community Right-to-Know Law which requires that all hazardous waste users submit to the state a list of hazardous materials they have on hand. The Florida Department of Community Affairs is the state agency which implements the law.

A Hazardous Waste Facility Needs Assessment prepared by the Tampa Bay Regional Planning Council has estimated that 137.3 million pounds per year of hazardous waste will be produced in the Tampa Bay area in the year 2000. Waste oils, greases, and lubricants; photographic wastes; plating rinses; and spent solvents are the hazardous wastes projected to contribute the largest quantities.

Of the 137.3 million pounds of hazardous waste estimated to be produced in the four-county region (Hillsborough, Manatee, Pasco, and Pinellas), approximately 87.4 million pounds of hazardous wastes are projected to be produced in Pinellas County in the year 2000. This projection assumes that Pinellas County will continue to generate nearly 64 percent of the hazardous wastes which are currently produced in the entire four-county Tampa Bay Region in the year 2000.

Pinellas County has implemented a hazardous waste program for all County operations. In addition, the County encourages the siting of additional hazardous waste transfer facilities within reasonable travel distance of Pinellas County residents. A transfer/storage facility is considered a "warehouse-type" operation where containerized wastes are held for short periods of time, usually less than 90 days.

The objective of the facility is to consolidate small quantities of compatible wastes more economically before transfer to a hazardous waste incinerator or landfill.

The County's Department of Environmental Management conducted site visits in 1987 to all County work sites which had the potential of generating chemical wastes. Waste oil plus mineral spirits for cleaning small parts or painting equipment are the most frequent chemical wastes produced. The Highway Division is the only bulk generator of hazardous wastes due to materials used for road striping operations.

Pinellas County will continue the operation of its successful Household Electronic and Chemical Collection Center (HEC₃) and associated mobile collection events. County citizens

bring items such as fertilizers, fungicides, pesticides, household chemicals and cleansers, paints, solvents, fluorescent lights and other mercury-containing devices, automotive fluids, pool chemicals, electronics, and household batteries for disposal at no charge. This on-going program also includes a public information component geared toward homeowners and emphasizing pollution prevention by using alternatives to hazardous materials, reducing the amounts used and the proper disposal of hazardous waste.

**TABLE 15
2000 SOLID WASTE COMPOSITION BY WEIGHT**

MATERIAL TYPE	PERCENT OF TOTAL	PERCENT RECYCLED
Newspaper	5.45	25.0
Glass	2.39	7.0
Aluminum Cans	0.38	14.0
Plastic bottles	1.30	4.0
Steel Cans	1.10	38.0
Construction & Demolition Debris	28.90	42.0
Yard Trash	11.28	59.0
White Goods	0.20	81.0
Tires	0.39	26.0
Process Fuel	N/A	100.0
Other Plastics	5.36	2.0
Ferrous Metals	4.89	79.0
Non-Ferrous Metals	0.78	73.0
Corrugated Paper	4.00	44.0
Office Paper	3.00	42.0
Other Paper	11.50	2.0
Food	5.20	1.0
Textiles	2.40	46.0
Miscellaneous	11.50	4.0
County Total	100.00	49.0

Source: Pinellas County Utilities, Solid Waste Recycling Annual Report, November 2001.

PROJECTED CAPITAL IMPROVEMENT NEEDS

The County's solid waste system will require certain modifications and construction of capital improvement projects to meet anticipated solid waste disposal needs through the planning period of this document, the year 2015. In addition, new programs may be required because of increasingly strict regulations regarding the disposal of solid wastes. This section will address the capital projects needed for implementing the element's goals, objectives, and policies and obtaining the level of service standard established for solid waste disposal.

Capital Improvement Projects

Capital improvement projects are those which are of relatively large scale, are generally of nonrecurring high cost, and which may require multiple year financing, potentially through the sale of bonds.

Table 16 lists capital improvements to the solid waste system identified for fiscal years 2007-2012. This is consistent with the provisions of Section 9J-5.016, F.A.C., which require this element to address existing and future capital improvements needed for a minimum of the first five fiscal years after the adoption of the comprehensive plan. The year by which the projects should be completed is also included to ensure the adopted level of service standard is maintained.

