ORANGE COUNTY SOLID WASTE DIVISION
SOLID WASTE SYSTEM EVALUATION

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Shaw

Orange County - Solid Waste System Evaluation
January, 2013
EXECUTIVE SUMMARY

Introduction

Orange County commissioned Shaw Environmental, Inc. (Shaw) to assist the County’s Solid Waste Division to prepare a comprehensive assessment of the County’s solid waste management system. The overall objective of the study is to identify the role that the system provides in managing waste in the County and whether improvements can be made to assure that the system is providing environmentally-sound solid waste management services to residents and businesses in an efficient and cost-effective manner. More specifically, the primary objectives of the study are to:

- Identify operational efficiencies
- Reduce costs
- Stabilize waste flows

The current study was commissioned in part at the result of a meeting between the County Mayor and the Mayor of Apopka in December, 2011 to discuss solid waste issues. At that meeting, concerns were raised by the City of Apopka about the costs of waste disposal at Orange County facilities. However, Orange County Utilities (OCU) has always strived to provide environmentally-sound and cost effective services to residents and businesses in the County, previously completing two business plans for the Solid Waste Division. This current study represents a third strategic and business planning effort by OCU.

The County initiated this study of solid waste system operations in March, 2012. Completion of the study was a collaborative process with all of the municipalities in the County to secure stakeholder input into the process. An extensive series of meetings was held during the period February, 2012 to January, 2013, to brief stakeholders on components of the study and secure input into the process. These meetings are summarized below:

- **Board of County Commissioner Meetings:**
  - February 7, 2012 (study commissioning)
  - March 20, 2012
  - April 24, 2012
  - July 10, 2012
  - October 16, 2012
  - January 15, 2013

- **Mayors Group Meetings:**
  - April 27, 2012
  - July 11, 2012
  - September 21, 2012
  - December 17, 2012

As part of this study, Orange County retained independent legal counsel, Mr. Robert Apgar, to assist in reviewing legal parameters. In addition, Shaw retained a solid waste consultant, Mr. Kyle Adams, to assist in the review and analysis of market and industry trends.
Individual Meetings with Municipalities and City Staff
- Multiple meetings in May and June, 2012

The study was conducted in three phases, each phase analyzing various factors impacting the OCU solid waste system. Shaw prepared a Technical Memorandum for each phase to document the research, analysis and findings of each phase. The three study phases and the content of each Technical Memorandum are summarized below:

Technical Memorandum #1: Background and Market Analysis
Technical Memorandum #2: Operations Review and Waste Flow Analysis
Technical Memorandum #3: Financial Review, Legal/Political Review and Structural Review

The following are the major points from the entire study:

- OCU provides comprehensive facilities and programs to manage various types of solid waste generated by residents and businesses in Orange County.

- The OCU system has evolved over time to provide facilities and programs for recycling and composting. OCU has demonstrated its ability to provide infrastructure and programs to meet changes in the marketplace and industry.

- The OCU system allows waste from residents and businesses to be managed within the County, offering sustainability benefits and consistent with the County’s long term policy of being self-reliant in managing its waste.

- OCU’s tipping fees are comparable with other large publicly-owned solid waste systems in Florida.

- OCU has historically provided stable tipping fees to customers. Over the 20-year period from 1993 to 2011, the County has increased tipping fees twice. Even with the most recent increase in fees, the annualized average increase in residential tipping fees amounted to about 1 percent during this period, much lower than the 2.5 percent annual rate of inflation.

- The most recent price increase, which was phased-in over three years to mitigate the impact, was necessitated at the time due to rapidly increasing construction costs that were impacting projected costs of developing, closing and providing long-term care for the OCU landfills.

- OCU operates as an enterprise fund. Revenues are derived primarily from tipping fees, and system revenues can fluctuate based on annual disposal quantities. The system revenues are used to pay for the costs of constructing and operating the system. The enterprise fund does not generate net revenue for the County. OCU pays for certain administrative services provided by the County (similar to private businesses that incur corporate charges), but those administrative costs amount to 3-4 percent of the OCU tipping fee.
Implementation of the recommended options in this study will result in significant cost savings for customers. Savings of 10-16 percent will be offered to all customers of the system in 2013.

A contract tipping fee for Class I waste will be offered to entities that sign a long-term Interlocal Agreement or waste delivery agreement, if enough waste is secured through these contracts. For customers that sign an Interlocal Agreement or waste delivery agreement and commit to deliver their waste to the OCU system, savings of 18-23 percent can be achieved in 2014 through contract pricing.

OCU is committed to working with its customers and municipalities and will continue to meet periodically to evaluate trends in the collection and management of solid waste.

**Background and Market Analysis (Technical Memorandum #1)**

The first Technical Memorandum provides background information on the OCU waste system and an analysis of the solid waste market in Orange County and Central Florida. The market analysis examines trends in demographics, waste generation, and methods of handling waste (e.g., recycling, disposal). The market analysis also evaluates solid waste disposal capacity in the Central Florida region and disposal tipping fees at public sector and private sector transfer station and landfill facilities. The purpose of the background and market analysis is to evaluate the demand for solid waste services in Orange County and the competitive market factors impacting solid waste disposal costs in the County and Central Florida region.

The result of this analysis indicates that OCU provides convenient facilities and programs to serve the waste management needs of residents and businesses in Orange County. OCU will have to continue to operate efficiently in order to provide services that are cost-competitive with private transfer stations in the County and regional landfills. Options to help achieve this objective are discussed in Technical Memorandum #3.

**Operations Review and Waste Flow Analysis (Technical Memorandum #2)**

The second Technical Memorandum provides additional analysis of the OCU waste system. The operations review provides an analysis of the components of the Orange County waste system and how they function together to provide comprehensive solid waste management services. This analysis also discusses the relative roles of OCU and other governmental and private entities in providing solid waste services in the County and the waste streams managed by the various service providers. In addition, benchmark information on other large public solid waste systems in Florida is provided to analyze the operational performance of the Orange County system in comparison with other publicly-owned solid waste systems.

The waste flow analysis builds upon prior analyses to investigate the amounts and types of waste materials handled by the OCU waste system. This analysis presents more detailed information to supplement the market analysis in Technical Memorandum #1. Because the OCU system is largely funded through tipping fees at County disposal facilities, this further analysis of waste flow data is important to begin assessing methods of maintaining waste deliveries to the system.
OCU has historically lost tonnage to competing facilities, although regained some tonnage during periods of economic growth. The economic downturn has reduced waste deliveries from all customer classes. The decline in tonnage has been smaller for residential waste, and larger for commercial waste. Interlocal Agreements and private hauler waste delivery agreements help to stabilize tonnage. Options to secure waste are discussed in Technical Memorandum #3.

The results of this analysis show that OCU provides the most comprehensive solid waste services of any entity managing waste within the County. Operating expenses and staffing levels are comparable to other public solid waste system in Florida. Options to improve operational efficiencies and reduce costs are discussed in Technical Memorandum #2.

Financial, Legal/Political, and Structural Review (Technical Memorandum #3)

The third Technical Memorandum identifies and evaluates a number of options to improve operational efficiencies, reduce costs and stabilize waste flows for the OCU solid waste system. These options were compared with “current conditions” to evaluate the impact of each option. Economic impacts were analyzed based on financial modeling of the OCU system. Legal and political considerations were also evaluated, along with structural impacts on the OCU system.

Current Conditions

This scenario evaluates the OCU system based on current conditions and assuming that no changes are made to existing programs and facilities. Key assumptions in the analysis are described in Technical Memorandum #3. The principal findings of this scenario are summarized in Table E-1.

<table>
<thead>
<tr>
<th>TABLE E-1. CURRENT CONDITIONS SCENARIO - PROJECTED TIPPING FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2013</td>
</tr>
<tr>
<td>Class I Residential</td>
</tr>
<tr>
<td>Class I Commercial</td>
</tr>
<tr>
<td>Projected Increase</td>
</tr>
<tr>
<td>Residential - CPI Inflated (2.5 %/year)</td>
</tr>
</tbody>
</table>

Stabilization of Landfill Closure and Long-term Care Cost Projections

This scenario assumes that there is no change to current operations in the OCU waste system. However, due to stabilization that has occurred in projected closure and long-term care costs for the landfills, a lower tipping fee can be offered to customers. Moreover, a single tipping fee can be established for both residential and commercial waste. The principal findings of this scenario are summarized in Table E-2.
### TABLE E-2. STABILIZATION OF CLOSURE/LTC COSTS - PROJECTED TIPPING FEES

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2021</th>
<th>FY2031</th>
<th>FY2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I Residential</td>
<td>$33.60</td>
<td>$37.00</td>
<td>$40.70</td>
<td>$44.80</td>
</tr>
<tr>
<td>Class I Commercial</td>
<td>$33.60</td>
<td>$37.00</td>
<td>$40.70</td>
<td>$44.80</td>
</tr>
<tr>
<td>Projected Increase</td>
<td>10.0%</td>
<td>10.0%</td>
<td>10.0%</td>
<td></td>
</tr>
</tbody>
</table>

**Combine Class III Waste into Class I Landfill**

In this scenario, Class III waste would be disposed in the Class I landfill instead of operating two disposal units. The Class III landfill would not be closed, but would be operated at minimal tonnages to keep the permit active and to keep the facility available for emergency or special events as needed.

There are a number of reasons that support disposing of Class III waste in the Class I landfill. First, tonnages of Class III waste managed by the OCU system have declined significantly as the result of the housing and economic downturn. Disposing of the diminished quantities of Class III waste into the Class I unit would largely offset reductions in Class I waste quantities that have occurred. Second, most private regional competing landfills do not operate separate disposal units for Class I waste and Class III waste. This option would therefore allow OCU to operate on a more comparable basis with competing regional landfills.

The principal findings of this scenario are summarized in Table E-3.

### TABLE E-3. COMBINE CLASS III/CLASS I SCENARIO - PROJECTED TIPPING FEES

<table>
<thead>
<tr>
<th></th>
<th>FY2014</th>
<th>FY2021</th>
<th>FY2031</th>
<th>FY2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>$30.50</td>
<td>$32.60</td>
<td>$34.90</td>
<td>NA</td>
</tr>
<tr>
<td>Class III</td>
<td>$25.60</td>
<td>$27.40</td>
<td>$29.30</td>
<td>NA</td>
</tr>
<tr>
<td>Projected Increase</td>
<td>7%</td>
<td>7%</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

**Commercial Waste Franchise in Unincorporated Areas**

Under this option, the County would consider the potential implementation of commercial waste franchises in unincorporated areas with the objective of assuring commercial waste volumes by specifying the collected waste is disposed at an OCU facility. Historically, commercial waste has accounted for 45 to 60 percent of the total Class I waste delivered to the OCU solid waste system. As noted previously, the OCU waste system is principally funded though tipping fees, and therefore system revenues are dependent on incoming waste volumes. Maintaining waste deliveries is a key element in sustaining projected tipping fees, and in reducing fluctuations in waste tonnages and the associated financial instability and pressure on rates. A public outreach program would be required as the initial step in potentially implementing a franchise system.
Other Options

As part of this comprehensive study, a number of additional options were also evaluated. These options also provide some potential cost savings, but represent changes to current programs and services that would impact current customers and stakeholders. As a result, these scenarios are not recommended as near-term options, but as alternatives for continued evaluation in the future.

Combine Yard Waste into Class I Landfill

In this scenario, yard waste would be managed in the Class I landfill instead of composted or chipped for use in landfill construction projects (e.g., haul roads) as is the current operational practice. Recent statutory changes allow yard waste to be processed in Class I landfills, provided the landfills recover landfill gas for beneficial reuse (as is the case for OCU’s Class I landfill). However, current composting operations of yard waste helps OCU meet their recycling goals requirements. Yard waste volumes managed by OCU have been relatively stable over the past 5 years, ranging from 91,000 tons to 100,000 tons. Placing the yard waste in the Class I landfill would materially offset the decline in Class I waste materials over that same time period. Under this option, the Class III landfill would continue to be operated as a separate disposal unit for Class III waste. While this option is not currently being recommended, it should be reevaluated in the future if trends in collection of yard waste and recycling goals requirements change.

Privatize Transfer Station Trucking

Currently, OCU contracts with private companies to provide certain waste services. OCU has an agreement with Waste Management to operate the recycled materials processing facility, and has franchise agreements with haulers to collect residential waste in the unincorporated areas of the County. For this scenario, the trucking component of OCU’s transfer station operations was evaluated for potential privatization to a transportation broker. Because of limited comparison data available and the impact on current operations, this option was difficult to quantify and is not recommended at this time.

Eliminate Transfer Stations

OCU operates two transfer stations (McLeod and Porter) that provide convenient access to municipalities in the more densely-populated western half of Orange County and reduce the distances that waste must be transported in collection vehicles. Since one of the objectives of this study was to evaluate options to reduce costs, a scenario in which the transfer stations were eliminated was considered. Because of the impact to existing customers, potential reductions in waste deliveries and substantial operational changes to the system, this option is not recommended for implementation at this time.

Conclusions

The OCU system provides a comprehensive range of programs and facilities to serve the waste management needs of municipalities and businesses in Orange County. Based on the analyses contained in this study, under Current Conditions the OCU waste system can continue to provide long-term value to customers. Further, two options -- Stabilization of Landfill Closure and Long-term Care Cost Projections and Combine Class III Waste into
Class I Landfill -- can be implemented in the near-term to provide cost savings and significant reductions in tipping fees to customers. The tipping fee projections for these options are summarized in Table E-4.

<table>
<thead>
<tr>
<th>Option/Scenario</th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2021</th>
<th>FY2031</th>
<th>FY2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Conditions</td>
<td>$37.10 - R</td>
<td>$37.10 - R</td>
<td>$38.60 - R</td>
<td>$40.10 - R</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$39.80 - C</td>
<td>$39.80 - C</td>
<td>$41.70 - C</td>
<td>$43.10 - C</td>
<td></td>
</tr>
<tr>
<td>Closure/LTC Cost Stabilization</td>
<td>$33.60</td>
<td>$37.00</td>
<td>$40.70</td>
<td>$44.80</td>
<td></td>
</tr>
<tr>
<td>Combine Class III/Class I Waste</td>
<td>$30.50</td>
<td>$32.60</td>
<td>$34.90</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. For the Current Conditions option, R designates the tipping fee for residential waste and C designates the tipping fee for commercial waste.

A third option -- Commercial Waste Franchises in Unincorporated Areas -- has the benefits of further stabilizing waste tonnages and potential further cost savings. This option will require a public outreach program to evaluate its viability, and therefore will require a longer period of time to implement.

**Recommendations**

Based on the data and analysis conducted for the solid waste study (as summarized in the three Technical Memoranda), the following recommendations are made to Orange County and OCU:

- **Adopt a rate resolution for new Class I tipping fee in 2013.**
  - Establish new Class I rate of $33.60 per ton for residential and commercial waste.

- **Pursue implementation of disposal of Class III waste in Class I landfill unit by 2014 as a contract option.**
  - Requires long-term agreements with municipalities and commercial haulers to be negotiated in 2013.
  - Establish Class I rate of $30.50 per ton for municipalities and haulers that sign waste delivery agreements, if enough tonnage is secured by contracts.

- **Initiate outreach program for potential implementation of commercial waste franchise.**
  - Evaluate implementation viability through outreach process.

- **Periodically update solid waste study to monitor industry trends and continuously evaluate solid waste operations for cost efficiencies.**

- **Periodically meet with municipalities and stakeholders to evaluate trends in the collection and management of solid waste.**
Introduction

Orange County has commissioned Shaw Environmental, Inc. (Shaw) to assist the County’s Solid Waste Division to prepare a comprehensive assessment of the County’s solid waste management system. The overall objective of the study is to identify the role that the system provides in managing waste in the County and whether improvements can be made to assure that the system is providing environmentally-sound solid waste management services to residents and businesses in an efficient and cost-effective manner.

This technical memorandum is the first of three interim reports that will be prepared as part of the Solid Waste System Evaluation for Orange County. The contents of these memoranda will consist of the following:

- **Technical Memorandum #1:** Background and Market Analysis
- **Technical Memorandum #2:** Operations Review and Waste Flow Analysis
- **Technical Memorandum #3:** Financial Review, Legal/Political Review and Structural Review

The first memorandum provides background information and an analysis of the solid waste market in Orange County and Central Florida. The purpose of this analysis is to compile data to guide the subsequent analyses that will be conducted during the course of the study. The results of all three memoranda will be compiled into a final report that provides recommendations to the County.

Background

Orange County operates one of the largest publicly-owned, integrated solid waste management systems in Florida. The County owns and operates a Class I landfill, a Class III landfill, and two transfer stations (McLeod and Porter). The McLeod transfer facility is located on land leased from the City of Orlando. The County also owns a Recycled Materials Processing Facility (RMPF), co-located at the landfill, and a recycling transfer station near Apopka, which are operated by a private contractor. Composting operations for yard waste are conducted at the landfill. Facilities for household hazardous waste materials are maintained at the landfill and the McLeod Transfer Station. The County also contracts with private haulers to collect residential waste, recyclables and yard waste in unincorporated areas of the County (there are five designated collection zones).

The Solid Waste Division operates as an enterprise fund. The majority of revenues are from tipping fees; as a result, financial stability is highly dependent on the tons of waste received at the County’s facilities. A uniform tip fee is charged at the landfill and transfer stations for Class I waste materials and yard waste; currently the tipping fee is $37.10 per ton for residential waste, $39.80 per ton for commercial waste, and $29.00 per ton for yard waste. The tipping fee for Class III materials at the landfill is $25.60 per ton. In addition to tipping fees, the enterprise fund also receives revenues from host fees paid by the operator of the RMPF and landfill gas payments.

The County has certain statutory obligations regarding solid waste management. The 1988 Florida Solid Waste Management Act requires counties to provide for the environmentally-
sound management of waste generated within their borders, and to implement recycling programs with the goal of diverting 30 percent of generated waste from disposal facilities. The 1985 Florida Growth Management Act required units of local government to provide adequate disposal capacity as a prerequisite to development. In addition, the County must comply with state and federal regulations governing the development and operation of solid waste facilities. As a result, the County has invested significant sums to develop and operate solid waste infrastructure to meet the needs of residents and businesses. Municipalities are more focused on collection of waste materials, typically from residential sources, using either municipal employees or contracted private hauling companies. Many of these municipalities are customers of the County’s facilities, and thus are interested stakeholders in the County’s rate structure.

The County commissioned two prior business planning studies, one in 1999 and an update in 2008. The 1999 plan noted that waste deliveries to the County’s system had experienced several years of decline, and raised concerns about the stability of tipping fee revenues that fund the system. The 1999 plan recommended strengthening Interlocal Agreements with municipal customers to provide more assured waste deliveries. This was subsequently implemented with several municipalities. The County also negotiated waste delivery agreements with a number of private haulers.

The 2008 plan update noted that the Solid Waste Division’s operational and financial condition had improved and stabilized. The update indicated that a new challenge had arisen, however -- rising costs for landfill construction, closure and long-term care. The 2008 plan recommended raising Class I and Class III tipping fees to address the increased costs. As a result, the County increased tipping fees in a phased manner over the next three years (2009-2011). Prior to this increase, tipping fees had not been increased since 1995, when they were increased for Class I commercial waste but not Class I residential waste.

The increase in tipping fees raised concerns with municipal customers of the County. Further, in 2011 a proposal was made to convert a privately-owned Class III landfill in the County to a Class I landfill. That proposal was ultimately dropped, but in light of these developments the County has commissioned the current solid waste system evaluation. Given the highly competitive nature of the solid waste industry, regular business planning is becoming a necessity for government-owned solid waste systems.

Demographics

Demographic trends have a significant impact on the quantities of waste generated by the County. Residential waste quantities will be correlated with future population growth, and commercial waste quantities will generally be tied to future growth in employment. Future development will impact the quantities of construction and demolition debris.

As will be discussed in this memorandum, waste quantities in Florida have generally increased along with population, employment and development activity. Notwithstanding the implementation of various recycling programs throughout the state, the quantities of waste disposed have historically grown faster than the rate of population (indicating that the per capita amount of waste disposed has increased). However, like most other states in the U.S., disposal quantities in Florida (and within the solid waste industry generally) have been impacted by the recent, prolonged economic downturn, and are only beginning to stabilize. The decrease in waste quantities resulting from the downturn has overshadowed, at least in
the near term, any single demographic trend or other market-related variable such as renewed interest in recycling and waste diversion.

Another market factor that has impacted waste quantities, particularly for government-owned disposal facilities that serve a fixed geographic area (typically, a county jurisdiction), is the emergence of regional privately-owned landfills that serve larger geographies. Historically (going back to the 1970s and 1980s), waste was managed locally. The promulgation of more stringent landfill regulations in the late 1980s and early 1990s, which made development of landfills more costly, as well as consolidation within the private solid waste industry, has led to larger, regional landfills being developed.

