

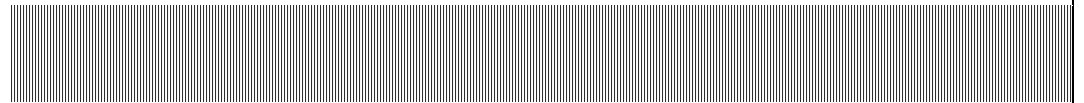


Nassau County, Office of the County Executive

1550 Franklin Avenue • Mineola, NY 11501

Consolidation Analysis and Implementation Plan: Solid Waste

June 2008



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- B. List of Municipal Permitted Solid Waste Facilities
- C. Summary of Solid Waste / Sanitation Service Areas

1. Introduction

This report has been prepared in support of the Municipal Services Consolidation Analysis and Implementation Plan initiated by the Nassau County Office of the County Executive (County). The County’s Municipal Services Consolidation Analysis and Implementation Plan is being undertaken to identify the potential benefits and challenges of consolidation, regionalizing or otherwise optimizing the delivery of key services within Nassau County to reduce tax burden on residents while maintaining services at current levels or improving them. This report focuses on the delivery of solid waste services and was prepared in part with funds provided by the Nassau County Legislature and the Hagedorn Foundation.

1.1. Purpose and Objectives

The County retained Malcolm Pirnie, Inc. (Malcolm Pirnie) and Cameron Engineering (Cameron) to complete an analysis of the potential for consolidation of solid waste collection and disposal services (i.e., sanitation services) amongst the various municipalities and special districts within the County.

The goal of the analysis was to develop a feasible “blueprint” for municipal service consolidation or shared services that would result in significant taxpayer savings. The “blueprint” includes the following:

- Estimated cost savings and anticipated taxpayer impact
- Existing and anticipated debt and labor implications
- An assessment of current service levels
- An overview of alternative governance models

1.2. Overview of Consolidation Study Efforts

The County provided Malcolm Pirnie with a variety of technical information including various reports and audits completed by the County Comptroller and County Assessor’s offices. Additionally, Malcolm Pirnie and Cameron developed and implemented a survey to collect specific financial and technical data from each of the special districts as well as town, village and city sanitation departments. Furthermore, meetings were held with the town and County representatives, Nassau County legislators, Long Island Sanitation Officials Association and others to gather additional information relevant to the study efforts.

Appendix A presents a summary of the reports and survey responses received and reviewed as part of this study. As illustrated in Appendix A and discussed further in this report, despite the referenced data collection efforts, the data that was obtained for review was limited primarily due to a lack of available published data and the lack of response on the part of the many of the sanitation service providers. As such, the report is based on a review of the information that was made available, meetings and discussions with various service providers and organizations involved with the management of sanitation services and general experience and knowledge based on industry expertise.

1.3. Service Area Challenges

The following identifies some of the major challenges facing solid waste and recyclable material collection and disposal in Nassau County.

Insufficient In-County Disposal Capacity – There are a limited number of permitted solid waste facilities located on Long Island and currently no new disposal facilities are being permitted. There is only one (1) disposal facility located in Nassau County. This disposal facility is the Hempstead Resource Recovery Facility which becomes a privately owned and operated facility upon expiration of the existing contracts in 2009. It is our understanding that Covanta, the private owner and operator of the Hempstead Resource Recovery Facility, is interested in expanding the capacity of the Hempstead Facility. No permit, however, has been secured for the expansion and if one is secured it may take several years before such capacity becomes available due to time required to secure approvals, construct the expansion, acceptance test and place into operations. As such, there is significant reliance on the long-haul of waste to out-of-county and out-of-state disposal facilities. This leaves disposal costs highly susceptible to changing market conditions.

Market Pricing Changes Due to Expiration of Existing Long-term Contracts – Currently, each of the Towns maintain long-term contracts for the disposal of solid waste on behalf of the residents, villages and districts located within its boundaries. These contracts provide disposal capacity primarily for residential waste although it is our understanding that it also includes some capacity for commercial waste. These contracts were entered into almost 20 years ago and are scheduled to expire in 2009 and 2010. These include Hempstead’s contract for disposal of waste at the Hempstead Resource Recovery Facility as previously discussed and Oyster Bay and North Hempstead’s contracts for the long-haul of waste off-Island. Similar to Nassau County, many long-term disposal contracts (in particular those contracts that utilize waste-to-energy facilities for disposal) on the Island and surrounding areas (i.e. Connecticut, Westchester County, New York City) are expiring within the next few years. As such, the Metro area disposal market is in a state of flux and pricing may vary substantially.

Waste Flow Control – In April 2007, the Supreme Court issued its ruling in the United Haulers Association vs. Oneida Herkimer Solid Waste Management Authority regarding waste flow control. The ruling makes a distinction between privately-owned and publicly-owned facilities. Previously, the Carbone vs. Town of Clarkstown ruling found that waste flow control ordinances benefiting privately-owned facilities to be in violation of the interstate commerce clause. However, as a result of the United Haulers Association vs. Oneida Herkimer Solid Waste Management Authority ruling in April 2007, a municipal flow control ordinance benefiting a publicly-owned facility is permissible. The majority of recycling and disposal facilities are privately owned and operated. There are several publicly owned transfer stations in the County. Towns can exercise the authority to direct the waste generated within their boundaries to their publicly owned transfer stations for processing and ultimate disposal if it is determined to be in the best interest of public health.