FINANCING MECHANISMS AND REVENUE SOURCES

The capital improvements identified in this element can be financed through a variety of means including: revenue bonds, user fees, franchise fees, and privatization. The paragraphs below briefly describe these existing and proposed revenue sources.

Bonds

The resource recovery plant and other large capital-intensive public works facilities in Pinellas County have been financed through the issuance of project revenue bonds. It is anticipated that this policy of issuing revenue bonds will continue. Revenues generated from the solid waste system, which are in excess of actual debt service and operating expenditures, are held in reserve to offset future capital and operating costs.

User Fees

Pursuant to the Trust Indenture for the County's solid waste system, the County must deposit all the revenues from the use of its solid waste facilities, including user fees and charges, into the system revenue fund. Currently, the major source of income to this fund are the tipping fees payable by municipal, private, and commercial users of the County's solid waste disposal services.

The County annually sets fees for use of its solid waste facilities. These fees take into account debt service requirements, operating costs, and revenues from the sale of energy and materials. According to the Trust Indenture, these fees must be adequate to fulfill approximately 110 percent of the debt service requirements for the solid waste system and pay the costs of operating expenses.

Impact Fees

Impact fees are imposed by many local governments on new development to offset the costs of new capital facilities made necessary by that development. Several communities in Florida are currently imposing impact fees for solid waste disposal services. Currently, Pinellas County does not levy a solid waste impact fee.

Franchise Fees

Many communities in Florida levy fees upon accounts handled by private solid waste collection firms. These charges are defined as a franchise fee and help pay the costs of general purpose solid waste projects undertaken by the community (e.g., cleaning illegal trash accumulations, dead animal and white good removal, and special cleanups after special community events). Currently, Pinellas County does not levy a solid waste franchise fee. However, some areas of the unincorporated County are investigating franchise solid waste collection. One such area is Lealman. The Lealman area approved a Municipal Services Benefit Unit (MSBU) to pay for franchise collection for uniform trash collection services beginning in January 2007. When the franchise solid waste collection service is implemented, the franchise fee will be collected as a service fee on the tax bill of the Lealman property owners. Other areas in the unincorporated County may approve a similar MSBU for franchise trash collection.

**TABLE 16
SOLID WASTE AND RECOVERY
CAPITAL IMPROVEMENT NEEDS**

PROJECT	TARGET YEAR	TOTAL ESTIMATED COST
Site Roadway Construction and Paving	Ongoing	\$2,950,000
SCADA Bridgeway & Toytown	2007-2009	\$700,000
New and Replacement Building Construction	2007-2011	\$12,200,000
New Citizen's Hand Unload Center	2007	\$2,060,000
Pond "A" Dredging and Embankment Work	2007	\$4,680,000
Area "T" Development	2008-2009	\$5,345,000
Side Slope Closures	2007-2008	\$5,630,000
BWA Gradient Control System Projects	2007-2010	\$6,130,000
Replace Scales	2007	\$20,000
Slurry Wall Realignment for CR 296	2007-2008	\$2,890,000
Toytown Gradient Improvements	2008-2009	\$4,915,000
Seawall Restoration & Yard Improvements	2007	\$110,000
Landfill Gas Collection/Flaring System	2009-2010	\$660,000
New Residue Processing/Storage Building	2007-2008	\$7,340,000
Lime Softening System and Pump Replacement	2007-2008	\$5,550,000
Furnace and Grate Related Work	2007-2010	\$58,450,000
Turbine Generator Refurbishing	2007	\$1,150,000
Additional WTE Construction Work	2007-2010	\$9,176,000

Source: Pinellas County Utilities, Solid Waste Operations, 2006 CIP Budget

MONITORING AND EVALUATION

Monitoring and evaluation is critical for assuring the long-term effectiveness of this element. Consequently, pursuant to Chapter 163.3187, F.S., plan implementation will be reviewed periodically to ensure that the required financial resources are available to provide public facilities needed to support the adopted level of service standard. The data needed to evaluate the solid waste disposal capacity in terms of the adopted level of service standard and to measure whether objectives are being achieved is already being collected on an ongoing basis. Electronic scale readings from all the scale houses are stored in a computer. Monthly reports are compiled for the Technical Management Committee in terms of tons delivered to the plant and tons landfilled. Annual reports can also be generated by calendar year or fiscal year with breakdowns by class of refuse, electricity generated, metals recovered, tons diverted to landfill, tires, and other categories.