The 1999 business plan noted that in the early 1990s, most of the waste disposed by Orange County was managed at the County's facilities. In 1997, however, the report noted that a private transfer station had started operating in the City of Orlando, with waste from the transfer facility subsequently shipped to a regional landfill in Okeechobee County. The report concluded that waste deliveries to the County's facilities had declined as a result.

A second private transfer station was subsequently developed in the County by another large private waste company, with waste being shipped to the company's landfill in Osceola County. An important component of the business strategy of private waste companies is to maximize the internalization of the waste they collect, as well as third-party customer waste, by transporting waste from their transfer stations to company-owned landfills.

Due to the increasing regionalization of waste management, this market analysis considers waste facilities and trends beyond Orange County. For the purposes of the demographic analysis, Orange County was considered in conjunction with the five neighboring counties to provide a more regional context, as well as the State of Florida as a whole.

Population in Orange County grew by 69 percent between 1990 and 2010, and by 62 percent in the six-county region (refer to Table 1-1 and Figure 1-1). This growth was significantly faster than in the State of Florida as a whole (refer to Figure 1-2, which presents indexed data to highlight relative rates of growth). Population grew by 2.7 percent annually in Orange County during the last 20 years, versus regional average growth of 2.4 percent per year and statewide growth of 1.9 percent per year.

<table>
<thead>
<tr>
<th>County</th>
<th>1990</th>
<th>2010</th>
<th>Percent Change 1990-2010</th>
<th>Annual Change 1990-2010</th>
<th>2040</th>
<th>Percent Change 2010-2040</th>
<th>Annual Change 2010-2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>398,978</td>
<td>543,376</td>
<td>36.2%</td>
<td>1.6%</td>
<td>695,400</td>
<td>28.0%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Lake</td>
<td>152,104</td>
<td>297,052</td>
<td>95.3%</td>
<td>3.4%</td>
<td>506,400</td>
<td>70.5%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Orange</td>
<td>677,491</td>
<td>1,145,956</td>
<td>69.1%</td>
<td>2.7%</td>
<td>1,814,100</td>
<td>58.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Osceola</td>
<td>107,728</td>
<td>268,685</td>
<td>149.4%</td>
<td>4.7%</td>
<td>535,000</td>
<td>99.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Polk</td>
<td>405,382</td>
<td>602,095</td>
<td>48.5%</td>
<td>2.0%</td>
<td>918,100</td>
<td>52.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Seminole</td>
<td>287,521</td>
<td>422,718</td>
<td>47.0%</td>
<td>1.9%</td>
<td>551,600</td>
<td>30.5%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Total</td>
<td>2,029,204</td>
<td>3,279,882</td>
<td>61.6%</td>
<td>2.4%</td>
<td>5,020,600</td>
<td>53.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Florida</td>
<td>12,938,071</td>
<td>18,801,310</td>
<td>45.3%</td>
<td>1.9%</td>
<td>25,847,000</td>
<td>37.5%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

Source:
FIGURE 1-1. CENTRAL FLORIDA POPULATION TRENDS

Source:
1. U.S. Census and Florida Bureau of Economic and Business Research (medium level forecasts).

FIGURE 1-2. CENTRAL FLORIDA POPULATION TRENDS (INDEXED)

Source:
1. U.S. Census and Florida Bureau of Economic and Business Research (medium level forecasts).
Continued population growth is projected in the future, but at a slower rate than over the past 20 years. For the period 2010 to 2040, population growth in Orange County is forecast at 1.5 percent per year, versus 1.4 percent per year for the region and 1.1 percent for the State of Florida. Notwithstanding these lower growth rates, Orange County is projected to add 668,000 people in the next 30 years and the six-county region is forecast to grow by approximately 1,741,000 people. Regional growth (in Orange County and the neighboring five counties) will account for approximately 25 percent of statewide population growth. Providing adequate solid waste disposal capacity will be an important public service to manage and facilitate that continued growth.

Table 1-2 provides a breakdown of Orange County population for incorporated and unincorporated areas for the years 2000 and 2010. Population in the unincorporated areas represents approximately 65 percent of the County’s total population. Population in incorporated jurisdictions increased by approximately 36 percent between 2000 and 2010, which includes population acquired through annexations during the period. Population in the unincorporated areas grew by 24 percent during the same period. However, the total number of people added was higher in the unincorporated areas (140,493) than in the municipal jurisdictions (109,119).

### Table 1-2. Orange County Municipal Population Trends (2000-2010)

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>2000</th>
<th>2010</th>
<th>Total Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apopka</td>
<td>26,642</td>
<td>41,542</td>
<td>14,900</td>
<td>55.9%</td>
</tr>
<tr>
<td>Bay Lake</td>
<td>23</td>
<td>47</td>
<td>24</td>
<td>104.3%</td>
</tr>
<tr>
<td>Belle Isle</td>
<td>5,531</td>
<td>5,988</td>
<td>457</td>
<td>8.3%</td>
</tr>
<tr>
<td>Eatonville</td>
<td>2,432</td>
<td>2,159</td>
<td>-273</td>
<td>-11.2%</td>
</tr>
<tr>
<td>Edgewood</td>
<td>1,901</td>
<td>2,503</td>
<td>602</td>
<td>31.7%</td>
</tr>
<tr>
<td>Lake Buena Vista</td>
<td>16</td>
<td>10</td>
<td>-6</td>
<td>-37.5%</td>
</tr>
<tr>
<td>Maitland</td>
<td>12,019</td>
<td>15,751</td>
<td>3,732</td>
<td>31.1%</td>
</tr>
<tr>
<td>Oakland</td>
<td>936</td>
<td>2,538</td>
<td>1,602</td>
<td>171.2%</td>
</tr>
<tr>
<td>Ocoee</td>
<td>24,391</td>
<td>35,579</td>
<td>11,188</td>
<td>45.9%</td>
</tr>
<tr>
<td>Orlando</td>
<td>185,951</td>
<td>238,300</td>
<td>52,349</td>
<td>28.2%</td>
</tr>
<tr>
<td>Windermere</td>
<td>1,897</td>
<td>2,462</td>
<td>565</td>
<td>29.8%</td>
</tr>
<tr>
<td>Winter Garden</td>
<td>14,351</td>
<td>34,568</td>
<td>20,217</td>
<td>140.9%</td>
</tr>
<tr>
<td>Winter Park</td>
<td>24,090</td>
<td>27,852</td>
<td>3,762</td>
<td>15.6%</td>
</tr>
<tr>
<td>Unincorporated</td>
<td>596,164</td>
<td>736,657</td>
<td>140,493</td>
<td>23.6%</td>
</tr>
<tr>
<td>Total</td>
<td>896,344</td>
<td>1,145,956</td>
<td>249,612</td>
<td>27.8%</td>
</tr>
</tbody>
</table>

Source:
1. Bureau of Economic and Business Research.

Note:
1. Bay Lake and Lake Buena Vista are part of the Reedy Creek Improvement District.

The distribution of population in incorporated and unincorporated areas is relevant because the County’s contracts for residential waste collection in unincorporated areas specify that the waste collected by the private contractors must be delivered to the County’s landfill,
providing more assured waste flows. In 2001 and 2004, the County also negotiated Interlocal Agreements (ILAs) with four of the larger municipalities (Apopka, Ocoee, Orlando and Winter Garden) that collect waste with municipal employees. The ILAs specified that the communities would deliver all (or 80 percent, in the case of Orlando) of the waste they collected to the County. Again, this provided greater assurance of waste flows to the County. However, three of the ILAs subsequently expired, and Orlando’s agreement will expire in 2014 (although all of the communities continue to deliver waste to the County). Negotiating new or extended ILAs will be an important implementation task for the County in the future, all the more so if population continues to shift to incorporated areas.

After population, the second demographic variable that affects waste quantities, and commercial tonnages in particular, is employment. Historical employment data for the counties in the Orange County region is available for a more limited period of time. These data are summarized in Table 1-3 for the period 2001 to 2010.

<table>
<thead>
<tr>
<th>County</th>
<th>2001</th>
<th>2005</th>
<th>% Change 2001-2005</th>
<th>2010</th>
<th>% Change 2001-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>184,709</td>
<td>203,584</td>
<td>10.2%</td>
<td>188,105</td>
<td>1.8%</td>
</tr>
<tr>
<td>Lake</td>
<td>64,369</td>
<td>80,055</td>
<td>24.4%</td>
<td>77,913</td>
<td>21.0%</td>
</tr>
<tr>
<td>Orange</td>
<td>602,862</td>
<td>659,818</td>
<td>9.4%</td>
<td>646,106</td>
<td>7.2%</td>
</tr>
<tr>
<td>Osceola</td>
<td>51,658</td>
<td>66,500</td>
<td>28.7%</td>
<td>70,164</td>
<td>35.8%</td>
</tr>
<tr>
<td>Polk</td>
<td>184,571</td>
<td>202,644</td>
<td>9.8%</td>
<td>189,751</td>
<td>2.8%</td>
</tr>
<tr>
<td>Seminole</td>
<td>145,013</td>
<td>167,843</td>
<td>15.7%</td>
<td>155,411</td>
<td>7.2%</td>
</tr>
<tr>
<td>Total</td>
<td>1,233,182</td>
<td>1,380,444</td>
<td>11.9%</td>
<td>1,327,450</td>
<td>7.6%</td>
</tr>
<tr>
<td>Florida</td>
<td>7,152,971</td>
<td>7,744,343</td>
<td>8.3%</td>
<td>7,110,171</td>
<td>-0.6%</td>
</tr>
</tbody>
</table>

Source: 1. Florida Department of Economic Opportunity.

The employment data are consistent with the overall trend in the economy. Between 2001 and 2005, employment grew by approximately 9 percent in Orange County. Employment growth in neighboring counties was higher in percentage terms in certain instances (Lake, Osceola, and Seminole), but measured off a smaller initial employment base. Employment growth in the region was higher than for the State of Florida, again indicating that Orange County and the region were a major growth area within the state.

Employment growth slowed considerably during the period 2005 to 2010, and there was some decrease in employment for most counties in the region except for Osceola County. Notably, however, all counties in the region had higher employment in 2010 versus 2001; by

1 Note that the revenue for the residential waste from the unincorporated areas is provided through County assessments. The assessments cover the cost of contracted collection services paid to the haulers plus the cost of disposal at the County’s facilities and program administration costs. The haulers are essentially provided with an allotment of residential disposal tonnage (set by the County), which effectively assures the delivery of residential waste from the unincorporated areas.
comparison, the State of Florida actually had a slight decrease in employment from 2001 to 2010.

Future forecasts of employment are also limited. The Florida Department of Economic Opportunity only prepares forecasts for a limited number of counties. According to these forecasts, Orange County employment is projected to increase by 1.8 percent per year to 865,559 in 2019. Seminole County employment is projected to grow by 2.6 percent per year to 218,448 in 2019. The growth rates for these two counties are higher than projected for the State of Florida -- employment for the State is projected to increase at 1.6 percent per year to 8,938,450 in 2019.

The third demographic variable that can impact waste tonnages, particularly construction and demolition debris, is the amount of construction and development activity. To evaluate trends in development activity in Orange County and the region, Shaw researched data on annual residential building permits as compiled by the U.S. Census\(^2\). These data are summarized in Figure 1-3, which again presents the data on an indexed basis to highlight trends in Orange County, neighboring counties and the State of Florida.

\[\text{FIGURE 1-3. CENTRAL FLORIDA RESIDENTIAL BUILDING PERMITS (INDEXED)}\]

\[
\begin{array}{c}
\text{Index (1990 = 100)} \\
\text{1990} & \text{1991} & \text{1992} & \text{1993} & \text{1994} & \text{1995} & \text{1996} & \text{1997} & \text{1998} & \text{1999} & \text{2000} & \text{2001} & \text{2002} & \text{2003} & \text{2004} & \text{2005} & \text{2006} & \text{2007} & \text{2008} & \text{2009} & \text{2010} & \text{2011} \\
\hline
\end{array}
\]

\[
\begin{array}{c}
\text{Orange} & \text{Neighboring Counties} & \text{Florida} \\
\hline
\end{array}
\]

Source:
1. U.S. Census.

\(^2\) Because long-range forecasts of development activity are not available at the county-level, the analysis of building permits is constrained to historical data. Nonetheless, the historical data can provide useful insights into waste quantities.
Residential building permits initially declined from the 1990 base year, likely the result of the 1991 recession. Growth resumed beginning in 1993, although in the neighboring counties that growth lagged behind Orange County and the State of Florida as a whole. Rapid growth in residential permits began in the year 2000, marking the beginning of the housing "boom", and continued until 2005, after which the number of permits dropped precipitously before bottoming out in 2009. Permit activity has subsequently increased in 2010 and 2011 but remains far below historical levels.

Numerically, approximately 28,600 residential building permits were issued in the six-county region in 1990. This increased to 53,300 in 2005, the apparent height of the housing market. In 2009, only 6,500 building permits were sought, with modest improvement to 8,500 in 2011.

The building permit data is a benchmark proxy for the level of development activity, and actual construction starts may differ from the number of permits issued. As will be seen in the next section, however, the level of residential building permit activity appears to be correlated with the tonnages of certain waste types disposed in landfills. The amount of Class III waste disposed at Orange County facilities, for instance, showed a large increase between 1996 and 2005, with a significant decrease thereafter.

**Waste Disposal Quantities**

In the prior section, it was noted that population and employment growth as well as construction activity impact solid waste quantities. It was also noted that the recent recession and prolonged economic downturn, the worst since the Great Depression, has resulted in significant decreases in the amounts of waste disposed.

This qualitative assessment is demonstrated by the state-wide disposal data in Figure 1-4, which shows disposal tonnages (e.g., tons of waste disposed in landfills and waste-to-energy facilities) for a number of states in the southeast and, for comparative purposes, in the Midwest. For this sample of states, the total tonnage of waste disposed has generally increased since 1996, with growth in Florida the highest. Disposal tonnages typically peaked in the years 2005 to 2007, depending on the state, and thereafter generally declined as the economy went into recession and the housing market declined. Disposal tonnages remain low as the prolonged economic downturn continues. Disposal quantities declined markedly in Florida, though are still above 1996 levels.

---

3 This analysis focuses primarily on disposal tonnages because that is the principal source of revenue for the Orange County waste system. Disposal tonnages do not include materials that are recycled, composted or otherwise diverted from landfills and waste-to-energy facilities. For the State of Florida, disposal tonnages include waste disposed at Class I and Class III landfills and waste-to-energy facilities.

4 1996 was the earliest year that data was available for all the states in the sample, with the exception of South Carolina.

5 Overall disposal tonnages in Florida increased in 2005 due in part to the management of hurricane debris, as discussed later in this report.
Figure 1-4 shows trends in statewide disposal from 1996 to 2010, versus population in the state. These data indicate that disposal quantities have generally grown at a faster rate than population, up until the year 2005, after which disposal tonnages declined. Between 1991 and 2005, disposal tonnages increased by approximately 4.2 percent per year versus 2.1 percent annual population growth. The economic downturn significantly decreased the amount of waste disposed, and for the entire period 1991 to 2010, disposal tonnages increased 1.0 percent per year versus annual population growth of 1.9 percent. In periods of economic growth, therefore, disposal quantities increase faster than population, and the per capita amount of waste disposed increases.

Figure 1-5 shows historical waste quantities in Florida over a longer period of time, from 1991 to 2010, versus population in the state. These data indicate that disposal quantities have generally grown at a faster rate than population, up until the year 2005, after which disposal tonnages declined. Between 1991 and 2005, disposal tonnages increased by approximately 4.2 percent per year versus 2.1 percent annual population growth. The economic downturn significantly decreased the amount of waste disposed, and for the entire period 1991 to 2010, disposal tonnages increased 1.0 percent per year versus annual population growth of 1.9 percent. In periods of economic growth, therefore, disposal quantities increase faster than population, and the per capita amount of waste disposed increases.

The Florida Department of Environmental Protection compiles solid waste data based on annual quantities of waste reported by counties. In most other states, solid waste quantities are compiled by state regulators based on disposal quantities reported to the regulators by landfills and/or other solid waste facilities. Florida landfills are required to submit quarterly reports of disposal tonnages to FDEP; however, FDEP does not compile this information in its annual reports (although such landfill data would provide a useful check on the disposal tonnages reported by counties). Shaw obtained a spreadsheet from FDEP which contains historical quarterly landfill data; however, a review of this spreadsheet indicated a large number of data gaps. We subsequently attempted to obtain the quarterly landfill reports directly from FDEP’s Oculus website; again, that research indicated a significant number of missing reports. As a result, the county reported data provides the most comprehensive data set for analysis of solid waste quantities in Florida.
Figure 1-6 shows comparable data for Orange County. The trend in disposal tonnages relative to population growth is generally similar to that reported for the state as a whole. Note that the disposal tonnages shown in Figure 1-6 represent the total waste generated within Orange County, including waste that is disposed at out-of-county landfills and private Class III landfills in the County as well as County-owned facilities. Thus, Figure 1-6 represents Orange County’s total waste stream, not just the waste managed by the County’s solid waste system.

The data in Figures 1-5 and 1-6 also indicate the impact that recycling has had on disposal tonnages. From 1991 to 1996, there was a noticeable increase in the tonnages of waste recycled -- this likely corresponds to the widespread implementation of curbside recycling programs and diversion of yard waste materials. During that period, disposal quantities decreased, but not by a like amount, which suggests that the overall amount of waste generated (waste generated = waste recycled + waste disposed) was increasing faster than the amount of waste diverted by recycling programs.

In 1996 and 1997, the amount of waste recycled peaked. Subsequently, recycling tonnages decreased before resuming a modest upward trend. Up until 2005, disposal quantities increased more than recycling quantities.

Since 2005, disposal quantities have decreased significantly (approximately 32 percent for the State of Florida). Recycling quantities also have declined, but by a smaller proportion (about 9 percent statewide).
FIGURE 1-6. ORANGE COUNTY – TRENDS IN RECYCLING AND DISPOSAL (TOTAL WASTE MANAGED AT COUNTY-OWNED AND COMPETING FACILITIES)

Trends in per capita waste disposal (i.e., the amount of waste disposed per person) for Orange County and other counties in the region are shown in Figure 1-7. Generally, per capita disposal quantities in neighboring counties have closely tracked the average disposal rate for the State of Florida. Per capita disposal quantities in Orange County have historically been higher than for neighboring counties and the statewide average -- this is consistent with the County’s rapid growth, position as the economic hub of the Central Florida region, and the waste generated by visitors and tourists.

The County’s per capita disposal quantities have also exhibited somewhat greater variability in certain years. Part of this may stem from comparing data for a single county to regional and statewide averages, as the averaging process may tend to smooth variations reported by an individual county. The decline shown for Orange County in 1996 and 1997 stems from high levels of recycling reported by the County for construction and demolition debris in those years (77 and 78 percent respectively); in subsequent years, the County reported a lower diversion rate for construction and demolition materials. Aside from these outlier years, though, the overall trend in Orange County per capita disposal amounts is generally consistent with the regional and statewide averages.

Source: Florida Department of Environmental Protection annual reports and U.S. Census.
Historical data on the quantities of waste handled at the County’s Class I and Class III landfills are shown in Figure 1-8. Note that these data are somewhat different than shown in Figure 1-6, which summarizes the estimated total tons disposed by Orange County, including waste disposed at other landfills in the County as well as out-of-County landfills.

Historically, Class I trash tonnages have fluctuated between 500,000 and 700,000 tons per year, with some notable interim trends. Between 1992 and 1996, Class I trash volumes increased steadily due to growth in the County and the associated increase in waste being managed at the County’s facilities. From 1997 through 2000, there was a significant drop-off in tonnages, likely due to the start-up of the Waste Management transfer station, which diverted waste from the County’s system to an out-of-county landfill. From 2000 to 2008, Class I trash tonnages again grew steadily, corresponding to continued growth in the County and an expanding economy. Beginning in 2009, volumes declined again as the result of the economic downturn.

Class I waste represents a broad range of materials including solid waste from residential, commercial, industrial and agricultural sources -- what most people think of as “garbage” or “trash”. Class III waste is a narrower subset of solid waste that includes yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, and furniture other than appliances. Class I landfills can generally accept Class III materials but not vice versa.
Miscellaneous Class I waste materials (including animals, medical, and sludge) were relatively flat from 1992 to 1998. Thereafter, miscellaneous materials declined due to lower quantities of sludge being handled.

Class III tonnages increased steadily beginning in 1997, and substantially beginning in 2002, before peaking in 2005 and dropping back to 2002 levels in subsequent years. It would appear that the County captured a significant amount of the construction and demolition debris associated with the peak years of the housing boom, with a large subsequent decrease as the housing market fell. Class III tonnages in 2004 and 2005 also were impacted by hurricanes, which would also explain the pronounced peak in those years. Over time, the County’s compost operation has captured a significant amount of yard waste, although tonnages have flattened over the past seven years (note that the data shown for yard waste in Figure 1-8 also includes Class III yard trash).

Again, the tonnage of waste handled at the County’s landfills is an important variable because the County’s system is principally funded through tipping fees, and overall revenue is therefore correlated with incoming tonnage. The tons of Class I and Class III waste handled at the County’s landfills has decreased over the past 4-6 years; that appears to be related to the overall economic downturn (which has reduced disposal tonnages across the state) but nonetheless presents a challenge to the financial stability of the County’s waste system.
Comparison of Figure 1-6 and Figure 1-8 indicates that the total amount of waste generated and disposed by Orange County exceeds the amount of waste disposed at the County’s Class I and Class III landfills. This suggests that some of the County’s waste is exported out-of-county for disposal. Preliminary estimates of exported tonnages are presented in Table 1-4 for the years 2008-2010.

Export tonnages were estimated by taking the total amount of waste reported as generated and disposed by the County and subtracting the amounts of waste landfilled at the County’s landfills and other Class III landfills in the County. These are approximate estimates because solid waste facilities are not required to report the county-of-origin of waste received.

Estimated waste exports from Orange County amounted to approximately 137,000 tons in 2008, 527,000 tons in 2009, and 453,000 tons in 2010. The 2008 estimate appears to be an anomaly when compared to 2009 and 2010 and needs to be clarified with the County, since the total disposal tonnage reported by the County for that year is also significantly lower than for 2009 and 2010.

As noted earlier, there are two privately-owned transfer stations in the County. Both of these facilities are believed to export waste to affiliated landfills in Osceola County and Okeechobee County. Transfer stations are not required to report quarterly tonnage data, much less county-of-origin, to FDEP. However, some insight into the tonnages managed by these transfer stations was obtained by reviewing permit applications posted on the FDEP’s Oculus website.

<table>
<thead>
<tr>
<th>TABLE 1-4. ESTIMATED WASTE EXPORTED FROM ORANGE COUNTY (2008-2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Total County Disposal (tons)</td>
</tr>
<tr>
<td>Orange County Landfills (tons)</td>
</tr>
<tr>
<td>Class I</td>
</tr>
<tr>
<td>Class III</td>
</tr>
<tr>
<td>Other Class III Landfills in Orange County</td>
</tr>
<tr>
<td>Subtotal, In-County Disposal (tons)</td>
</tr>
<tr>
<td>Estimated Waste Exported (tons)</td>
</tr>
</tbody>
</table>

Sources:
1. Total County tons disposed based on data reported by Orange County to FDEP.
2. Orange County Landfill tonnages based on County records.
3. Other Class III landfill tonnages based on quarterly reports submitted by landfills to FDEP.

A 2010 permit renewal application for the Waste Management of Florida transfer station indicated that the transfer station handled approximately 245,000 tons of waste in 2010. The application listed the service area for the transfer station as Orange County and surrounding communities, so some of that tonnage may have originated from outside the County.

Regulatory correspondence filed by the Taft Transfer Station (owned by an affiliated company of Waste Services of Florida) in support of its 2010 permit renewal application indicated that the facility generated approximately 47 outbound transfer trucks per day in
2010. Assuming a payload of 24 tons per transfer truck, and assuming 365 operating days per year, this would correspond to approximately 412,000 tons of waste transferred in 2010. The permit application listed the service area for the transfer station as Orange, Osceola and Seminole Counties, so again some of that estimated tonnage may have originated from outside Orange County.

Combined, the two facilities handled an estimated 657,000 tons of waste in 2010. This is approximately 204,000 tons higher than the estimate of exported waste shown in Table 1-4 for 2010. If the estimates of waste transported out-of-county are correct, then the County may have underestimated the total amount of waste disposed in 2010. Alternatively, some portion of the 204,000 tons may have originated from other counties, or some portion of the 325,000 tons of waste handled at the privately-owned Class III landfills in the County may have originated from other counties\(^8\) -- both of these alternatives are probably true to an extent. The total disposal tonnages reported by the County to FDEP will be reviewed with County staff to further clarify the data.

Projections of future waste disposal quantities in Orange County and neighboring counties are provided in Table 1-5. The projections assume that per capita disposal rates remain at reported 2010 values, and therefore increases in disposal tonnages are based on projected population growth alone. As discussed previously, 2010 per capita disposal rates for the County, region and state are lower than their historic peaks, which generally occurred around the year 2005. In the long run, disposal rates may resume an upward trend as the economy improves. However, for the purposes of this study, which will also be looking at the financial performance of the County’s system, it is prudent to conservatively assume that disposal rates remain at the current reduced levels.

<table>
<thead>
<tr>
<th>County</th>
<th>Disposal Rate (tons/capita/year)</th>
<th>2010 (tons)</th>
<th>2020 (tons)</th>
<th>2030 (tons)</th>
<th>2040 (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>1.11</td>
<td>603,147</td>
<td>656,565</td>
<td>718,503</td>
<td>771,894</td>
</tr>
<tr>
<td>Lake</td>
<td>0.81</td>
<td>240,612</td>
<td>293,058</td>
<td>354,618</td>
<td>410,184</td>
</tr>
<tr>
<td>Orange</td>
<td>1.31</td>
<td>1,501,202</td>
<td>1,775,967</td>
<td>2,093,118</td>
<td>2,376,471</td>
</tr>
<tr>
<td>Osceola</td>
<td>0.97</td>
<td>260,624</td>
<td>342,507</td>
<td>435,627</td>
<td>518,950</td>
</tr>
<tr>
<td>Polk</td>
<td>1.12</td>
<td>674,346</td>
<td>782,768</td>
<td>910,448</td>
<td>1,028,272</td>
</tr>
<tr>
<td>Seminole</td>
<td>0.80</td>
<td>338,174</td>
<td>370,880</td>
<td>408,640</td>
<td>441,280</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3,618,105</td>
<td>4,221,745</td>
<td>4,920,954</td>
<td>5,547,051</td>
</tr>
<tr>
<td>Florida</td>
<td>0.98</td>
<td>18,425,284</td>
<td>20,601,168</td>
<td>23,095,660</td>
<td>25,330,060</td>
</tr>
</tbody>
</table>

Sources:
1. Disposal rates: 2010 DEP Annual Report
2. Underlying population projections: Bureau of Economic and Business Research.
3. Disposal quantities include Class I and Class III waste.

\(^8\) A 2011 analysis of Class III materials prepared for Orange County by HDR indicated that approximately 35 percent of the waste received at the Vista Landfill originated from outside of Orange County, including significant imports from Hillsborough County and Pinellas County.
Market Competition

The Orange County solid waste system includes a Class I and Class III landfill, co-located in the east central part of the County, and two transfer stations (Porter and McLeod Road) located in the west central part of the County where the municipalities are concentrated (refer to Figure 1-9). The two transfer stations help to provide convenient access to municipalities as compared to direct hauling waste in collection vehicles to the landfill. Attachment A provides comparative transportation distances from municipalities to the transfer stations and the landfill. Transportation distances are significantly reduced for most communities as the result of having the two transfer facilities. Assuming the municipalities utilize the closest County transfer station, the average haul distance is 10.3 miles versus 25.3 miles if the communities direct-hauled waste to the Orange County Landfill.

There are also two privately-owned transfer stations in the County, however, and those facilities also provide shorter haul distances versus direct haul to the County landfill. The average haul distance to the Waste Management transfer station in Orlando is approximately 13.2 miles, and the average distance to the Taft transfer facility (owned by an affiliate of Waste Services) is 15.9 miles.

Moreover, because the two private companies seek to internalize waste from their transfer stations by disposing it at their regional landfills, those companies may drive longer distances to access their own transfer stations, even if a County transfer station is closer.

9 Waste Management owns a landfill in Okeechobee County and Waste Services owns a landfill in Osceola County.
Indeed, permit documents for the Taft transfer station indicate a service area that includes Seminole County, which is north of Orange County and further from the Taft facility than the County’s two transfer stations.

As was discussed in the preceding section, significant quantities of waste from Orange County are exported for disposal, principally through the two private transfer stations, to the Okeechobee Landfill and the J.E.D. Landfill (Osceola County). The location of these landfills is shown in Figure 1-10, which also indicates the location of other disposal facilities in the central portion of the state.

FIGURE 1-10. DISPOSAL FACILITIES IN CENTRAL FLORIDA

The one-way haul distance from the Waste Management Transfer Station in Orlando to the Okeechobee Landfill is approximately 105 miles (refer to Attachment A). The one-way haul distance from the Taft Transfer Station in Orlando to the J.E.D. Landfill is approximately 45 miles. In comparison, the haul distances from the Porter Transfer Station and McLeod Road Transfer Station to the Orange County landfill are 20-23 miles. Large, privately-owned regional landfills draw waste from comparatively greater distances, especially if served by transfer stations, because they price disposal to attract greater waste volumes. Indeed, in a 2010 presentation to Lake County, Waste Services of Florida indicated that the J.E.D. Landfill has 22 counties in its service area.
Comparative disposal tonnages for the Orange County Landfill, the Okeechobee Landfill, the J.E.D. Landfill, and publicly-owned disposal facilities in neighboring counties are provided in Table 1-6 for the period 2008-2011. Most facilities experienced a decline in disposal tonnages during the period, including the Okeechobee Landfill, consistent with the overall decline in waste volumes due to the economic downturn. Some landfills, however, notably the J.E.D. Landfill, had increased waste volumes (Lake County also modestly increased tonnage, but from a much smaller base). This would suggest that the J.E.D. facility is gaining market share at the expense of competing facilities.

### TABLE 1-6. CENTRAL FLORIDA LANDFILL TONNAGES (2008-2011)

<table>
<thead>
<tr>
<th>Facility</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orange County Landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>721,994.76</td>
<td>641,449.99</td>
<td>593,579.12</td>
<td>562,730.07</td>
</tr>
<tr>
<td>Class III</td>
<td>256,008.66</td>
<td>168,054.16</td>
<td>132,924.54</td>
<td>143,333.39</td>
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<tr>
<td>Ash</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>79,064.41</td>
<td>79,696.24</td>
<td>76,438.71</td>
<td>72,869.08</td>
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<tr>
<td>Subtotal</td>
<td>1,057,067.83</td>
<td>889,200.39</td>
<td>802,942.37</td>
<td>778,932.54</td>
</tr>
<tr>
<td><strong>Brevard County Central Landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>521,337.27</td>
<td>439,382.27</td>
<td>411,287.87</td>
<td>404,753.70</td>
</tr>
<tr>
<td>Class III</td>
<td>209,310.58</td>
<td>118,117.88</td>
<td>196,718.74</td>
<td>68,472.07</td>
</tr>
<tr>
<td>Ash</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
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<td>13,383.60</td>
<td>14,789.07</td>
<td>4,696.23</td>
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<tr>
<td>Subtotal</td>
<td>741,835.83</td>
<td>570,883.75</td>
<td>622,795.68</td>
<td>477,922.00</td>
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<tr>
<td><strong>J.E.D. Landfill (Osceola County)</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>515,667.14</td>
<td>593,783.20</td>
<td>767,170.00</td>
<td>797,893.00</td>
</tr>
<tr>
<td>Class III</td>
<td>189,473.18</td>
<td>174,537.70</td>
<td>76,288.00</td>
<td>275,330.00</td>
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<tr>
<td>Ash</td>
<td>9,845.33</td>
<td>60,840.12</td>
<td>45,634.00</td>
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</tr>
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<td>Other</td>
<td>572,432.69</td>
<td>442,351.29</td>
<td>879,663.00</td>
<td>583,876.00</td>
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<td>Subtotal</td>
<td>1,287,418.34</td>
<td>1,271,512.31</td>
<td>1,768,755.00</td>
<td>1,666,394.00</td>
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<td><strong>Seminole County Landfill</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>321,814.09</td>
<td>290,512.60</td>
<td>283,148.47</td>
<td>298,481.27</td>
</tr>
<tr>
<td>Class III</td>
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<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Ash</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>Other</td>
<td>13,364.68</td>
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<td>Subtotal</td>
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<td>313,559.40</td>
<td>284,104.60</td>
<td>300,947.59</td>
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<td><strong>North Polk Central Landfill</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>559,397.87</td>
<td>502,892.49</td>
<td>471,003.02</td>
<td>458,401.24</td>
</tr>
<tr>
<td>Class III</td>
<td>64.32</td>
<td>161.00</td>
<td>89.45</td>
<td>117.58</td>
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<td>Ash</td>
<td>68,820.84</td>
<td>60,859.63</td>
<td>43,485.78</td>
<td>70,506.37</td>
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<td>Other</td>
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<td>0.00</td>
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<td>Subtotal</td>
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<td>514,578.25</td>
<td>529,025.19</td>
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<tr>
<td>Landfill</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Lake County Central Landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>7,996.00</td>
<td>14,106.67</td>
<td>20,402.00</td>
<td>13,905.64</td>
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<tr>
<td>Class III</td>
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<td>25.00</td>
<td>0.00</td>
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<tr>
<td>Ash</td>
<td>44,352.00</td>
<td>44,398.67</td>
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<td>41,904.60</td>
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<td>Other</td>
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<td>2,373.33</td>
<td>4,526.00</td>
<td>4,617.08</td>
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<td>Subtotal</td>
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<td>60,878.67</td>
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<td>60,427.32</td>
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<td><strong>WM-Okeechobee Landfill</strong></td>
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<td></td>
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<tr>
<td>Class I</td>
<td>603,784.90</td>
<td>507,380.74</td>
<td>391,035.58</td>
<td>217,118.59</td>
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<tr>
<td>Class III</td>
<td>154,890.18</td>
<td>98,258.88</td>
<td>155,591.72</td>
<td>163,905.09</td>
</tr>
<tr>
<td>Ash</td>
<td>299,449.20</td>
<td>219,222.14</td>
<td>207,465.34</td>
<td>158,371.45</td>
</tr>
<tr>
<td>Other</td>
<td>311,774.71</td>
<td>200,564.37</td>
<td>163,584.66</td>
<td>307,542.38</td>
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<tr>
<td>Subtotal</td>
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<td>1,025,426.13</td>
<td>917,677.30</td>
<td>846,937.51</td>
</tr>
<tr>
<td><strong>Vista Landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Class III</td>
<td>14,757.90</td>
<td>164,265.14</td>
<td>183,380.34</td>
<td>242,605.64</td>
</tr>
<tr>
<td>Ash</td>
<td>0.00</td>
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<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>14.05</td>
<td>11,663.90</td>
<td>19,343.84</td>
<td>3,587.08</td>
</tr>
<tr>
<td>Subtotal</td>
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<td>175,929.04</td>
<td>202,724.18</td>
<td>246,192.72</td>
</tr>
<tr>
<td><strong>Golden Gem Road Landfill</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Class III</td>
<td>28,510.01</td>
<td>34,112.78</td>
<td>77,434.20</td>
<td>62,101.17</td>
</tr>
<tr>
<td>Ash</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>204,603.01</td>
<td>41,287.64</td>
<td>32,175.24</td>
<td>22,269.02</td>
</tr>
<tr>
<td>Subtotal</td>
<td>233,113.02</td>
<td>75,400.42</td>
<td>109,609.44</td>
<td>84,370.19</td>
</tr>
<tr>
<td><strong>Bay Lake Landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Class III</td>
<td>1,135.50</td>
<td>14,087.40</td>
<td>12,534.00</td>
<td>3,847.00</td>
</tr>
<tr>
<td>Ash</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,135.50</td>
<td>14,087.40</td>
<td>12,534.00</td>
<td>3,847.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,251,992.03</td>
<td>2,989,507.96</td>
<td>2,937,626.06</td>
<td>2,753,103.51</td>
</tr>
<tr>
<td>Class III</td>
<td>854,151.33</td>
<td>771,594.94</td>
<td>834,985.99</td>
<td>959,711.94</td>
</tr>
<tr>
<td>Ash</td>
<td>422,467.37</td>
<td>385,320.56</td>
<td>337,291.12</td>
<td>280,077.42</td>
</tr>
<tr>
<td>Other</td>
<td>1,195,061.53</td>
<td>814,367.17</td>
<td>1,191,476.65</td>
<td>1,001,923.19</td>
</tr>
<tr>
<td>Total</td>
<td>5,723,672.26</td>
<td>4,960,790.63</td>
<td>5,301,379.82</td>
<td>4,994,816.06</td>
</tr>
</tbody>
</table>

**Source:**
1. Quarterly landfill reports to FDEP.

**Note:**
1. “Other” waste may include contaminated soils, special waste, auto shredder fluff, construction and demolition debris, asbestos and tires.
Capacity data for a sample of the landfills listed in Table 1-6 is provided in Table 1-7. A complete listing of all the landfills could not be prepared due to missing reports in FDEP’s Oculus website; Shaw will continue to research capacity data for the missing facilities.

Both Orange County and the J.E.D. Landfill provide significant disposal capacity within Central Florida. The J.E.D. Landfill, which only opened in 2004, is currently pursuing an expansion due to the large quantities of waste accepted since 2004. The proposed expansion will add approximately 25,000,000 airspace cubic yards of capacity, or an additional 18,750,000 tons, to the capacity shown in Table 1-7. A new facility, the A.C.M.S Landfill, is also currently being constructed in Sumter County. According to the owner, the A.C.M.S Landfill will have a capacity of 109,155,000 airspace cubic yards, or approximately 81,866,250 tons. The facility recently negotiated a disposal agreement with Marion County, under which the County “pre-purchased” 2,500,000 tons of disposal capacity for $20 million, or $8.00 per ton, for waste delivered to the landfill.

<table>
<thead>
<tr>
<th>TABLE 1-7. CAPACITY DATA FOR SELECT LANDFILLS IN CENTRAL FLORIDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Orange County Landfill (Class I)</td>
</tr>
<tr>
<td>Orange County Landfill (Class III)</td>
</tr>
<tr>
<td>J.E.D. Landfill</td>
</tr>
<tr>
<td>North Polk Central Landfill (see Note 1)</td>
</tr>
<tr>
<td>Vista Landfill (Class III)</td>
</tr>
<tr>
<td>Golden Gem Road Landfill (Class III)</td>
</tr>
<tr>
<td>Bay Lake Landfill (Class III)</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source:
1. Landfill estimates as reported to FDEP.
2. North Polk Central Landfill capacity based on capacity projections submitted to FDEP in 2010.

Tipping fee information for publicly-owned landfills in the Orange County region is presented in Table 1-8. Generally, Orange County’s tipping fees fall within the range charged by publicly-owned landfills in neighboring counties. The County’s tipping fee for Class I waste falls toward the higher end of the range, but the Class III tipping fee is toward the lower end of the range. The County’s tipping fees also compare favorably to statewide average tipping fees for publicly-owned facilities, even though the last survey prepared by FDEP was for the year 2009.
### TABLE 1-8. TIPPING FEES AT PUBLICLY-OWNED LANDFILLS

<table>
<thead>
<tr>
<th>Facility</th>
<th>2012 Rate ($/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class I</td>
</tr>
<tr>
<td>Brevard County</td>
<td>$29.50</td>
</tr>
<tr>
<td>Lake County</td>
<td>$40.00</td>
</tr>
<tr>
<td>Orange County</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>$37.10</td>
</tr>
<tr>
<td>Commercial</td>
<td>$39.80</td>
</tr>
<tr>
<td>Polk County</td>
<td>$37.95</td>
</tr>
<tr>
<td>Seminole County</td>
<td>$33.17</td>
</tr>
<tr>
<td>Statewide Average</td>
<td>$40.59</td>
</tr>
</tbody>
</table>

Source:

Note:
1. Brevard County has an annual disposal assessment that applies to both residential and commercial properties in the County.

The biggest competitive challenge to the County, however, is posed by the privately-owned regional landfills, not publicly-owned facilities. Tipping fees at private landfills are proprietary information. The posted gate rate at a private facility typically represents the rate charged to small customers; discounted rates are usually offered to customers that deliver greater tonnages of waste.

Shaw is researching solid waste service agreements between regional landfills and public jurisdictions that contract for solid waste disposal capacity. Two recent contracts with government authorities illustrate the “contract” rates that may be charged by private landfills.