Monitoring and evaluation will include an examination of the following considerations:

Any corrections, updates, and modifications concerning costs; revenue sources; goals, objectives, and policies; acceptance of facilities pursuant to dedications which are consistent with the element, or the date of construction of any facility enumerated in the element;

The priority assignment of existing public facility deficiencies;

The County's progress in meeting those needs determined to be existing deficiencies;

The criteria used to evaluate capital improvement projects in order to ensure that projects are being ranked in their appropriate order of priority;

The County's effectiveness in maintaining the adopted level of service standard;

The County's effectiveness in reviewing the impacts of plans and programs of state and federal agencies; and

Efforts made to secure grants or private funds, whenever available, to finance solid waste programs and the provision of capital improvements.

STATE AND REGIONAL PLAN CONSISTENCY

Internal Consistency

The Solid Waste and Resource Recovery Element is integrated with other elements of the Pinellas County Comprehensive Plan. The issues with solid waste and resource recovery Element can have significant effect upon the Natural, Historic and Cultural Resources; Capital Improvements; Future Land Use and Quality Communities; Intergovernmental Coordination; Transportation; Surface Water Management and Sanitary Sewer Elements. Minor interaction with the other remaining elements of the comprehensive plan is anticipated.

Improperly managed waste materials can have adverse effects upon the environment. Waste materials may degrade surface water and groundwater, adversely affect wildlife and local aesthetics, and may become a health nuisance if improperly stored. Waste processing and disposal sites must be compatible with adopted land use plans, and be served by adequate transportation routes. The Solid Waste and Future Land Use Elements are tied together because the population figures used for solid waste projections are based on the Future Land Use Map.

Intergovernmental Coordination

An integral part of Pinellas County's solid waste system, coordination is necessary among all 24 local governments within Pinellas County, as well as the surrounding counties and their corresponding local governments. Coordination with the following agencies is also necessary, however, please refer to the Intergovernmental Coordination Element for further discussion of other interrelationships.

Florida Department of Community Affairs is the state land planning agency and reviews comprehensive plans;

Florida Department of Environmental Protection is responsible for implementing state environmental law, reviewing local solid waste and resource recovery management plans, reviewing each county's recycling annual reports and issuing permits for landfills and artificial reefs;

Tampa Bay Regional Planning Council adopts the Strategic Regional Policy Plan and reviews local comprehensive plans for consistency with the regional plan; and

Southwest Florida Water Management District provides planning assistance for water resource management.

As far as intergovernmental coordination for solid waste management planning in Pinellas County is concerned, the Solid Waste Technical Management Committee is responsible for making recommendations on solid waste policies to the Board of County Commissioners. This committee meets on a bi-monthly basis and represents the 24 cities in the County, the unincorporated area, and the private sector.

State Consistency

Chapter 163, Sec. 3177, F.S. and Rule 9J-5, F.A.C., require that each element of a local government's comprehensive plan be consistent with the state comprehensive plan. To be defined as consistent with the State Plan, a community's comprehensive plan must be "compatible with" and "further" the State Plan. The State Comprehensive Plan was adopted by the State in March 1985 (Chapter 187, F.S.). The pertinent section of the State Plan relevant to this Element is entitled, "Our Natural Environment."

Regional Consistency

Chapter 163.3177, F.S. and Rule 9J-5.002, F.A.C., require that each element of a local government's comprehensive plan be "consistent with the appropriate Strategic Regional Policy Plan." To be defined as consistent with the Regional Plan, a community's comprehensive plan must be "compatible with" and "further" the Regional Plan. The Regional Plan is designed to provide long-range guidance for the physical, economic, and social development of the Tampa Bay Region.