In March, 2012, the City of Fort Pierce entered into a 15-year disposal agreement with Waste Management of Florida for disposal capacity at the Okeechobee Landfill. Pursuant to this agreement, Waste Management intends to develop a transfer station within the City. Until the transfer station is completed, the City may direct haul its waste to the landfill; the tipping fee for Class I waste is $21.50 per ton, and for construction and demolition debris is $18.50 per ton. For the first three years after the transfer station starts operations, the tipping fee for Class I waste will be fixed at $37.00 per ton and the fee for construction/demolition waste will be fixed at $27.50 per ton. For the next two years, the Class I tipping fee is set at $38.00 per ton and the construction/demolition waste tipping fee at $30.00 per ton. Beginning in year 7 of the contract, rates will increase based on an escalator weighted 87.5 percent to CPI and 12.5 percent to a diesel fuel index. Waste Management also offered a number of host benefits including an up-front payment of $650,000, subsequent lump-sum payments of $250,000 in years 6 and 11 of the contract, and a host fee of $1.50 per ton for all waste received at the transfer station from outside the City limits. Historically, Fort Pierce disposed its waste at the St. Lucie County Landfill. Current tipping fees at the County landfill are $41.00 per ton for Class I waste and $29.00 per ton for construction/demolition debris. The distance from Fort Pierce to the Okeechobee Landfill is approximately 32 miles.
In June, 2009, the City of St. Cloud entered into a 15-year waste services agreement with the J.E.D. Landfill for disposal of waste processed through the City’s transfer station. The initial disposal rate (in 2009) was set at $22.30 per ton. Disposal rates in subsequent years are subject to CPI increases. The haul distance from the City’s transfer station to the J.E.D. Landfill is approximately 28 miles. The City owns and operates the transfer station and sets the tipping fees at the transfer station; currently the tipping fee is $43.48 per ton, but discounted rates of $41.55 per ton are offered to large customers including Waste Management, Waste Services, Republic, and the City of Kissimmee.

In sum, disposal rates for units of government contracting for disposal capacity at regional landfills can be in the low $20s per ton. That is very competitive compared to Orange County’s landfill rate of $37.10 for residential waste. The cost of transfer must be added to the contract landfill rate, and that can raise the all-in price to $37.00 to $41.55 per ton, which is comparable or higher to Orange County’s fee at its transfer stations. It should be noted, however, that even with tipping fees in the low $20s per ton, large regional landfills are profitable and have the flexibility to adjust pricing in response to competitive conditions. Orange County may not have that flexibility.

Orange County does have one competitive advantage in that it has generally kept tipping fees fixed (refer to Figure 1-11). During the period 1993 to 2011, the County has increased tipping fees twice: in 1995, when the tipping fee for commercial waste was increased; and during the period 2009-2011, when the increase was phased-in over three years to lessen the impact on customers.

<table>
<thead>
<tr>
<th>FIGURE 1-11. ORANGE COUNTY TIPPING FEES: ACTUAL VS.CPI ESCALATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50.00</td>
</tr>
<tr>
<td>$45.00</td>
</tr>
<tr>
<td>$40.00</td>
</tr>
<tr>
<td>$35.00</td>
</tr>
<tr>
<td>$30.00</td>
</tr>
<tr>
<td>$25.00</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Labor and Orange County data.
The tipping fee for residential waste increased from $30.65 per ton in 1993 to $37.10 per ton in 2011. That represents an average annual increase over the 18-year period of about 1.1 percent. During the same time period, the CPI increased by about 2.5 percent annually. Had the County adjusted its tipping fee based on the CPI, the residential tipping fee would have grown to $47.60 per ton in 2011.

This is an important consideration, because most long-term disposal contracts with private landfills have a CPI-based escalation clause. Moreover, some contracts have an escalation clause that includes a fuel component. Figure 1-12 shows that diesel fuel costs have increased significantly, growing an average of 9.1 percent annually since 1997. During the same period, the CPI increased by 2.4 percent annually. So, an escalator based on CPI and fuel prices would have increased by more than the CPI alone.

![Figure 1-12. Diesel Fuel Costs – Lower Atlantic States](image)

Source: U.S. Energy Information Administration.

The growth in the County’s tipping fees must also be assessed in the context of rising costs within the solid waste industry generally, and hauling costs in particular. Table 1-9 presents summary information on residential waste collection costs in the municipalities and unincorporated areas of Orange County. The monthly rates include the cost of disposal at Orange County or competing facilities. Monthly residential rates generally range from $16.00 to $21.00 per household. Based on typical average disposal quantities (1.34 to 1.51 tons/household/year of trash and 0.14 to 0.31 tons/household/year of yard waste) and current County tipping fees for Class I waste ($37.10 per ton) and yard waste ($29.00 per ton), the disposal component of these collection costs amounts to $4.87/household/month, or 23 to 30 percent of total monthly costs. The majority of the cost of monthly residential waste service is therefore attributable to collection costs.
TABLE 1-9. SUMMARY OF MONTHLY RESIDENTIAL COLLECTION COSTS

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Hauler</th>
<th>Collections/Week</th>
<th>Monthly Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apopka</td>
<td>Municipal</td>
<td>2</td>
<td>$16.00 (2012)</td>
<td></td>
</tr>
<tr>
<td>Belle Isle</td>
<td>WM-Florida</td>
<td>2</td>
<td>$16.10 (2009)</td>
<td></td>
</tr>
<tr>
<td>Eatonville</td>
<td>WSI-Florida</td>
<td>1</td>
<td>$21.00 (2008)</td>
<td></td>
</tr>
<tr>
<td>Edgewood</td>
<td>WM-Florida</td>
<td>2</td>
<td>$17.90 (2011)</td>
<td></td>
</tr>
<tr>
<td>Maitland</td>
<td>WSI-Florida</td>
<td>2</td>
<td>$19.16 (2012)</td>
<td></td>
</tr>
<tr>
<td>Oakland</td>
<td>WM-Florida</td>
<td>2</td>
<td>$17.20 (2012)</td>
<td></td>
</tr>
<tr>
<td>Ocoee</td>
<td>Municipal</td>
<td>1</td>
<td>$21.00 (2012)</td>
<td></td>
</tr>
<tr>
<td>Orlando</td>
<td>Municipal</td>
<td>2</td>
<td>$17.14 (2012)</td>
<td></td>
</tr>
<tr>
<td>Windermere</td>
<td>Waste Pro</td>
<td>2</td>
<td>$21.00 (2011)</td>
<td></td>
</tr>
<tr>
<td>Winter Park</td>
<td>Waste Pro</td>
<td>2</td>
<td>$17.47 (2012)</td>
<td></td>
</tr>
<tr>
<td>OCU – Zone 1</td>
<td>Veolia</td>
<td>2</td>
<td>$19.93 (2012)</td>
<td></td>
</tr>
<tr>
<td>OCU – Zone 3</td>
<td>Republic</td>
<td>2</td>
<td>$19.90 (2012)</td>
<td></td>
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<tr>
<td>OCU – Zone 4</td>
<td>Waste Pro</td>
<td>2</td>
<td>$18.84 (2012)</td>
<td></td>
</tr>
<tr>
<td>OCU – Zone 5</td>
<td>Republic</td>
<td>2</td>
<td>$19.11 (2012)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Reflects most recent pricing information available as of the date of this report. Pricing to be updated to 2012 rates.
2. Pricing for Orange County Utilities (OCU) in unincorporated Orange County includes contracted hauler rate for collection services, plus an average $4.87/household/month for waste disposal at the Orange County Landfill. The disposal charge was calculated based on disposal quantities contained in the most recent County bid specifications: 1.34 to 1.51 tons/household/year of Class I waste, 0.14 to 0.31 tons/household/year of yard waste, and total customers.

Some communities provided historical pricing information which sheds further light on the relative contribution of disposal costs to the overall monthly cost of residential waste service.

The City of Belle Isle’s contracted collection rate was $12.20 per household per month in 2003, the first year of the City’s current contract. As of 2009, when the contract was extended to 2013, the rate had increased to $16.10 per household per month. This represents an average increase of 4.7 percent per year and an overall increase of 32 percent over the six-year period. Though the contract specifies escalation at the rate of CPI, not to exceed 3 percent per year, the contract renewal approved on November 4, 2009 indicated that the contractor’s costs had increased at a greater rate than CPI due to gasoline and disposal charges, thereby supporting the rate increase established for the renewal term.
During the same 2003-2009 period, Class I tip fees at the County’s landfill increased by 6.5 percent, and as noted above disposal typically accounts for only 23-30 percent of the total monthly cost. This suggests that fuel and other collection costs comprised a large portion of the overall 32 percent increase.

The City of Edgewood had a contracted collection rate of $13.00 per household per month in 2001, which was fixed for a five-year period. In 2011, the rate was $17.90 per household per month. This represents an average increase of 3.2 percent per year and an overall increase of 38 percent over the ten-year period. During the same period, the County’s tipping fee for Class I residential waste increased by 20 percent but, again, disposal costs contribute only 23-30 percent of the total monthly cost. Similar to Belle Isle, the increase in Edgewood’s monthly rates appears to stem primarily from increases in collection costs, with a lesser impact from increases in disposal rates.

Similar trends have occurred in the unincorporated areas. In 2001, the average cost of collection services (excluding disposal) in the five unincorporated zones of the County was $7.71 per household per month. The average collection rate for these zones in 2012 is $14.55 per household per month. This represents an average increase of 5.9 percent per year and a total increase of 89 percent over the 11-year period. Note that these cost data pertain to collection costs only. County tipping fees for Class I residential waste increased by 20 percent over the same period.

Clearly, the tipping fees charged by Orange County are an important issue for both County and municipal residents and stakeholders. All of the entities involved in collection and disposal of solid waste are looking to save costs and provide more efficient services wherever they can in light of the continued economic downturn. The observations and analysis presented above, however, suggests that collection costs are an integral factor, and appear to be increasing faster than disposal costs.

Summary Findings

Based on the preceding information and analysis, the following general findings are noted:

- Orange County and the Central Florida region have experienced significant population growth since 1990, and population growth is projected to continue (though at a slower rate than in the past 20 years). This will result in increased quantities of waste being generated and requiring disposal in the future.

- The majority of the County’s population (65 percent) resides in unincorporated areas of the County. The County currently contracts for the collection of residential waste in unincorporated areas and directs it to the Orange County Landfill for disposal.

- Disposal of Class I wastes at the Orange County Landfill has fluctuated between 500,000 and 700,000 tons per year over the past 20 years. During that period, there have been some interim trends. In the early 1990s, Class I volumes increased due to growth in Orange County. There was a significant drop-off in tonnages from 1997 to 2000, due to the start-up of a private transfer station in the County, which diverted waste from the County’s system to an out-of-county landfill. Beginning in 2000, Class I tonnages rebounded sharply, corresponding to continued growth in the
County and an expanding economy. Since 2009, volumes have declined again as the result of the economic downturn.

- Class III tonnages increased steadily beginning in 1997, and substantially beginning in 2002, before peaking in 2005 and dropping back to 2002 levels in subsequent years. Much of this trend in Class III waste mirrors the trend in residential building permits issued over the same period.

- The Orange County Landfill does not receive all of the waste generated within the County, and some waste is transported and disposed at out-of-county disposal facilities. It is estimated that 527,000 tons of waste in 2009 and 453,000 tons of waste in 2010 were exported from Orange County to out-of-county disposal facilities.

- Orange County owns and operates two transfer stations, providing increased disposal convenience compared to direct-hauling waste to the landfill. On average, the haul to the nearest County-owned transfer station from the County’s municipalities is 10.3 miles, compared to 25.3 miles to the landfill.

- Privately-owned transfer stations in the County send waste to out-of-county landfills for disposal. Out-of-county landfills include the J.E.D. Landfill and Okeechobee Landfill. These landfills are larger, regional facilities serving multi-county areas, with waste receipts generally greater than at the Orange County Landfill.

- Tipping fees at the Orange County Landfill are comparable to tipping fees at other publicly-owned landfills in Central Florida. Fees were held constant from 1995 to 2008, when an increase was phased in over a three-year period. Current tipping fees are substantially lower than they would have been if the fee had increased annually with inflation; based on CPI escalation between 1993 and 2011, the residential tipping fee would have increased to $47.60 per ton in 2011, much higher than the current residential tipping fee of $37.10 per ton.

- Some contracts with regional landfills indicate tipping fees may be in the low $20s per ton. When including the use of transfer stations to access these more distant landfills, the total disposal cost is estimated at $37.00 to $41.55 per ton, competitive with Orange County’s tipping fee. Contracts at privately-owned landfills may also include an annual CPI escalation clause and a fuel surcharge clause, which as noted above can increase fees over time.

- Residential waste collection costs in Orange County range from $16 to $21 per household per month. Disposal costs account for approximately 23 to 30 percent of the monthly cost. For some communities with private hauler contracts, collection costs have escalated faster than disposal costs.
ATTACHMENT A

COMPARATIVE TRANSPORTATION DISTANCES
TO SOLID WASTE FACILITIES
| Travel From Community to: | Orange County Landfill | McLeod Road TS | Porter TS | WM-Orlando TS | Waste Services-Taft Recycling |
|--------------------------|------------------------|---------------|----------|--------------|----------------------------|}
<p>|                          | Miles Time (min) MPH   | Miles Time (min) MPH | Miles Time (min) MPH | Miles Time (min) MPH | Miles Time (min) MPH |
| Apopka                   | 33.0 48 41             | 22.9 33 42       | 9.5 22 26    | 23.0 33 42    | 27.6 39 42         |
| Bay Lake                 | 33.4 44 46             | 17.5 29 36       | 18.8 37 30  | 17.5 29 36    | 17.0 29 35         |
| Belle Isle               | 15.9 26 37             | 9.2 19 29        | 19.6 26 45  | 9.1 19 29     | 3.4 10 20          |
| Eatonville               | 21.7 32 41             | 12.5 20 38       | 11.5 26 27  | 12.4 20 37    | 16.5 28 35         |
| Edgewood                 | 17.0 27 38             | 6.8 13 31        | 12.8 21 37  | 6.8 13 31     | 5.2 12 26          |
| Lake Buena Vista         | 30.6 41 45             | 14.6 26 34       | 16.0 33 29  | 14.7 26 34    | 14.1 25 34         |
| Maitland                 | 23.0 32 43             | 13.8 20 41       | 12.8 26 30  | 13.7 20 41    | 17.9 28 38         |
| Oakland                  | 31.8 42 45             | 17.0 26 39       | 8.5 17 30   | 17.0 26 39    | 21.7 32 41         |
| Ocoee                    | 25.3 34 45             | 10.4 19 33       | 2.7 6 27    | 10.4 19 33    | 18.3 26 39         |
| Orlando                  | 13.7 23 36             | 6.6 13 30        | 9.4 16 35   | 6.6 13 30     | 8.9 21 25          |
| Reedy Creek              | 35.6 46 46             | 19.7 31 38       | 20.9 28 45  | 19.7 31 38    | 19.1 30 38         |
| Windermere               | 27.4 40 41             | 6.2 14 27        | 6.8 16 26   | 6.3 14 27     | 15.0 26 35         |
| Winter Garden            | 29.5 40 44             | 14.6 24 37       | 5.9 14 25   | 14.7 24 37    | 20.6 30 41         |
| Winter Park              | 16.9 28 36             | 12.9 20 39       | 14.2 25 34  | 12.8 20 38    | 16.9 29 35         |</p>
<table>
<thead>
<tr>
<th>Disposal Facility</th>
<th>McLeod Road TS</th>
<th>Porter TS</th>
<th>WM-Orlando TS</th>
<th>Waste Services-Taft Recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Miles</td>
<td>Time (min)</td>
<td>Miles</td>
<td>Time (min)</td>
</tr>
<tr>
<td>Orange County Landfill</td>
<td>20.3</td>
<td>29</td>
<td>23.2</td>
<td>33</td>
</tr>
<tr>
<td>WM-Okeechobee Landfill</td>
<td>105.0</td>
<td>115</td>
<td>110.0</td>
<td>121</td>
</tr>
<tr>
<td>J.E.D. Landfill</td>
<td>51.3</td>
<td>66</td>
<td>56.6</td>
<td>72</td>
</tr>
</tbody>
</table>

TABLE A-2. COMPARATIVE TRANSPORTATION DISTANCES FROM TRANSFER STATIONS IN ORANGE COUNTY TO COMPETING LANDFILL SITES
Orange County Solid Waste System Evaluation

Technical Memorandum #2
Waste Flow and Operations Review

Prepared for
Orange County
Solid Waste Division

August 2012
Introduction

Orange County has commissioned Shaw Environmental, Inc. (Shaw) to assist the County’s Solid Waste Division to prepare a comprehensive assessment of the County’s solid waste management system. The research and analytical work is being performed in three phases as shown below:

**Phase 1**
- Background document review
- Market analysis

**Phase 2**
- Operations review
- Waste flow analysis

**Phase 3**
- Financial review
- Legal and political review
- Structural review

This technical memorandum is the second of three interim reports that will be prepared as part of the Solid Waste System Evaluation for Orange County. The first memorandum provided background information and an analysis of the solid waste market in Orange County and central Florida.

This second memorandum addresses the Phase 2 study components. The operations review provides an analysis of the components of the Orange County waste system and how they function together to provide comprehensive solid waste management services. This analysis also discusses the relative roles of Orange County and other governmental and private entities in providing solid waste services and the waste streams managed by the various service providers. In addition, benchmark information on other large public solid waste systems in Florida is provided to analyze the operational performance of the Orange County system in comparison with other publicly-owned solid waste systems.

The waste flow analysis builds upon prior analyses to investigate the amounts and types of waste materials handled by the Orange County waste system. This analysis presents more detailed information to supplement the market analysis in Phase 1. Because the Orange County system is largely funded through tipping fees at County disposal facilities, this further analysis of waste flow data is important to begin assessing methods of re-securing and maintaining waste since several of the Interlocal Agreements have expired and remaining agreements will expire in 2014 (City of Orlando) and 2015 (Town of Windermere).

**Operations Review**

Orange County provides the most comprehensive solid waste services of any public or private entity within the County. The County’s facilities and programs include a Class I landfill, a Class III landfill (both landfills are co-located at the same site), two transfer stations, a Recycled Materials Processing Facility, a recyclable materials transfer facility, a compost facility, a household hazardous waste facility, a waste tire program, asbestos disposal services, a small vehicle drop-off program, public education/tours, a landfill gas-to-energy program, and leachate reuse. The County also has a commercial hauler licensing program, prepares annual state-mandated waste and recycling reports, and is engaged in a wildlife and conservation area management program. The transfer facilities provide
convenient access to waste streams that are ultimately transported to the disposal and/or processing facilities located at the site of the County’s landfill. The County also manages wastes requiring special handling such as white goods and tires.

Over time, a number of other solid waste facilities have been developed in the County, mostly by private companies. Although these facilities do not offer the same comprehensive services as the County’s system, they do compete for various waste streams generated within the County. An analysis of the larger waste streams generated within the County is therefore useful for assessing the relative handling of waste by Orange County and other service providers.

Class I Waste

Orange County is the largest provider of Class I (i.e., general garbage from homes and businesses) disposal services. As noted in the market analysis, however, two privately-owned transfer stations have been developed in the County, and those facilities also manage a significant quantity of Class I waste. A third privately-owned facility, the Rocket Boulevard MRF, received an FDEP permit in 2011 to construct a building for transfer of Class I waste, creating another potential competitor for Class I waste in the County. In addition, the Reedy Creek Improvement District (RCID) operates a transfer station that handles Class I waste. The majority of waste handled by these competing transfer stations is disposed at out-of-county Class I landfills or privately-owned Class III sites within Orange County.

Table 2-1 shows a comparison of the relative amounts of Class I waste handled by Orange County and competing facilities for the year 2010 (the most recent year for which complete information is available).

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1 RCID is developing a new transfer station that will handle both Class I and Class III materials.
### TABLE 2-1. CLASS I TONS BY FACILITY

<table>
<thead>
<tr>
<th>Facility</th>
<th>Tons (2010)</th>
<th>Estimated % of Class I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange County Landfill</td>
<td>594,529</td>
<td>61%</td>
</tr>
<tr>
<td>WMI-Orlando Transfer Station</td>
<td>163,416</td>
<td>17%</td>
</tr>
<tr>
<td>WSI-Taft Transfer Station</td>
<td>133,872</td>
<td>14%</td>
</tr>
<tr>
<td>RCID Transfer Station</td>
<td>81,963</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>973,780</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Sources:**
1. Transfer station tonnages for WMI and WSI as reported to Orange County Solid Waste Division.
2. Reedy Creek Improvement District.

**Notes:**
1. WMI reported handling 243,321 tons in 2010, of which 88% or 214,122 tons originated in Orange County. Of the total waste, 50,706 tons was disposed at the Vista and Pine Ridge Landfills and was therefore Class III waste or construction/demolition debris. The balance was assumed to be Class I waste.
2. WSI did not provide a breakdown of Class I and Class III materials handled at the transfer station. Total tonnage was assumed to be Class I waste.
3. In addition to Class I waste, RCID handled 30,529 tons of Class III waste which was disposed primarily at the Vista and Pine Ridge Landfills, for a total transfer tonnage of 112,492 tons in 2010.

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**Class III Waste and Construction/Demolition Debris**

Wastes that are not expected to produce leachate that poses a threat to public health or the environment are classified as Class III wastes. Such wastes include yard trash, construction and demolition debris, processed tires, cardboard, asbestos, glass, etc. Construction and demolition debris, a subset of Class III waste, includes materials that are not considered to be water soluble and are non-hazardous, such as steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber generated from construction or demolition of structures. Construction and demolition debris is comprised of many materials that may be recovered for reuse or recycling, and construction and demolition debris processing facilities have been developed for this purpose.

Orange County operates a Class III landfill that is co-located with the Class I landfill. As discussed in the market analysis, the County’s Class III landfill handled significant quantities of waste during the years of the housing boom and to dispose of hurricane-related debris in 2004 and 2005. There are also 3 other privately-owned Class III landfills in the County: Vista Landfill, Bay Lake Landfill and Golden Gem Landfill (refer to Figure 2-1).

In addition, there are 4 large construction and demolition debris facilities: Angelo’s Recycled Materials, Mid-Florida Materials, Pine Ridge Landfill and West Orange Environmental. These facilities process incoming construction materials to separate and recycle materials such as wood, concrete and asphalt. Four of the transfer stations in the

---

2 A fifth construction and demolition debris facility, the 545 Sanifill, operated in Orange County until 2007. This facility is now closed.
County can also transfer Class III materials to Class III landfills and/or construction/demolition debris facilities for processing and disposal.

FIGURE 2-1. CLASS III AND CONSTRUCTION/DEMOLITION DEBRIS FACILITIES

The construction and demolition debris facilities noted above handle a large amount of material from Orange County; because they are located near the borders of the County, they also import material from other counties. Construction and demolition debris facilities outside of Orange County also receive waste from the County. Over the period 2006-2010, as many as 9 facilities located outside Orange County have reported receiving waste from Orange County for recycling or disposal. Historical quantities are shown in Table 2-2 for the period 2006-2010 (this interval represents the most current data available from the Florida Department of Environment’s Oculus database).

The construction and demolition debris facilities in Orange County handled 1,381,853 tons of material in 2006. Facilities outside Orange County handled an additional 8,555 tons from the County. Like other waste streams in Orange County, the amount processed at construction and demolition debris facilities has dropped significantly due to the decline in the housing market and overall economy. In 2010, the facilities in Orange County handled 474,108 tons, a reduction of 66 percent from 2006 levels. Facilities outside Orange County handled an additional 60,534 tons from the County; the majority of this material is handled at a single facility, Mt. Dora Disposal and Fill in Lake County, which began operating in 2009.

3 Construction and demolition debris facilities are unique in that they report county-of-origin to FDEP if it is known; most other solid waste facilities are not required to submit county-of-origin information.
## Table 2-2. Orange County Construction and Demolition Debris Recycled and Disposed at Construction and Demolition Debris Facilities

<table>
<thead>
<tr>
<th>Origin of Waste</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange County Waste at Facilities in Orange County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled</td>
<td>351,432</td>
<td>381,021</td>
<td>208,252</td>
<td>282,402</td>
<td>124,219</td>
</tr>
<tr>
<td>Disposed</td>
<td>658,674</td>
<td>460,284</td>
<td>218,565</td>
<td>186,212</td>
<td>188,047</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,010,106</td>
<td>841,305</td>
<td>426,817</td>
<td>468,614</td>
<td>312,266</td>
</tr>
<tr>
<td>Other Counties’ Waste at Facilities in Orange County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled</td>
<td>134,570</td>
<td>121,090</td>
<td>102,166</td>
<td>91,876</td>
<td>69,154</td>
</tr>
<tr>
<td>Disposed</td>
<td>237,177</td>
<td>116,929</td>
<td>232,932</td>
<td>105,951</td>
<td>94,145</td>
</tr>
<tr>
<td>Subtotal</td>
<td>371,747</td>
<td>238,019</td>
<td>335,098</td>
<td>197,827</td>
<td>163,299</td>
</tr>
<tr>
<td>Total, at Facilities in Orange County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled</td>
<td>486,002</td>
<td>502,111</td>
<td>310,418</td>
<td>374,278</td>
<td>193,373</td>
</tr>
<tr>
<td>Disposed</td>
<td>895,851</td>
<td>577,213</td>
<td>452,497</td>
<td>292,163</td>
<td>282,192</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,381,853</td>
<td>1,079,324</td>
<td>761,915</td>
<td>666,441</td>
<td>475,565</td>
</tr>
<tr>
<td>Recycled (%)</td>
<td>35.2%</td>
<td>46.5%</td>
<td>40.7%</td>
<td>56.2%</td>
<td>40.7%</td>
</tr>
<tr>
<td>Imports (%)</td>
<td>26.9%</td>
<td>22.1%</td>
<td>44.0%</td>
<td>29.7%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Orange County Waste at Facilities Outside Orange County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled</td>
<td>7,758</td>
<td>29</td>
<td>8,104</td>
<td>7,596</td>
<td>6,516</td>
</tr>
<tr>
<td>Disposed</td>
<td>797</td>
<td>2,132</td>
<td>1,628</td>
<td>83,854</td>
<td>52,561</td>
</tr>
<tr>
<td>Subtotal</td>
<td>8,555</td>
<td>2,161</td>
<td>9,732</td>
<td>91,450</td>
<td>59,077</td>
</tr>
<tr>
<td>Total, Orange County Waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled</td>
<td>359,190</td>
<td>381,050</td>
<td>216,356</td>
<td>289,998</td>
<td>130,735</td>
</tr>
<tr>
<td>Disposed</td>
<td>659,471</td>
<td>462,416</td>
<td>220,193</td>
<td>270,066</td>
<td>240,608</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,018,661</td>
<td>843,466</td>
<td>436,549</td>
<td>560,064</td>
<td>371,343</td>
</tr>
<tr>
<td>Recycled (%)</td>
<td>35.3%</td>
<td>45.2%</td>
<td>49.6%</td>
<td>51.8%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>

Source:
1. Facility tonnages reported to FDEP. Construction and demolition debris facilities are unique in that they report county of origin to FDEP.

Notes:
1. Tonnages for facilities in Orange County are for 7 facilities: 545 Sanifill (now closed), Angelo's Recycled Materials, Mid-Florida Materials, Pine Ridge Landfill, Rocket Boulevard MRF, West Orange Environmental, and WSI-Taft Transfer Station.
2. Tonnages for facilities outside Orange County are for as many as 8 facilities in a given year.
The construction and demolition debris facilities divert a large amount of material from Class I and Class III landfills, ranging from 35 to 56 percent of the incoming waste. Angelo's Recycled Materials disposes of the non-recycled material at off-site locations. Mid-Florida Materials and Pine Ridge Landfill dispose of non-recycled material in on-site fills (West Orange Environmental did not specify a disposal location).

The facilities also source significant amounts of construction and demolition debris from outside Orange County (typically from neighboring counties but also from Hillsborough, Pinellas, Miami-Dade, Palm Beach and other more distant counties). Orange County has historically tried to preserve the capacity at its landfill to meet the long-term needs of its residents and businesses. However, the County must compete with private facilities that draw waste from larger regional areas, and therefore the County may have to consider a larger service area in the future.

Transfer stations can also handle construction and demolition debris, consolidating the material for transport to a processing facility or landfill. As noted previously, the WMI-Orlando Transfer Station shipped 50,706 tons of Class III waste to the Pine Ridge and Vista landfills (both of which are owned by WMI). The Rocket Boulevard MRF handled approximately 40,000 tons of Class III materials in 2002 and 2003, though recent tonnages have been approximately 6,000 tons per year. In relation to the overall size of the Class III and construction and demolition debris waste stream, a relatively smaller proportion of Class III materials are transferred than is the case for Class I waste -- this is likely due to the greater number of Class III and construction/demolition debris sites available in the County.

RCID takes Class III waste materials to the Bay Lake Landfill for processing. The material is then sorted. After sorting, non-recyclable material is transported to several facilities for disposal. Construction and demolition debris is taken to the Pine Ridge Landfill, yard waste is taken to the RCID compost facility or Okeechobee Landfill, and other materials (e.g., furniture, mattresses) are disposed in the Bay Lake Landfill or Okeechobee Landfill. RCID managed 30,000 to 50,000 tons per year of Class III waste for disposal during the period 2006 to 2009, and recycled 2,000 to 3,000 tons per year of Class III materials during that same period.

Table 2-3 presents 2010 tonnage data for the construction and demolition debris facilities and the Class III landfills in the County (2010 was the most recent year for which data was available for all of the facilities). The data shown are for waste originating in Orange County and do not include out-of-county waste the facilities may receive. Further, the data reflect tons disposed by each facility and do not include recycled tonnages. This was done to focus on the relative amounts of waste disposed at the County's Class III site relative to other facilities in the County.

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4 Transfer station tonnages are not shown because WMI indicated it primarily uses disposal sites in Orange County.
The County’s landfill captured about one-quarter of the Class III waste and construction and demolition debris generated and disposed by Orange County at in-County facilities. The County’s estimated market share for Class III materials is lower than for Class I waste due to the greater number of competing facilities. It should be noted that although Class III landfills in Orange County disposed of more waste than the construction and demolition debris facilities, the latter facilities handled more incoming tonnage when including recycled material amounts.

Yard Waste and Organics

As was noted in the market analysis in Technical Memorandum #1, the County’s compost operation at the Orange County Landfill has captured a significant amount of yard waste, although tonnages have leveled off in recent years. The County processes incoming grass and other green waste at the compost operation. Brush materials are chipped for use on landfill haul roads. The County also has a contract with Waste Management at the Vista Landfill which provides for the delivery of up to 35,000 tons of yard waste for recycling; the County entered into this contract to provide a facility that is closer to its franchise zones in the west and northwest parts of the County.

The methods used to manage yard waste and other organic materials such as food waste are likely to be a key solid waste planning issue in the future for Florida counties. On the one
hand, many environmental groups see organics, a large component fraction of the waste stream, as the next material that can be diverted from landfills through composting. On the other hand, recent regulatory changes now allow yard waste to be disposed in Class I landfills with landfill gas management systems, with the aim of boosting the energy production of those systems and reducing the cost of solid waste collection.

Besides Orange County, there are a number of other facilities that process and/or dispose of yard waste (refer to Figure 2-2). These include the privately-owned Class III landfills in the County and several source-separated organics processing facilities (facilities which transfer, recycle, and/or compost organic wastes). Two of the sites, RCID and the Vista Landfill, compost food waste.

**FIGURE 2-2. YARD WASTE AND ORGANIC PROCESSING FACILITIES**

Table 2-4 summarizes the tonnages handled by the yard waste and organics-processing facilities for the period 2008 to 2010 (again, this interval reflects the most recent available data from the FDEP’s Oculus website). Orange County and two of the private-sector Class III facilities (Vista Landfill and Golden Gem Landfill) currently account for the vast majority of yard waste managed in the County.
<table>
<thead>
<tr>
<th>Facility</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keene Road Landfill</td>
<td>20,404</td>
<td>8,871</td>
<td>0</td>
</tr>
<tr>
<td>Pine Ridge Landfill</td>
<td>6,110</td>
<td>6,356</td>
<td>3,855</td>
</tr>
<tr>
<td>Vista Landfill</td>
<td>0</td>
<td>5,920</td>
<td>12,093</td>
</tr>
<tr>
<td>City of Winter Park - Public Utilities</td>
<td>2,771</td>
<td>4,916</td>
<td>433</td>
</tr>
<tr>
<td>Whisper Winds Landscaping</td>
<td>0</td>
<td>0</td>
<td>1,353</td>
</tr>
<tr>
<td>RCID</td>
<td>4,401</td>
<td>4,070</td>
<td>4,323</td>
</tr>
<tr>
<td>Golden Gem Landfill</td>
<td>34,729</td>
<td>34,584</td>
<td>26,839</td>
</tr>
<tr>
<td>Shelley's Recycling</td>
<td>0</td>
<td>0</td>
<td>1,120</td>
</tr>
<tr>
<td>Winter Park Wood Recycling</td>
<td>0</td>
<td>0</td>
<td>1,120</td>
</tr>
<tr>
<td>Orange County</td>
<td>95,536</td>
<td>101,773</td>
<td>96,831</td>
</tr>
<tr>
<td>Total</td>
<td>163,951</td>
<td>166,490</td>
<td>146,846</td>
</tr>
</tbody>
</table>

Source:  
1. Tonnage reports to FDEP.  
Notes:  
1. Vista Landfill began operating in 2009, serving as the replacement landfill for Keene Road Landfill which ceased accepting waste in the same year.  
2. Winter Park Wood Recycling filed a facility registration application with FDEP in 2010 but did not report any tonnage handled.
Recyclables

In addition to disposal and composting services, Orange County also provides recyclables processing services at the Orange County Landfill. The Orange County Recovered Materials Processing Facility (RMPF) was built in 1990 and is currently operated under contract by Waste Management Recycle America. Recyclables delivered to the facility are generated within and around Orange County, as well as from the County’s McCormick Recyclables Transfer Station near Apopka (also operated by Waste Management Recycle America). More than 132,000 tons of recyclables were processed at the County’s RMPF in FY2011, of which approximately 14,000 tons (11 percent) was delivered from the County’s recycling transfer station.

Two other recycling facilities also receive and process recyclables within the County: the RCID Transfer Station and the WSI-Taft Transfer Station (see Figure 2-3). RCID recycled approximately 18,000 tons in 2011. WSI-Taft processed approximately 25,000 tons of recyclables in 2010. Together, these facilities process approximately 43,000 tons of recyclables, or about one-third of the amount processed at the County’s RMPF.

FIGURE 2-3. RECYCLING FACILITIES
Comparison with Other Florida Counties

The preceding discussion indicates that Orange County provides a comprehensive range of solid waste services. In order to further evaluate the operations of the County, a benchmark comparison of other large publicly-owned waste systems in Florida was performed. Table 2-5 summarizes the disposal assets of each jurisdiction.

TABLE 2-5. SUMMARY OF LARGE FLORIDA COUNTY WASTE SYSTEMS

<table>
<thead>
<tr>
<th>County/Authority</th>
<th>Landfill</th>
<th>Waste-to-Energy</th>
<th>Transfer Station</th>
<th>MRF</th>
<th>Compost/Mulch</th>
<th>HHW</th>
<th>System Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard Co.</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>855,000</td>
</tr>
<tr>
<td>Hillsborough Co.</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1</td>
<td>925,000</td>
</tr>
<tr>
<td>Lake Co.</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>180,000</td>
</tr>
<tr>
<td>Lee Co.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>625,000</td>
</tr>
<tr>
<td>Miami-Dade Co.</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,480,000</td>
</tr>
<tr>
<td>Orange Co.</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>780,000</td>
</tr>
<tr>
<td>Palm Beach SWA</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1,620,000</td>
</tr>
<tr>
<td>Seminole Co.</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>327,000</td>
</tr>
<tr>
<td>Volusia Co.</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>505,000</td>
</tr>
</tbody>
</table>

Source:
Figure 2-4 shows a plot of the operating expenses\(^5\) of each system (FY2010/11) versus the tons managed. Orange County’s costs fall below the trend line, indicating the County’s operating expenses (as a function of tonnage handled) are below the operating expenses of other large county solid waste systems in Florida.

\[\text{FIGURE 2-4. COMPARISON OF FLORIDA COUNTY SOLID WASTE SYSTEMS: OPERATING EXPENSES VS. SYSTEM TONNAGE}\]

\[\text{Operating Expenses: Operating Expenses exclude collection costs.}\]

\[^5\text{Operating expenses exclude collection costs.}\]
Figure 2-5 shows the same comparison of operating expenses, but only including counties in the central Florida region. Again, the County’s solid waste system expenses are comparable, though somewhat higher than, surrounding counties.

**FIGURE 2-5. COMPARISON OF CENTRAL FLORIDA SOLID WASTE SYSTEMS: OPERATING EXPENSES VS. SYSTEM TONNAGE**

Source: Annual Financial Reports (FY2010/11), except for Volusia County (FY2009/10). Orange County operating expenses adjusted to reverse the closure/post-closure cost adjustment reported in FY2010/11 and to include the average closure/post-closure cost from the previous 5 budget years.
Figure 2-6 shows a comparison of solid waste department staffing levels versus tonnage. The County’s staffing is in line with other solid waste systems in Florida.

**FIGURE 2-6. COMPARISON OF FLORIDA COUNTY SOLID WASTE SYSTEMS: STAFFING (FTEs VS. SYSTEM TONNAGE)**

Source: Annual Financial Reports (FY2010/11), except for Volusia County (FY2009/10).
Finally, Figure 2-7 compares annual residential assessments for solid waste collection and disposal services in the various jurisdictions. Excluding Palm Beach and Miami-Dade County, Orange County is at the higher end of the range. However, as noted in the market analysis in Technical Memorandum #1, per capita waste disposal rates are higher in Orange County than in neighboring counties and the statewide average, and this may increase Orange County’s residential assessment relative to other counties.

FIGURE 2-7. COMPARISON OF FLORIDA COUNTY SOLID WASTE SYSTEMS: RESIDENTIAL SOLID WASTE ASSESSMENTS

Orange County appears to compare favorably with other large public waste systems in Florida. However, potential efficiencies will continue to be examined during the financial review in Phase 3 of this study.

Note: Lee County and Palm Beach County assessments are not equal for all residents. Lee County assessment shown is an average. Two assessment values are shown for Palm Beach County to better reflect their range in assessments.
Waste Flows

The first technical memorandum presented background information on waste quantities and a preliminary identification of waste flows within and around Orange County. A closer evaluation of tonnage data on a facility basis by waste source (residential / commercial) and by waste type (e.g., Class I, Class III) has been performed for this memorandum.

Figure 2-8 presents total Class I tonnages received at all Orange County facilities, separated into residential and commercial sources (beginning in 1996). Residential Class I waste tonnages handled at the County’s facilities increased steadily from 1996 to 2007, but declined thereafter due to the prolonged economic downturn.

Commercial Class I tonnage decreased sharply from 1996 to 2000. This time period coincided with the opening of Waste Management’s Kaley Street Transfer Station (the Kaley Street Transfer Station operated from 1997 until 2002, when Waste Management’s current transfer station on McLeod Road opened). The operation of that facility led to a drop of 180,000 tons in commercial waste volumes for the County over the next 4 years.

Beginning in 2000, commercial waste volumes at the County’s facilities began to increase again, almost reaching prior levels in 2008. However, after 2008, commercial tonnages again began to decline sharply. This may have been due to the recession, but the County’s 20 percent increase in tipping fees which was phased in beginning in 2009 may also have diverted some waste out of the system.
FIGURE 2-8. ORANGE COUNTY SYSTEM: CLASS I TRASH TONNAGES

Waste Management Transfer Station begins operating
Waste Services begins operating Taft Recycling
Phased increase of County tipping fee begins

Tons Thousands


0 100 200 300 400 500 600 700 800

Thousands

Residential Commercial Total

2002 2005 2007 2008 2009 2010

Orange County - Solid Waste System Evaluation
August, 2012
Residential Class I waste at McLeod Road Transfer Station has been generally stable from 1996 to 2011, with some growth evident after 2000 until the recession hit as shown on Figure 2-9.

Commercial Class I tonnage decreased from 1996 to 2000, coinciding with development of the Waste Management transfer station, but subsequently grew rapidly up until the recession. The opening of the WSI-Taft Transfer Station in 2006 does not appear to have immediately impacted the McLeod operation. The drop in tonnages beginning in 2009 was likely in part caused by the downturn in the economy, but may also partially have been caused by the increase in the County’s tipping fee.

**FIGURE 2-9. MCLEOD TRANSFER STATION: CLASS I TRASH TONNAGES**

![Graph showing Class I trash tonnages from 1992 to 2011.](image)

- Residential
- Commercial
- Total

- Waste Management Transfer Station begins operating
- Waste Services begins operating Taft Recycling
- Phased increase of County tipping fee begins

Technological Memorandum 2
Class I tonnage data for Porter Transfer Station is shown on Figure 2-10. Porter Transfer Station has historically received more residential waste than commercial waste. Residential waste tonnage increased steadily between 1996 and 2007 before leveling off during the economic downturn.

Commercial Class I tonnages have been fairly stable, with peak years in 1997 and 2005. Commercial tonnage started to decline beginning in 2005; this is likely not due to the opening of the WSI-Taft Transfer Station in 2006 because the two facilities have different service areas. The decrease in commercial tonnage since 2005 is more likely a result of the economy.

**FIGURE 2-10. PORTER TRANSFER STATION: CLASS I TRASH TONNAGES**
Finally, Figure 2-11 shows residential and commercial waste that is direct-hauled to Orange County Landfill. Residential tonnage generally grew through 2005 before retreating and leveling off.

Commercial waste volumes have declined markedly since 1996. The initial decline in 1997 coincides with the opening of the Waste Management transfer station. Tonnages stabilized between 1998 and 2007, then experienced another significant drop. Again, this may be related to the increase in the County's tipping fee as well as the poorly performing economy.

FIGURE 2-11. ORANGE COUNTY LANDFILL DIRECT HAUL: CLASS I TRASH TONNAGES
Although the total system tonnage has fluctuated with periods of notable growth as well as periods where significant tonnage was lost to competition, transfer tonnages have shown a steady increase up until the recession hit (see Figure 2-12). Both stations are currently operating near capacity. This suggests that the transfer stations provide value and serve a compelling need for transfer capacity in the more densely populated western half of the County.
Customer records for the Orange County system were also reviewed to identify trends. Table 2-6 summarizes the data for the past five fiscal years (FY06/07 through FY10/11), with customers segmented by sector.

<table>
<thead>
<tr>
<th>Customer Sector</th>
<th>FY06/07</th>
<th>FY07/08</th>
<th>FY08/09</th>
<th>FY09/10</th>
<th>FY10/11</th>
<th>Percent Change, FY06/07-FY10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninc. Franchise Haulers</td>
<td>250,768</td>
<td>267,117</td>
<td>246,397</td>
<td>236,081</td>
<td>236,459</td>
<td>-6%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>23%</td>
<td>24%</td>
<td>27%</td>
<td>29%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Municipal Collection</td>
<td>168,238</td>
<td>177,989</td>
<td>161,984</td>
<td>157,096</td>
<td>148,305</td>
<td>-12%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>15%</td>
<td>16%</td>
<td>17%</td>
<td>19%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Major Haulers</td>
<td>283,572</td>
<td>281,333</td>
<td>230,046</td>
<td>195,941</td>
<td>185,254</td>
<td>-35%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>26%</td>
<td>25%</td>
<td>25%</td>
<td>24%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Cash Customers</td>
<td>115,728</td>
<td>116,118</td>
<td>105,743</td>
<td>92,393</td>
<td>83,045</td>
<td>-28%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>All Other Customers</td>
<td>291,412</td>
<td>263,706</td>
<td>181,712</td>
<td>125,628</td>
<td>136,973</td>
<td>-53%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>26%</td>
<td>24%</td>
<td>20%</td>
<td>16%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,109,718</td>
<td>1,106,263</td>
<td>925,882</td>
<td>807,139</td>
<td>790,037</td>
<td>-29%</td>
</tr>
<tr>
<td>Number of Customers</td>
<td>217</td>
<td>211</td>
<td>185</td>
<td>183</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Top 25 Customers</td>
<td>878,417</td>
<td>881,663</td>
<td>740,073</td>
<td>657,395</td>
<td>641,772</td>
<td>-27%</td>
</tr>
<tr>
<td>Percent of Total</td>
<td>79%</td>
<td>80%</td>
<td>80%</td>
<td>81%</td>
<td>81%</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Unincorporated Franchise Haulers includes the County's residential franchise collection, Zones 1 through 5.
2. Municipal Collection includes collection by the municipalities of Apopka, Ocoee, Orlando, and Winter Garden.
4. Totals may not exactly match system tonnages reported elsewhere.

Tonnage delivered by every customer sector has decreased over the past five years, with the decrease ranging from 6 percent to 53 percent. Residential tonnage from the unincorporated zones and from the four large municipalities decreased by approximately 34,000 tons (8 percent); this decrease is attributed to the economic downturn. Tonnage delivered by cash customers (which may include individuals, businesses, and small customers without accounts with the County) decreased by nearly 33,000 tons (28 percent); this decrease is also attributed primarily to the economy.
The tonnage delivered by major haulers (including Republic Services, Veolia ES, Waste Management, Waste Pro, and Waste Services) decreased by approximately 98,000 tons (35 percent) in the past five years. While a portion of this decrease may be due to economic conditions, tonnage delivered by Waste Management and Waste Services has dropped at a greater rate than for other haulers, indicating they may be taking more waste to their own transfer stations.

Tonnage delivered by the remaining accounts ("All Other Customers") decreased approximately 154,000 tons (53 percent), representing nearly half of the overall decrease in tonnage. These customers include many roll-off container businesses, which provide temporary service to support construction activities which have seen significant decreases in their business as a result of the recession and corresponding decline in construction activity.

The number of accounts has also declined, likely due to small haulers going out of business due to the housing bust. The County’s system served 217 accounts in FY06/07, decreasing to 171 accounts in FY10/11.

The top 25 customers historically have delivered approximately 80 percent of the waste to the County. The County has, in the past, pursued Interlocal Agreements with the municipalities and waste delivery agreements with private haulers. Those agreements proved useful in securing waste flow into the system.
Technical Memorandum #3
Financial Review, Legal and Political Review, Structural Review

Prepared for
Orange County
Solid Waste Division

December 2012
Introduction

Orange County has commissioned Shaw Environmental, Inc. (Shaw) to assist the Orange County Utilities (OCU) Solid Waste Division to prepare a comprehensive assessment of the County’s solid waste management system. The overall objectives of the study include:

- Identify operational efficiencies
- Reduce costs
- Stabilize waste flows

The research and analytical work is being performed in three phases as shown below:

**Phase 1**
- Background document review
- Market analysis

**Phase 2**
- Operations review
- Waste flow analysis

**Phase 3**
- Financial review
- Legal and political review
- Structural review

This technical memorandum is the third of three interim reports that will be prepared as part of the Solid Waste System Evaluation for Orange County. The first memorandum provided background information and an analysis of the solid waste market in Orange County and central Florida. The second memorandum provided an analysis of the components of the Orange County solid waste system and how they function together to provide comprehensive solid waste management services, and provided further analysis of amounts and types of waste materials handled by the Orange County waste system.

This third memorandum addresses the Phase 3 study components. Based on the analyses conducted during the three study phases, a number of options to improve operational efficiencies, reduce costs and stabilize waste flows were identified and evaluated. These options were compared with “current conditions” to evaluate the impact of each option. The options/scenarios evaluated include the following:

1. Current conditions
2. Stabilization of landfill closure and long-term care cost projections
3. Combine Class III waste into the Class I landfill
4. Commercial waste franchise in unincorporated areas
5. Combine yard waste into the Class I landfill
6. Privatize transport of waste from transfer stations
7. Eliminate transfer stations

Each of these options is analyzed in this technical memorandum. Economic impacts are discussed based on financial modeling of the OCU system. Legal\(^1\) and political considerations are also discussed, as are the structural impacts on the OCU system.

**Scenario 1. Current Conditions**

This scenario evaluates the OCU system based on current conditions and assuming that no changes are made to existing programs and facilities. As noted in Technical Memorandum 1, OCU operates one of the largest publicly-owned solid waste systems in Florida. The comprehensive services provided by OCU include:

- Class I and Class III landfills
- Two waste transfer stations (McLeod and Porter)
- One recyclables transfer station
- Recycled materials processing facility (RMPF)
- Yard waste/compost processing facility
- Household hazardous waste facility
- Waste tires processing facility
- Small vehicle drop-off facility (located at landfill)

The comprehensive facilities and programs offered by OCU represent an integrated program to meet the recycling/diversion and disposal needs of residents and businesses within Orange County. As discussed in Technical Memorandum 2, a number of other entities also manage components of the overall waste stream generated in Orange County, but OCU is the largest single-source provider of comprehensive services to manage all types of waste from Orange County.

The Solid Waste Division operates as an enterprise fund. The majority of revenues are received from tipping fees. Customers are charged the same tipping fee whether they use one of OCU’s transfer stations or take waste directly to the landfill. Currently, the tipping fees charged are $37.10 per ton for residential Class I waste, $39.80 per ton for commercial Class I waste, $25.60 per ton for Class III waste, and $29.00 per ton for yard waste. In addition to tipping fees, the enterprise fund also receives revenues from host fees paid by the private operator of the RMPF and landfill gas payments.

As indicated in Figure 3-1, in FY2011 tipping fees accounted for 95 percent of system revenues. The balance of revenues was from host fee payments and landfill gas payments.

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\(^1\) Orange County retained independent legal counsel as part of this study to assist in reviewing legal parameters.
The largest cost centers within the system are the Class I landfill, Class III landfill, and the transfer stations. Other cost centers include the yard waste operation and management of sludge and tires. The OCU system is now operated to fund future construction projects, such as construction of Class I disposal cells, out of system revenues. Therefore, a reserve account has been established to accumulate funds for planned future construction activities, and this also represents a significant component of total system costs.

On the next page, Figure 3-2 shows a breakdown of the major Class I tipping fee cost components, which constitutes the largest waste stream managed by OCU. This tipping fee includes the costs of the Class I landfill and the transfer stations. Historical data is provided for FY2010 and FY2011. The tipping fee is the average of the Class I residential and commercial waste tip fees in effect during each year. The average tipping fee is lower in FY2010 because that was the second year of a three-year phased increase in Class I tipping fees; the average tipping fee in FY2011 represents the current tipping fees for residential waste ($37.10 per ton) and commercial waste ($39.80 per ton).

The per ton costs of the OCU system vary based on incoming tonnage. In FY2010, the system handled 608,344 tons of Class I waste. In FY2011, the system handled 564,762 tons of Class I waste, a decrease in tonnage of 7 percent. Because some of the cost components are fixed in nature, some categories show an increase in per ton costs. The capital category, which includes equipment, smaller capital projects and landfill closure and long-term care (LTC) costs, increased from $11.99 per ton to $14.13 per ton because of reduced tonnage and an increase in estimated capital expenses. The construction reserve represents the reserve fund for major construction projects such as future Class I disposal cells.

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2 Capital expenses vary from year to year, and therefore average values over multiple years were used to compute per ton capital costs. Closure/LTC costs in Figure 3-2 are an average over the prior 7 years. Equipment and other minor capital represent an average of budgeted amounts over the next 5 years based on the CIP budget. Some additional planned transfer station capital was pulled into the 5-year average for the FY2011 tipping fee breakdown, which contributed to the higher cost per ton for the “capital” category in that year.
Figure 3-2 also indicates that OCU has taken steps to control costs in response to the decrease in tonnage and economic downturn. Labor, equipment maintenance and other operating expenses were generally comparable between the two years, notwithstanding the decrease in tonnage of 7 percent.

As noted in Technical Memorandum 1, Orange County has historically kept tipping fees fixed (refer to Figure 3-3). Over the nearly 20-year period from 1993 to 2011, the County increased tipping fees twice: in 1995, when the tipping fee for commercial waste was increased; and during the period 2009-2011, when the increase was phased-in over three years to lessen the impact on customers. During the period 1993-2011, the annualized average increase in residential tipping fees amounted to 1.1 percent per year, much lower than the 2.5 percent average annual increase in the CPI. Tipping fees are comparable to other publicly-owned solid waste systems in Florida (refer to Figure 3-4).
FIGURE 3-3. OCU TIPPING FEES: ACTUAL VS. CPI ESCALATED

![Graph showing the comparison between actual tipping fees and CPI escalated fees for Orange County. The graph includes data from 1993 to 2011, with tipping fees ranging from $25.00 to $50.00 per ton. The graph is color-coded to differentiate between residential and commercial fees, with a line for 1993 Tip Fee Escalated at CPI (South Urban). Source: U.S. Bureau of Labor and Orange County data.]

FIGURE 3-4. 2012 CLASS I TIP FEES AT PUBLICLY-OWNED LANDFILLS

![Bar chart showing the 2012 Class I tip fees at publicly-owned landfills in various counties. The chart includes data for Brevard County, Seminole County, Orange County - Residential, Polk County, Orange County - Commercial, Lake County, and Statewide Average (2009). The fees range from $0.00 to $45.00 per ton.]

Source: U.S. Bureau of Labor and Orange County data.
To evaluate the future costs and tipping fees of the OCU waste system under current conditions, a financial model was developed based on the budget proforma model used by OCU to prepare annual budget requests. This model was also used to evaluate the financial impacts of other options/scenarios.

The OCU budget model forecasts system revenues and budgeted expenses for an 8-year period (FY2012-FY2020). The model that Shaw developed for this study extended the analysis through the remaining operating life of the Class I landfill, which varies by scenario depending on the tonnage of waste disposed in the Class I landfill. This was done to analyze the impact of future major capital projects (e.g., construction of new landfill cells) on system tipping fees over a longer time period.

As noted earlier, the current conditions scenario assumes that the OCU system continues to operate existing programs and facilities. Current tipping fees are held fixed for as long as possible to meet annual operating costs as well as future construction costs.

Waste projections are based on FY2011 system tonnages as a starting value, with future tonnage growth consistent with projected population growth in Orange County. No increase in per capita disposal amounts was assumed, although historically per capita disposal quantities have increased during periods of economic growth (meaning that waste quantities grew faster than population).

Fixed operating costs (as classified in the OCU budget model) were escalated at 3 percent per year. Variable operating costs (as classified in the OCU budget model) were escalated based on tonnage growth plus 3 percent per year for underlying inflation.

A reserve fund for future capital requirements, including equipment, minor capital projects, and major capital projects such as cell construction is also funded through the tipping fee. Deposits into the landfill closure and long-term care reserve fund are also paid through the tipping fee.

A key assumption underlying the financial projections is that current system waste tonnages will be sustained. One of the goals of the solid waste study is to identify options to better assure waste deliveries to the OCU system.

Historically, OCU has negotiated Interlocal Agreements (ILAs) with municipal customers. Except for the agreement with the City of Orlando, those ILAs have recently expired, although the communities continue to deliver waste to the OCU system. A key implementation step for this scenario (and other options) will therefore be negotiating new ILAs with municipalities.

OCU also has waste delivery agreements with a number of private haulers. In addition, Waste Management has agreed to deliver waste through FY2017 as part of its contract with the County to operate the RMPF. There are currently 26 private haulers licensed by the

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3 See discussion in Technical Memorandum 1.
4 Securing new waste delivery agreements with municipalities and large private haulers will provide a key benefit of sustaining waste flow to the system. As discussed in Technical Memorandum 2, the OCU system currently accepts waste from “cash” customers and roll-off businesses; these customers provide tonnage to the system in addition to waste delivered under agreements with municipalities and large haulers.
County to collect waste in the unincorporated areas, with the majority of waste collected by a relatively small number of large haulers. Securing waste delivery agreements from private haulers is also an important implementation step for this scenario (and other options).

The key assumptions for the current conditions scenario can therefore be summarized as follows:

- No change to current operations.
- Future tonnage growth consistent with population growth in the County.
- Long-term waste delivery agreements secured from municipalities and private haulers.
- Current tipping fees held fixed as long as possible (residential Class 1 waste = $37.10/ton, commercial Class I waste = $39.80/ton).
- Variable and fixed operating costs escalated at 3 percent/year (variable operating costs also increased based on tonnage growth).

Based on these assumptions, the Class I landfill is projected to have capacity through FY2041. Projected Class I tipping fees are summarized in Table 3-1 below:

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2021</th>
<th>FY2031</th>
<th>FY2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I Residential</td>
<td>$37.10</td>
<td>$37.10</td>
<td>$38.60</td>
<td>$40.10</td>
</tr>
<tr>
<td>Class I Commercial</td>
<td>$39.80</td>
<td>$39.80</td>
<td>$41.70</td>
<td>$43.10</td>
</tr>
<tr>
<td>Projected Increase</td>
<td></td>
<td>0.0%</td>
<td>4.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Residential - CPI Inflated (2.5 %/year)</td>
<td>$45.20</td>
<td>$57.86</td>
<td>$74.07</td>
<td></td>
</tr>
</tbody>
</table>

Assuming operations and tipping fees are maintained at their current levels, it is projected that tipping fees can be held fixed at current rates until FY2031. Future escalations will be required, but at 4 percent in FY2031 and 4 percent in FY2041 would represent increases well below the historical rate of inflation (for comparison purposes, Table 3-1 shows what the residential tipping fee would be if escalated at the historical rate of inflation).

However, under these assumptions, the model indicates that operating reserves begin to be depleted in later years (beginning approximately in FY2037) for this option, which is not a desirable business condition. A higher rate increase in FY2041 might be required depending on the Class I disposal option used after the current Class I facility is filled to capacity.

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5 This occurs because tipping fees are held fixed for extended periods of time, while operating and maintenance costs are assumed to escalate every year.
Findings

Overall, under current operating and rate conditions, the OCU waste system provides significant value to customers, with future tipping fees projected to escalate at a lower rate than inflation. As noted in Technical Memorandum 1, most long-term public disposal contracts with private landfills have annual CPI-based rate increases, and in some cases additional escalations for increases in fuel prices.

The key findings of this option are summarized below:

- Class I landfill capacity will extend through FY2041 with existing and planned expansions of the Class I landfill.
- Tipping fees can be held fixed at current levels until FY2031.
- Tipping fees will require escalation after FY2031 (but are projected to be lower than if escalated at the historical rate of inflation).

Scenario 2. Stabilization of Landfill Closure and Long-term Care Cost Projections

Florida Department of Environmental Protection (FDEP) regulations require landfill owners to provide financial assurance for closure and long-term care (LTC) of landfills. The financial assurance is a requirement for obtaining a permit to operate a landfill. Landfill closure consists primarily of placing an engineered cover system over completed sections of the landfill. Long-term care activities include maintenance and monitoring of the landfill for a minimum 30-year period after the landfill is closed.

As part of its enterprise funding, OCU has established a closure and long-term care reserve fund to pay for future closure and long-term care of the landfills. Each year, a portion of current tipping fees is set aside in the reserve fund to pay for those future expenses. The purpose of the reserve fund is to accumulate funds while the landfill is operating and generating revenue in a sufficient amount to pay for closure and long-term care when the capacity of the landfill is depleted.

Every year (as required by FDEP), OCU’s engineering consultant prepares an annual update of future projected closure costs and long-term care costs for the Class I and Class III landfills. These cost projections are used to estimate annual required deposits to the closure and long-term care reserve fund.

During the years of the housing boom, construction costs were escalating at a high rate, which led to higher projected future closing and long-term care costs. The most recent increase in OCU’s tipping fees (phased-in over three years beginning in FY2009) was instituted to address those rising costs. Following the recession, however, construction costs have moderated and stabilized. This stabilization in construction costs allows for lower projected future deposits to the closure/LTC reserve fund, while still providing a high level of financial assurance.

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6 OCU intends to place final cover over sections of the landfill during its operating life; thus, total closure costs will not be deferred until the entire landfill reaches capacity. These interim capping events will be paid for out of the closure/LTC reserve fund.
This scenario assumes that there is no change to current operations in the OCU waste system. However, due to stabilization that has occurred in projected closure and long-term care costs for the landfills, a lower tipping fee can be offered to customers. Moreover, a single tipping fee can be established for both residential and commercial waste.

The key assumptions for this scenario are as follows:

- No change to current operations.
- Future tonnage growth consistent with population growth in the County.
- Long-term waste delivery agreements secured from municipalities and private haulers.
- Eliminate disparity between current residential and commercial waste tipping fee and establish single, lower tipping fee for Class I waste.
- Projected future escalations in tipping fees approximately every 10 years.
- Variable and fixed operating costs escalated at 3 percent/year (variable operating costs also increased based on tonnage growth).

Based on these assumptions, projected Class I tipping fees are summarized in Table 3-2:

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2021</th>
<th>FY2031</th>
<th>FY2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I Residential</td>
<td>$33.60</td>
<td>$37.00</td>
<td>$40.70</td>
<td>$44.80</td>
</tr>
<tr>
<td>Class I Commercial</td>
<td>$33.60</td>
<td>$37.00</td>
<td>$40.70</td>
<td>$44.80</td>
</tr>
<tr>
<td>Projected Increase</td>
<td></td>
<td>10.0%</td>
<td>10.0%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

The reduction in tipping fees represents savings of $3.50 per ton for residential customers ($37.10/ton - $33.60/ton) and $6.20 per ton for commercial customers ($39.80/ton - $33.60/ton) versus current Class I tipping fees. Because this represents a significant reduction from current tipping fees, municipalities and haulers will have a significant incentive to renew their Interlocal Agreements or waste delivery agreements. In addition, the lower tipping fee may serve to attract additional tonnage to the system that might currently be disposed at competing facilities.

Over time, tipping fees would have to be increased to cover escalation in operations and maintenance costs. The tipping fee increases were modeled assuming an increase every 10 years -- this is consistent with the historical practice of maintaining stabilized tipping fees (since OCU’s most recent price increase was completed in FY2011, the next increase was

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For clarity, the current conditions scenario also reflects stabilization of closure and LTC costs; however, that scenario assumed current tipping fees are held fixed until FY2031 (i.e., no near-term rate reduction).
assumed to occur in FY2021). However, the increase could potentially be phased-in over more than one year to lessen the impact on customers.

The 10 percent increases over 10 years represent an average escalation of less than 1 percent per year. This is well below the historical rate of inflation and, in addition to the proposed reduction in Class I tipping fees, provides additional value to customers.

Implementation of this option could be achieved in FY2013 and would require the Board of County Commissioners to pass a new rate resolution. The new Class I rate of $33.60 per ton would be offered to all current customers of the OCU system.

Findings

The key findings of this option are summarized below:

- Class I landfill capacity will extend through FY2041 with existing and planned expansions of the Class I landfill.
- Establish single Class I tipping fee of $33.60 per ton.
- Savings of $3.50/ton for residential customers (10 percent reduction from current residential tipping fee).
- Savings of $6.20/ton for commercial customers (16 percent reduction from current commercial tipping fee).
- Projected future tip fee escalations below historical rate of inflation.

Scenario 3. Combine Class III Waste into Class I Landfill

Class III waste generally consists of bulky materials such as construction and demolition debris, yard trash, processed tires, cardboard, asbestos, glass, etc. Class I waste generally consists of garbage from homes and businesses. Currently, OCU operates separate landfill units for each type of waste.

In this scenario, Class III waste would be disposed in the Class I landfill instead of operating two disposal units. The Class III landfill would not be closed, but would be operated at minimal tonnages to keep the permit active. Total system tonnage would remain the same as projected in previous scenarios. However, due to placing both types of materials in the Class I landfill, the projected operating life of the Class I landfill is reduced to FY2034 versus FY2041 under the Current Conditions scenario.

There are a number of reasons that support disposing of Class III waste in the Class I landfill. First, tonnages of Class III waste managed by the OCU system have declined significantly as the result of the housing and economic downturn, decreasing from 379,842 tons in FY2006 to 122,600 tons in FY2011, a reduction of 257,242 tons. During the same time period, Class I volumes decreased from 692,306 tons to 562,021 tons, a reduction of 8 There are other potential expansion areas for new Class I disposal units on the OCU property, though.
130,285 tons. Disposing of the diminished quantities of Class III waste into the Class I unit would largely offset the reduction in Class I waste quantities.

Second, most private regional competing landfills do not operate separate disposal units for Class I waste and Class III waste. This option would therefore allow OCU to operate on a more comparable basis with competing regional landfills.

Implementation of this option would require operational changes, but could be done relatively quickly (FY2014) and would not materially impact current Class III customers. Consultation with FDEP prior to implementation would be required to inform state regulators about the intended plan.

Financially, cost savings would be achieved through savings in labor and other operation and maintenance costs based on OCU’s current allocation of costs to the Class III landfill. Additional cost savings would be achieved through reduced equipment and capital expenditures. Annual deposits to the Class I closure/LTC reserve fund would increase, because more tons would be placed in the Class I landfill. Annual deposits to the Class III closure/LTC reserve fund would decrease, however.

The tipping fee charged for Class III waste would be maintained at the current rate of $25.60 per ton to help assure continued capture of Class III materials. The Class I tipping fee would be reduced based on the projected cost efficiencies to the overall system.

The key assumptions for this option are as follows:

- No change to current system tonnage, but Class III waste would be disposed in Class I landfill.
- Future tonnage growth consistent with population growth in the County.
- Long-term waste delivery agreements secured from municipalities and private haulers.
- Operation and maintenance costs savings from eliminating separate Class III operations.
- Annual Class I closure/LTC escrow deposits increased; annual Class III closure/LTC escrow deposits decreased.
- Current tipping fees for Class III waste maintained to preserve waste deliveries; tipping fees for Class I waste reduced based on cost efficiencies and handling more tonnage in the Class I landfill.
- Projected future escalations in tipping fees approximately every 10 years.
- Variable and fixed operating costs escalated at 3 percent/year (variable operating costs also increased based on tonnage growth).
Based on these assumptions, projected Class I tipping fees are summarized in Table 3-3:

<table>
<thead>
<tr>
<th>TABLE 3-3. COMBINE CLASS III/CLASS I SCENARIO - PROJECTED TIPPING FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Class I</td>
</tr>
<tr>
<td>Class III</td>
</tr>
<tr>
<td>Projected Increase</td>
</tr>
</tbody>
</table>

Under this option, the Class I tipping fee would be reduced to $30.50 per ton in FY2014 (this rate also includes the savings from the stabilization in closure/LTC costs discussed previously). The reduction in tipping fees represents a savings of $6.60 per ton for residential customers (= $37.10/ton - $30.50/ton) and $9.30 per ton (= $39.80/ton - $30.50/ton) for commercial customers versus current Class I tipping fees. Again, the lower rate is a significant benefit to customers and is an incentive to renew Interlocal Agreements and secure hauler waste delivery agreements.

Tipping fees would have to be increased over time to cover escalation in operations and maintenance costs. However, future increases are projected at 7 percent over 10 years and therefore reflect further potential stabilization of rates.

Implementation of this option would not materially impact customers, and the current Class III tipping fee would be maintained. Further, Class III waste can legally be disposed in a Class I landfill. Prior to implementation, however, consultation with the Florida Department of Environmental Protection would be prudent to inform FDEP of the intended plan.

However, this option would require operational changes to the handling of Class III waste at the OCU landfill. For instance, a larger active face would be required at the Class I disposal unit. As a result, the lower tipping fee under this option would only be offered as contract pricing to municipalities that sign an Interlocal Agreement and private haulers that execute a waste delivery agreement to ensure that a long-term and consistent waste stream is committed to the system.

Implementation steps would include:

- Meet with FDEP to verify that Class III unit can remain active while accepting minimal quantities of waste and that closure and long-term care activities would not be required until the unit reaches capacity.
- In early FY2013, negotiate with municipalities to renew their Interlocal Agreements, offering the $30.50 per ton as a contract price for Class I waste.
- In early FY2013, negotiate waste delivery agreements with private haulers, offering the $30.50 per ton as a contract price for Class I waste.
- Maintain current tipping fee rate of $25.60 per ton for Class III waste.
During FY2013, prepare Class I landfill to receive Class III waste commencing in FY2014.

Findings

The key findings of this option are summarized below:

- Class I landfill capacity will extend through FY2034 with existing and planned expansions of the Class I landfill.
- Potential implementation in FY2014.
- Implement as a contract option with Class I tipping fee of $30.50 per ton (lower tipping fee would also be used to calculate future residential solid waste assessments for households in unincorporated areas served by the County's mandatory collection program).
- Savings of $6.60/ton for residential customers (18 percent reduction from current residential tipping fee) that execute an Interlocal Agreement.
- Savings of $9.30/ton for commercial customers (23 percent reduction from current commercial tipping fee) that execute a waste delivery agreement.
- Projected future tip fee escalations below historical rate of inflation.

Scenario 4. Commercial Waste Franchise in Unincorporated Areas

Background

Under this option, the County would consider the potential implementation of commercial waste franchises in unincorporated areas with the objective of assuring commercial waste volumes by specifying the collected waste is disposed at an OCU facility. Historically, commercial waste has accounted for 45 to 60 percent of the total Class I waste delivered to the OCU solid waste system. As noted previously, the OCU waste system is principally funded though tipping fees, and therefore system revenues are dependent on incoming waste volumes. Maintaining waste deliveries is a key element in sustaining projected tipping fees, and in reducing fluctuations in waste tonnages and the associated financial instability and pressure on rates.

Franchise agreements are relatively common in Florida for the collection of residential and/or commercial waste. A recent study performed by Alachua County found that at least 42 counties in Florida have exclusive franchise agreements for residential waste collection, and 26 of those agreements also included commercial waste. Another study performed for Escambia County included a survey of 39 counties and municipalities; 30 respondents indicated that franchise agreements are used for residential waste collection, and 25 respondents indicated that franchise agreements are also used for commercial waste collection.

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Franchise agreements can be exclusive, in which a hauler is given the exclusive right to collect waste within a designated zone, or non-exclusive, in which multiple haulers are given the right to collect waste within the jurisdiction. Exclusive franchises will often specify the rates that may be charged to collection customers, whereas rates under non-exclusive franchises are typically established by agreement between the hauler and customer. Typically, non-exclusive franchises are easier to implement because commercial waste generators do not have to be assigned to specific franchise zones.

Franchise agreements are also used extensively in Orange County. The County has residential franchise agreements for 5 zones in the unincorporated areas of the County. Many of the municipalities in the County use franchise agreements as well (when collection services are contracted to private haulers), and typically the agreement includes residential and commercial waste.

In the unincorporated areas of the County, commercial waste is hauled under licenses issued by the County pursuant to Section 32-178 of the Orange County Code. The licenses specify the types of waste that may be collected by the licensee (multi-family waste, construction and demolition debris, or other commercial waste) and are issued for a 5-year term. In FY2012, there were 26 haulers licensed by the County, of which 18 were licensed to haul Class I materials and 24 were licensed to haul Class III materials. Commercial waste generators may self-haul waste and are not required to have a license to do so.

Franchise agreements can specify that designated facilities will be used for the disposal of waste. The County’s unincorporated residential franchise agreements, for instance, specify that collected waste materials will be brought to OCU facilities. The franchise agreements in municipalities in Orange County, however, do not specify a disposal location.

Some of the existing franchise agreements in other counties also specify disposal locations. Lee County and Brevard County, for instance, have exclusive franchises for the collection of residential and commercial waste and specify that waste must be disposed at designated facilities. Clay County and Seminole County have non-exclusive franchise agreements for the collection of commercial waste that must be disposed at designated facilities. Hillsborough County employs a hybrid agreement -- collection of residential waste is performed under exclusive franchise agreements; in order to have the right to compete for commercial waste accounts, a hauler must have a residential franchise agreement.

Legal and Political Implications

Commercial franchise agreements appear to be relatively common in Florida, and in some cases those agreements specify that the commercial waste collected be disposed at designated county facilities. Nonetheless, implementation of a franchise for commercial waste collection in unincorporated Orange County, which specified disposal of waste at OCU facilities, would potentially result in opposition and legal challenges.

From a political standpoint, a commercial franchise would potentially generate opposition from private haulers and the business community. Two large haulers, Waste Management and Waste Services, have developed transfer stations in the County and, as discussed in Technical Memorandum #2, currently handle significant quantities of waste from the County. A commercial waste franchise in the unincorporated areas would likely impact the quantities of waste managed by those two facilities.
Other haulers might have mixed reactions to the commercial waste franchise. Some haulers might be opposed to it on the grounds they want flexibility to select a disposal location. On the other hand, smaller haulers that do not own disposal facilities might be less opposed to a commercial franchise since all haulers would be required to use OCU facilities, thereby making the cost of collection and level of collection service the key differentiators in the pricing of commercial waste services. However, that assumes the commercial franchise would be non-exclusive; small haulers would be expected to oppose an exclusive franchise because they may not have the trucks required to serve a large franchise zone.

From a legal standpoint, implementation of a commercial waste franchise would also trigger the requirements of Section 403.70605(3) of the Florida Statutes, the so-called “hauler displacement” law, which requires a public hearing and a 3-year notice to haulers under certain circumstances:

(b) A local government or combination of local governments may not displace a private company that provides garbage, trash, or refuse collection service without first:

1. Holding at least one public hearing seeking comment on the advisability of the local government or combination of local governments providing the service.

2. Providing at least 45 days’ written notice of the hearing, delivered by first-class mail to all private companies that provide the service within the jurisdiction.

3. Providing public notice of the hearing.

(c) Following the final public hearing held under paragraph (b), but not later than 1 year after the hearing, the local government may proceed to take those measures necessary to provide the service. A local government shall provide 3 years’ notice to a private company before it engages in the actual provision of the service that displaces the company. As an alternative to delaying displacement 3 years, a local government may pay a displaced company an amount equal to the company’s preceding 15 months’ gross receipts for the displaced service in the displacement area. The 3-year notice period shall lapse as to any private company being displaced when the company ceases to provide service within the displacement area. Nothing in this paragraph prohibits the local government and the company from voluntarily negotiating a different notice period or amount of compensation.

Certain exemptions are provided under which a local government’s provision of services would not be considered a “displacement”, one of which would apply to Orange County:

(a) As used in this subsection, the term “displacement” means a local government’s provision of a collection service which prohibits a private company from continuing to provide the same service that it was providing when the decision to displace was made. The term does not include:

8. Situations in which the private companies are licensed or permitted to do business within the local government for a limited time and such license or permit expires and is not renewed by the local government. This subparagraph does not apply to licensing or permitting process enacted after May 1, 1999, or to occupational licenses.
Because Orange County licenses commercial waste haulers in the unincorporated areas for 5-year terms, and the licensing program was adopted prior to May 1, 1999, this exemption would presumably apply. However, since licenses are issued on a rolling basis, they would not all be expected to expire on the same date. As a result, this exemption might pose practical challenges for implementation, since existing licenses would expire over an extended period of time.

The County retained the services of independent legal counsel, Mr. Robert Apgar, to provide legal assistance on questions related to implementation of a commercial waste franchise. Mr. Apgar prepared a memo addressing the legal issues that could arise if the County replaces the current commercial hauling licensing program with a franchise system (refer to Attachment A). Mr. Apgar's major conclusion was as follows:

Pursuant to this plenary power, local governments have broad discretion to regulate private waste haulers in unincorporated areas through licensing or franchises, or to displace private waste haulers in favor of government services. Thus, Orange County may choose to replace the existing licensing system with a franchise system. The franchise may be non-exclusive, or the County could choose to grant an exclusive franchise to an operator in a designated zone, similar to the County's current franchise system for residential waste collection in the unincorporated areas of the County. Alternatively, the County could displace private collectors and take over solid waste collection as a purely public function.

Mr. Apgar also concluded that it would be to Orange County's advantage to follow the statutory notice procedure contained in F.S. 403.70605(3).

Based on the political and legal considerations noted above, a public outreach program would be required as the initial step in potentially implementing a franchise program. The outreach program would include meeting with haulers, commercial waste generators and other stakeholders to receive and address comments and/or concerns relating to commercial waste franchises.

Financial and Structural Implications

Total system tonnage is projected to increase with a commercial waste franchise system. To obtain a preliminary estimate of the tonnages under a commercial waste franchise system, it was assumed that residential Class I waste deliveries to the OCU system are maintained at current levels. Commercial Class I waste quantities in the unincorporated areas were estimated based on prior County studies of waste quantities. The commercial waste quantities from unincorporated areas (representing business waste and waste from multi-family households) were added to the current residential waste tonnages. In addition, current deliveries of commercial waste by the City of Orlando were assumed to continue. Finally, Class III and yardwaste quantities were assumed to remain at current levels.

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11 These studies include HDR, *Class I Waste Projections Update*, February, 2011; and, SCS Engineers, *Solid Waste Master Plan*, January, 2009. The HDR report used per employee waste disposal rates and estimates of commercial employment in the unincorporated areas to project commercial waste quantities generated in the unincorporated areas of the County. The Class I waste tonnages contained in the HDR report are generally consistent with estimates of Class I waste developed for this study (as summarized in Technical Memorandum #1 and #2).
Based on these assumptions, Class I tonnage deliveries to the OCU system were projected to be approximately 712,000 tons in FY2016 with a commercial waste franchise, versus 579,000 tons of Class I waste projected for FY2016 under prior scenarios – an increase of approximately 133,000 tons (because of the public hearing and 3-year notice requirements discussed previously, FY2016 would be the earliest year that a commercial franchise could be implemented). The projected operating life of the Class I landfill under the commercial franchise option would be through FY2035.

It should be noted that some of this commercial waste is currently delivered to the OCU system. However, the County does not track the origin of commercial waste (i.e., commercial waste from unincorporated areas versus incorporated areas). The projections of waste handled under the commercial franchise scenario are reasonable, but actual commercial waste deliveries would not be known until the commercial franchise is implemented.

From a financial standpoint, variable expenses would increase under the commercial waste franchise option due to the increased tonnage handled, but fixed expenses would be spread over a larger tonnage base. Annual deposits to the Class I closure/LTC reserve fund would increase, because more tons would be placed in the Class I landfill. Annual deposits to the Class III closure/LTC reserve fund would be comparable to the Current Conditions scenario because the Class III landfill was assumed to continue operating as a separate disposal unit under this scenario. Overall, this option is projected to have additional potential cost savings based on the estimated commercial waste quantities (compared to Scenario 3) – however, actual savings would depend on the tonnages of commercial waste ultimately delivered under the franchise program.

As noted previously, advanced notice is required under Florida Statutes before the County could undertake a franchise program that might displace private haulers; that notice is a minimum of 3 years and practically speaking would be longer due to the public outreach that would be conducted before a final determination of the viability of a commercial waste franchise is made. As a result, this option would require a more extended period of time to fully implement (FY2016 or later).

Implementation steps would include the following:

- Initiate public outreach program. Evaluate viability of franchise program through outreach process.
- If the public outreach process determines that a commercial franchise is viable, and based on feedback obtained during the outreach process, determine structure of franchise (e.g., exclusive, non-exclusive). As noted previously, a non-exclusive franchise is typically easier to implement.
- Provide notice of public hearing as required by Section 403.70605(3) of the Florida Statutes. Under the statute, a public notice of the meeting is required, and haulers must be provided 45 days written notice.
- Conduct hearing.
- Amend County Code to include new franchise provisions.
- Develop procurement documents and issue bids/RFPs if exclusive franchise system established.

- Following 3-year period, commence provision of service under franchise agreements.

Commercial waste franchises, if implemented, would assist to stabilize waste flows to the OCU system. This was a goal of the 1999 and 2008 Business Plans previously prepared for Orange County. Going back even further, in 1990 a resolution (90-SW-01) was passed by the Board of County Commissioners adopting a Refuse Disposal Facilities Plan developed with the participation of a Citizens Coordinating Committee. The recommendations developed by the Committee established a general policy that the County would be self-reliant in managing its waste:

*The County should control its own destiny on solid waste disposal and not depend upon long term disposal outside the County. There should be no importation of Outside Orange County Class I solid waste for disposal within the County.*

Securing assured waste flow would help the County to fulfill this long-established policy goal of being self-reliant in managing waste.

**Findings**

The key findings of this option are summarized below:

- Class I landfill capacity will extend through FY2035 with existing and planned expansions of the Class I landfill.

- Provides more permanent waste assurance than Interlocal Agreements and/or waste delivery agreements with fixed contract durations.

- Projected additional savings based on estimated commercial waste quantities.

- Public outreach program recommended as initial step to evaluate viability of implementation.

**Other Options**

As discussed previously, under the Current Conditions option, the OCU waste system can continue to provide long-term value to customers of the system. Two options -- Stabilization of Landfill Closure and Long-term Care Cost Projections, and Combine Class III Waste into Class I Landfill -- offer cost savings and lower tipping fees to customers. These options also have an advantage in that they can be implemented internally by OCU, with minimal impacts to current customers. A third option -- Commercial Waste Franchise in Unincorporated Areas -- has the benefits of further stabilizing waste tonnages and potential further cost savings. That option would require a longer period of time to implement and, because of potential impacts to waste haulers and other stakeholders, also requires as an initial step a public outreach program to further assess the viability of the option.
As part of this comprehensive study, a number of other options were also evaluated. These options also provide potential cost savings, but as discussed below represent changes to current programs and services that would impact current customers. As a result, these scenarios are not recommended as near-term options, but as alternatives for continued evaluation in the future.

**Scenario 5. Combine Yard Waste into Class I Landfill**

In this scenario, yard waste would be managed in the Class I landfill instead of composted or chipped for use in landfill construction projects (e.g., haul roads) as is the current operational practice. Recent statutory changes allow yard waste to be processed in Class I landfills, provided the landfills recover landfill gas for beneficial reuse (as is the case for OCU’s Class I landfill). Placing yard waste in the Class I landfill would provide additional organic material for landfill gas energy recovery. Yard waste volumes managed by OCU have been relatively stable over the past 5 years, ranging from 91,000 tons to 100,000 tons. Placing the yard waste in the Class I landfill would materially offset the decline in Class I waste materials over that same time period.

Total system tonnage would remain the same as projected in previous scenarios. However, due to placing both types of materials in the Class I landfill, the projected operating life of the Class I landfill is reduced to FY2037 compared to FY2041 under the Current Conditions scenario.

This option was evaluated because of a recent change in Florida statutes that allows yard waste to be disposed in lined Class I landfills that have active-gas collection systems and that beneficially reuse the collected landfill gas (F.S. 403.708 (12) (c)). From a legal and regulatory standpoint, therefore, yard waste could be managed in the Class I landfill. A minor permit modification would be required from FDEP.

Placing the yard waste in the Class I landfill would provide additional organic material for landfill gas-to-energy recovery, and would represent a beneficial use of the material. However, implementation would require support from other stakeholders such as municipalities that desire composting as a waste diversion/recycling activity.

If there was municipal support for eliminating the compost operation as a cost savings measure, additional cost savings would likely accrue to customers by eliminating the separate collection of yard waste and trash. However, to achieve those collection savings, municipal collection routes would have to be adjusted, which would require time for implementation.

Although yard waste would be beneficially reused if placed in the Class I landfill, composting enjoys broad public support. Diversion of yard waste to composting contributes toward overall recycling goals of the County and municipalities. Further, the compost produced by OCU is currently made available to residents as a public service, although no revenue is derived from compost sales.

Pursuant to F.S. 403.708 (12) (c), FDEP is charged with developing rules for awarding recycling credits for yard waste disposed in Class I landfills with beneficial reuse of landfill

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12 As noted previously, Class I volumes handled by OCU decreased by approximately 130,000 tons between FY2006 and FY2011.
gas. So, if yard waste was placed in the Class I landfill instead of composted, the County would still earn recycling credits. However, an analysis would have to be performed to quantify how many recycling credits would be earned for comparison with the current diversion percentages achieved through composting.

Financially, cost savings would be achieved through savings in labor and other operation and maintenance costs based on OCU’s current allocation of costs to the yard waste operation. Additional cost savings would be achieved through reduced equipment and capital expenditures. Annual deposits to the Class I closure/LTC reserve fund would increase, because more tons would be placed in the Class I landfill. Annual deposits to the Class III closure/LTC reserve fund would be comparable to the Current Conditions scenario because the Class III landfill is still assumed to operate as a separate disposal unit. However, the potential savings under this option are projected to be less than by combining Class III waste in the Class I landfill (Scenario 3).

The issue of whether to compost yard waste or extract energy from the yard waste continues to be debated within the industry and public community. Each side of the debate has its adherents. Ultimately, some jurisdictions may determine that recovering energy from yard waste has comparable benefits to composting, and that co-collecting yard waste and trash will provide significant collection cost savings. These trends have yet to emerge. As a result, while this option is not currently recommended, the option should be retained if there is a future trend by the County and municipalities to eliminate separate collection of yard waste.

**Scenario 6. Privatize Transfer Station Trucking**

Currently, OCU contracts with private companies to provide certain waste services. OCU has an agreement with Waste Management to operate the RMPF, and has franchise agreements with haulers to collect residential waste in the unincorporated areas of the County.

For this scenario, the trucking component of OCU’s transfer station operations was evaluated for potential privatization to a transportation broker. Currently, OCU employees perform the transport of waste from the two transfer stations to the landfill, using semi-trailer trucks owned and maintained by OCU. Yard dog vehicles are used at the landfill to shuttle loaded trailers to and from the active disposal area of the Class I landfill. Yard dog vehicles are also used at the transfer stations to stage loaded trailers prior to being transported to the landfill.

To evaluate the financial impacts of privatizing the trucking component of the transfer station operations, Shaw researched the availability of other private transfer trucking contracts in Florida. One of the goals of this research was to identify other privatized trucking operations that had similar hauling distances from transfer stations to the ultimate disposal site that are comparable to the hauling distances from the OCU transfer stations to the OCU landfill.

As a result of this research, only a single contract was identified. Currently, Pasco County utilizes a private broker to transport transfer trailers from a transfer station to a waste-to-energy disposal site. The roundtrip hauling distance for that contract is 48 miles, comparable to the 40-46 miles (roundtrip) from the OCU transfer stations to the OCU landfill. The current cost for the trucking under the Pasco County agreement is $120 per load.
OCU does not currently segregate operating costs for the transfer/loading component of the transfer station cost center (i.e., the processing and loading of waste received at the transfer stations) from the trucking component of the transfer station cost center (i.e., the hauling of waste in semi-trailers from the transfer stations to the landfill). However, based on a review of the staffing schedules for the transfer stations, and discussions with OCU management, it was assumed that approximately one-half of total transfer station staffing was used for loading operations at the transfer stations, and the other half for the trucking operations.

To estimate the financial impacts of privatizing the trucking operation, it was assumed that current transfer station operations and maintenance costs were reduced by one-half. In addition, the costs of the yard dog operation at the landfill were eliminated. It was further assumed that trucking operations would be performed by a private company at $120 per load, with brokered services escalated at 3 percent per year for inflation (as discussed previously, private contracts typically have a CPI-based escalation clause).

The results of this modeling indicate that some savings may be available under a privatized trucking operation, assuming the services would be provided at $120 per load. However, there was only one existing contract in Florida with comparable hauling distances on which to base this assumption. As a result, the projected savings are only a preliminary estimate. Because privatizing the trucking operation would entail significant operational changes to the current OCU system, and because equipment and staff reduced under a privatization scenario could not be readily replaced in a short period of time, this option is recommended to be retained for re-evaluation in the future. In the interim, OCU management will investigate whether existing transfer vehicles can be sent directly to the active disposal area of the landfill (instead of using the current yard dog shuttle-operation), if that will result in cost savings.

**Scenario 7. Eliminate Transfer Stations**

Currently, OCU operates two transfer stations (McLeod and Porter) that provide convenient access to municipalities in the more densely-populated western half of Orange County. As was noted in Technical Memorandum #1, the transfer stations benefit municipalities and other customers because they reduce the distance that waste in collection vehicles would otherwise have to be hauled directly to the landfill.

Since one of the objectives of this study was to evaluate options to reduce costs, and because the transfer stations represent one of the major cost centers of the OCU solid waste system, a scenario in which the transfer stations were eliminated was considered.

Under this scenario, cost reductions would be achieved through the elimination of the operations and maintenance costs of the two transfer stations, and the yard dog operation at the landfill. These reductions would result in a lower tipping fee for Class I waste.

However, municipalities and other customers would have to haul waste directly to the OCU landfill, which would entail higher collection costs (since the landfill is generally located further from municipalities than the transfer stations) and likely would require changes to current collection fleets and established hauling routes (i.e., more collection vehicles might be required). In addition, greater volumes of truck traffic would occur at the landfill.

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13 Typically, under private broker trucking agreements, the broker will haul transfer trailers directly to the active disposal area of the landfill.
The additional collection costs can only be assessed on a customer-by-customer basis. For some municipalities, the reduction in tipping fees might offset the higher collection costs, but for other municipalities, there could be a net increase in total collection and disposal costs. As a result, the impacts to system tonnages under this scenario are challenging to predict.

As a result of these considerations, and given that the transfer stations provide convenient access to customers\(^{14}\), this option is not recommended for implementation. Instead, this option can be retained and re-evaluated in the future.

**Summary**

**Conclusions**

The OCU system provides a comprehensive range of programs and facilities to serve the waste management needs of municipalities and businesses in Orange County. Based on the analyses contained in this study, under Current Conditions the OCU waste system can continue to provide long-term value to customers. Further, two options -- Stabilization of Landfill Closure and Long-term Care Cost Projections and Combine Class III Waste into Class I Landfill -- can be implemented in the near-term to provide cost savings and significant reductions in tipping fees to customers. The tipping fee projections for these options are summarized in Table 3-4 and Figure 3-5:

<table>
<thead>
<tr>
<th>TABLE 3-4. SUMMARY OF OPTIONS</th>
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<tbody>
<tr>
<td>Projected Class I Tipping Fee ($/ton)</td>
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<tr>
<td>--------------------------------------</td>
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<tr>
<td>Option/Scenario</td>
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<tr>
<td>Current Conditions</td>
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<td></td>
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<tr>
<td>Closure/LTC Cost Stabilization</td>
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<tr>
<td>Combine Class III/Class I Waste</td>
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</tbody>
</table>

**Notes:**
1. For the Current Conditions option, R designates the tipping fee for residential waste and C designates the tipping fee for commercial waste.

\(^{14}\) As was discussed in Technical Memorandum #2, tonnages handled by the OCU transfer stations have been stable to growing, up until 2009 when the economic downturn had an impact. Both transfer stations are currently operating near capacity. This suggests that the transfer stations provide value to customers and fulfill a need for transfer capacity in the more densely populated western half of the County.
A third option -- Commercial Waste Franchises in Unincorporated Areas -- has the benefits of further stabilizing waste tonnages and potential further cost savings. This option will require a public outreach program to evaluate its viability, and therefore will require a longer period of time to implement.

In addition, a number of other options -- Combining Yard Waste in Class I Landfill, Privatizing Transfer Trucking, and Eliminating Transfer Stations -- were also evaluated. Because these options represent changes to current programs and facilities that are valued by customers, they are not recommended as near-term options. Instead, they can be retained for future refinement if future trends in the solid waste market and industry warrant their re-evaluation.

The current OCU system provides a number of environmentally-sound, sustainable benefits to municipalities and other customers. These benefits include the following:

- Disposal of Class I and Class III waste at in-County landfills. This reduces the emissions that otherwise would be incurred to dispose of waste at out-of-county disposal sites.

- Transfer station capacity is provided at two transfer stations located in the more densely-populated western half of the County. This reduces the emissions that would otherwise be incurred to direct haul waste to the OCU landfill or an out-of-county disposal site.

- Recyclables processing capacity is provided at an in-County RMPF. This processing capacity is critical infrastructure that supports recycling activities throughout the County, and again reduces emissions that would be incurred if recyclables were transported out-of-county for processing.
The OCU landfill is equipped with a landfill-gas-to-energy system, which provides a renewable source of energy and a beneficial reuse of waste material which is not recycled.

A compost facility that processes yard waste and brush materials, and produces compost that is distributed to residents free of charge.

A facility to manage household hazardous waste.

A facility to process waste tires.

A small vehicle drop-off facility (located at the landfill) that provides additional drop-off recycling opportunities for residents.

These benefits will continue in the future, with the added benefit that a lower tipping fee will be charged for Class I waste materials.

OCU has developed its comprehensive waste programs and facilities over a number of decades to respond to the desire for increased recycling and diversion programs, and has demonstrated its ability to provide infrastructure and programs to meet changes in the marketplace and industry. Beyond the options analyzed during this study, it is recommended that OCU continue to update this study in the future and assess operations and potential cost savings on a continuous basis. Further, it is recommended that OCU continue to work with municipalities to consider and evaluate trends in the collection and management of solid waste.

Recommendations

Based on the data and analysis conducted for the solid waste study (as summarized in the three Technical Memoranda), the following recommendations are made to Orange County and OCU:

- Adopt a rate resolution for new Class I tipping fee in 2013.
  - Establish new Class I rate of $33.60 per ton for residential and commercial waste.

- Pursue implementation of disposal of Class III waste in Class I landfill unit by 2014 as a contract option.
  - Requires long-term agreements with municipalities and commercial haulers to be negotiated in 2013.
  - Establish Class I rate of $30.50 per ton for municipalities and haulers that sign waste delivery agreements, if enough tonnage is secured by contracts.

- Initiate outreach program for potential implementation of commercial waste franchise.
  - Evaluate implementation viability through outreach process.

- Periodically update solid waste study to monitor industry trends and continuously evaluate solid waste operations for cost efficiencies.

- Periodically meet with municipalities and stakeholders to evaluate trends in the collection and management of solid waste.
MEMORANDUM

TO: Phillip P. Kowalski, Client Program Manager, Shaw Environmental & Infrastructure Group, Shaw Environmental, Inc.
    David A. Hoot, P.E., Client Program Manager, Shaw Environmental & Infrastructure Group
    W. Kyle Adams

CC: Teresa Remudo-Fries, P.E., Deputy Director, Orange County Utilities Department
    Ron Nielsen, Deputy Director, Orange County Utilities Department
    James W. Becker, Manager, Orange County Utilities Department
    Robert D. Guthrie, Senior Assistant County Attorney
    Anthony Cotter, Assistant County Attorney

FROM: Robert C. Apgar

DATE: November 26, 2012


As part of its ongoing Solid Waste Study, Orange County is exploring the feasibility of creating a franchise system for commercial solid waste collection. The County currently issues licenses to private entities for the collection of commercial solid waste in the unincorporated area. This Memorandum addresses legal issues that could arise if the County elects to replace the licensing program with a franchise system:

Questions Presented:

1. What is the source and scope of Orange County’s legal authority to regulate solid waste collection; and
2. Does a commercial waste collection license issued pursuant to the current Orange County Solid Waste Collection and Disposal Ordinance constitute a vested property right, such that the county would be liable for damages if it revoked or terminated such a license prior to the expiration of the five year term.
Short Answer: Orange County has broad government power to regulate solid waste collection and to mandate how such services will be provided. In addition, it is highly unlikely that a Florida court would find that an Orange County commercial waste collection license creates a vested property right. This conclusion is based on the following findings:

(1) The County has broad authority and discretion to regulate solid waste collection pursuant to (a) its County Charter and home rule powers, and (b) plenary authority over public utilities arising from common law. Pursuant to these powers, the County may choose to establish a franchise system to regulate solid waste collection.

(2) The general rule of law cited in a long line of Florida cases is that a license to operate a private business does not create a vested property right. A license to collect commercial solid waste is a business license. However, Florida Statutes set out procedural steps that must be followed when a license is revoked.

(3) In addition, Section 32-178(f) of the Orange County Code reserves to the County the right to revoke current licenses prior to their expiration for “due cause.” Although the term “due cause” is not defined in the Code, it is highly likely that converting the Orange County Code from a licensing system to a franchising system for commercial waste collection would constitute “due cause,” thus allowing the County to revoke outstanding permits when, and if, it institutes a franchise system.

Discussion:

A. The County’s Plenary Power to Regulate Solid Waste Collection.

At common law, local governments’ authority to regulate waste collection has been described as “plenary” government power over this special public service; it is broader and more permissive than government’s more restricted power to regulate ordinary businesses. In United Sanitation Services, Inc. v. Tampa, 302 So. 2d 435 (Fla. Dist. Ct. App. 2d Dist. 1974), the Court refused to grant an injunction to prevent the city of Tampa from taking over solid waste collection, totally displacing private waste haulers. In describing the scope of the City’s power over waste collection, the Court stated: “[the case] proceeds on the assumption that affirmative showings of a relationship between the ordinances and the public "health, safety or welfare" are required in order to sustain the ordinance, when, to the contrary, the mere fact that it is garbage collection which is being regulated, even "taken over" by the City, itself and alone provides the necessary justification for the enactments.” United Sanitation at 436. See, also, Jacksonville v. Nichols Engineering & Research Corp., 49 So. 2d 529 (Fla. 1950).
Pursuant to this plenary power, local governments have broad discretion to regulate private waste haulers in unincorporated areas through licensing or franchises, or to displace private waste haulers in favor of government services. Thus, Orange County may choose to replace the existing licensing system with a franchise system. The franchise may be non-exclusive, or the County could choose to grant an exclusive franchise to an operator in a designated zone, similar to the County’s current franchise system for residential waste collection in the unincorporated areas of the County. Alternatively, the County could displace private collectors and take over solid waste collection as a purely public function.

B. Orange County’s Home Rule Powers.

In addition to its broad common law authority over public utilities, Orange County regulates solid waste collection pursuant to its county charter and its constitutional home rule powers. As a charter county, Orange County possesses full home rule powers of self government, so long as its actions are not inconsistent with State law. Fla. Const. Article VIII, § 1(g), states:

(g) CHARTER GOVERNMENT. Counties operating under county charters shall have all powers of local self-government not inconsistent with general law, or with special law approved by vote of the electors. The governing body of a county operating under a charter may enact county ordinances not inconsistent with general law. The charter shall provide which shall prevail in the event of conflict between county and municipal ordinances.

The Orange County Charter, Section 704, provides that, as a general rule, County ordinances are effective within municipalities except when a municipality adopts an ordinance “covering the same subject matter, activity, or conduct as the county ordinance.” Section 704 specifies several circumstances in which a county ordinance would be effective within a municipality despite the existence of a competing municipal ordinance. None of these exceptions appear to be relevant to a system of licensing or franchising solid waste collection. Thus, a solid waste franchising system could operate within municipalities unless the municipality adopts an ordinance on the same subject.

Acting under its home rule powers, and pursuant to its County Charter, Orange County adopted The Orange County Solid Waste Collection and Disposal Ordinance, Chapter 32, Article IV of the Orange County Code. The Ordinance establishes a system of licensing private entities to collect and transport commercial solid waste in the unincorporated areas of Orange County. The Ordinance also creates a separate franchise system to govern the collection of residential solid waste.

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1 The exceptions include pollution regulatory standards, adult entertainment regulations, and re-zonings and comprehensive plan amendments that affect school attendance zones that straddle a municipal boundary.
The Orange County Code defines a commercial license as follows:

32-153 definitions--

*Commercial licensee* or *licensee* shall mean those persons that have filed an application with, and received a license from, Orange County to provide solid waste collection and transport services in unincorporated Orange County. Commercial licensees shall be those persons that provide commercial service to one (1) or more of the following categories:

1. **Multifamily** - collection of solid waste from residential dwellings and mobile home parks not otherwise provided full service.

2. **Construction and demolition** - collection of construction and demolition debris only.

3. **Other commercial** - collection of solid waste from commercial generators not covered under (1) and (2).

The Ordinance also provides for the term of a commercial license, and reserves to the County the right to revoke outstanding licenses, stating:

32-178(f) *Duration of licenses and registrations.* Commercial licensees and registrations are valid for a five-year period commencing on the date of the issuance of their license or registration unless revoked sooner by the board for due cause. Such licensees and registrants shall be subject to an annual fee or any other fee(s) as established by the board of county commissioners, such fee to be payable prior to January 1. (emphasis added)

The Ordinance does not define the “due cause” that would justify license revocation. A review of Florida appellate cases that use this term, or a comparable term such as “just cause,” indicates that it refers to a significant reason, not trivial or minor, that a reasonable person would agree justifies the cancellation or revocation of a license or contract. For example, a licensee’s violation of the license terms, or a violation of County environmental ordinances, would ordinarily constitute “due cause.” It seems clear that shifting from a licensing system to a franchise system would also constitute “due cause” to revoke outstanding licenses.

**C. Under Florida Law, a License to Operate a Business Generally Does Not Create a Vested Property Right.**

The general rule cited in a long line of Florida cases is that a license to operate a private business does not create a vested property right. See, e.g., *State ex rel. Hoffman v. Vocelle*, 159 Fla. 88 ( Fla. 1947) (license to sell liquor); *State ex rel. Biscayne Kennel Club, Inc. v. Stein*, 130 Fla. 517 ( Fla. 1938) (license to operate a race track); *Phillips v. Dep’t of Bus. & Profwssional Regulation*, 737 So. 2d 553 (Fla. Dist. Ct. App. 1st Dist. 1998)(license to teach real
Memorandum to Orange County staff and Shaw Environmental  
From Robert C. Apgar, dated November 26, 2012

Based on this authority, Orange County should not incur any liability for damages for lost business profits if it revokes solid waste collection licenses. As discussed more fully below, the County must follow procedural steps for revocation required by Florida law, specifically Fla. Stat. 403.70605. The Orange County Code does not specify a process for permit revocation.

It must be noted that Florida Courts have treated one class of licenses differently--Florida courts have held that medical licenses create a vested property right. See, e.g. Florida State Bd. of Medical Examiners v. James, 175 So. 2d 815 (Fla. Dist. Ct. App. 3d Dist. 1965); Engel v. Rigot, 434 So. 2d 954 (Fla. Dist. Ct. App. 3d Dist. 1983). A professional medical license seems clearly distinguishable from a business license to collect solid waste. Thus, these cases should have no application in a case involving revocation of a solid waste collection license. Unfortunately, there is no case directly on point. The United Sanitation Services, Inc. v. Tampa, case, discussed above, is supportive but dealt only with the city's refusal to renew permits.

In conclusion, while we cannot completely rule out the possibility that a court would find that a waste collection license is a vested right, the possibility seems remote.

D. Orange County’s Authority to Revoke Licenses Must be Exercised According to Statutory Procedural Rules.

The Florida Legislature has enacted procedural rules that specify how local governments must exercise their plenary powers to displace a private company engaged in solid waste collection. Fla. Stat. 403.70605. Where a statute mandates a process for license revocation, that process must be followed. Phillips v. Dep't of Bus. & Professional Regulation, 737 So. 2d 553 (Fla. Dist. Ct. App. 1st Dist. 1998). In addition, a license revocation process that is inconsistent with Section 403.7065 would likely be found to be an invalid exercise of home rule power.

In Section 403.70605(3), Florida Statutes, the Legislature mandates that a local government may not displace a private company in the business of collecting solid waste without first: (1) holding at least one public hearing; (2) providing at least 45 days written notice of the hearing to all private companies; and (3) giving public notice of the hearing. Following the notice and hearing, the statute requires that the actual displacement be delayed for three (3) years. Alternatively the local government may pay compensation as specified in the statute and terminate the private company sooner than three years. The statute includes a number of exceptions, which, if applicable, would excuse compliance with the statutory termination process. However, by following the statutory procedure the County would gain a significant additional defense against a possible claim for business damages arising from a license revocation.
CONCLUSION

Orange County has broad common law and constitutional powers to regulate solid waste collection. Pursuant to this authority the County could establish a franchise system for commercial solid waste collection for the unincorporated area. Such a franchise system could be made effective within municipalities that do not enact an ordinance on the same subject. Existing licenses for commercial solid waste collection could be revoked when, and if, such a conversion takes place. It is highly unlikely that the County would be held liable for business damages arising from revocation, so long as the procedural steps of Fla. Stat. 403.70605 are followed.