Low Recyclable Material Recovery Rates – New York State has established a recycling goal of 50% of the waste generated. Recycling rates in Nassau County are significantly below this goal and significantly less than surrounding Counties including Suffolk County.

Increasing Waste Disposal Quantities – It appears based on a review of available historical waste generation data for Nassau County that the quantity of waste being generated on a per capita basis is increasing. In addition, population is anticipated to increase. These increases in waste disposal quantities will increase the average cost of services per household and further increase the County's reliance on available out-of-County disposal options.

Increasing Energy and Fuel Costs – While increasing energy costs are advantageous to the economics associated with the waste-to-energy facilities because such increases will achieve increased revenues from the sale of the energy produced from the processing of waste. However, increased energy costs are not beneficial to the solid waste collection and long-haul and disposal options. These increasing costs can have a significant impact on the cost of collecting refuse and recyclables and on disposal costs for communities which long-haul waste out-of-county.

Increasing Labor, Benefit and Insurance Costs – The majority of solid waste collected within the County is collected using municipal collections crews. Current collection practices and equipment make the collection of this waste labor intensive. In addition, health benefit costs and worker compensation costs are rapidly increasing. As such, these costs are increasing at a rate significantly greater than inflation.

Variability of Service Offerings – The level of service varies significantly from community to community throughout the County. Some communities receive only once per week pickup of garbage and twice per month pickup of recyclables and others receive

three times per week pickup of garbage and once per week pickup of recyclables. Some receive free bulky waste and yard waste pickup and some do not. Some waste is picked-up at the street curb while for others the haulers come to the backyard to get the refuse. Some are limited as to what they can dispose of while others are not. These variations are true for almost every aspect of the collection operations.

Variability in Budgeting and Accounting Procedures – It does not appear that the communities use full-cost accounting methods to track the cost of solid waste collection, recycling and disposal services. The budgeting and accounting procedures for the provision of solid waste services also varies throughout the County. For example, in some instances the disposal cost of street sweepings is included in the streets department budget, while in others it is in the solid waste budget. Other examples include administrative services, financial services, leaf pickup, vehicle maintenance, capital planning, etc. In certain instances there is a cost allocation of overlapping services and in others there is not. This makes it very difficult to identify the true cost of various services associated with solid waste management and to provide for comparison from community to community.

Lack of Commercial Sector Data – The majority of the towns, cities, villages and districts do not provide services to commercial establishments. As such, these commercial establishments privately manage their waste and recyclables; limited, if any, data is available regarding the commercial sector practices. The commercial sector, however, represents from 30 percent to 50 percent of the waste generated in the County and has a significant impact on waste quantities, recycling and processing and disposal capacity in the County.

Lack of Performance Data – Records regarding the quantity of waste managed by customer class, quantities recycled, recycling markets, waste set-out rates, recycling participation rates, tons collected per route per day, households served per route, hours worked per day, maintenance and repair costs per truck, etc. are not readily available. The lack of this benchmarking data prevents the evaluation of current productivity to standard industry performance indicators.

Lack of Cost of Service Data – The cost of solid waste services is embedded in the residential tax base. As such, residents generally do not understand or see the impact of solid waste management practices on the cost of their property taxes.

It is noted that a number of communities throughout the country are moving from a tax base supported solid waste system to a user fee based system and/or developing “Pay As You Throw (PAYT)” programs to incentivize recycling, reduce wasteful disposal practices and more appropriately allocate costs to users. An analysis of these types of programs was not included as part of this study since the intent was not to change the level of service but to identify opportunities for consolidation savings. The

implementation of such programs represents an option for removing costs from the tax base.

2. Systems Description

The County, formed in 1899 by an act of the State Legislature, encompasses approximately 453 square miles on Long Island of which approximately 64 percent of this area is land and 36 percent is covered by water. It is the most urbanized county in New York State, with a population of more than 1.3 million within the 286 square miles of land. With approximately 4,650 persons per square mile, there is great need for access to essential services such as the supply of potable water and the collection and disposal of solid waste. Since the County does not provide these services on a county level, these services are provided through the county's towns, cities and villages. The municipalities comprising the County created special districts to provide such services to the County's unincorporated areas. Currently, there are 74 sanitation districts providing solid waste services within the County. The following paragraphs briefly summaries the historic enabling legislation.

In New York State, "the earliest comprehensive authority for town improvement districts was provided in former Town Law (Chapter 63, Laws of 1909). Special legislation authorizing the establishment of special improvement districts in Nassau County was enacted by the State in 1928 (Chapter 516, Laws of 1928). These laws provided a framework for the establishment, financing and operation of special improvement districts. Part of that framework provided for districts to be governed by elected boards of commissioners with, in certain cases, the power to issue bonds and levy taxes."¹

"Subsequently, when current Town Law was enacted in 1932 (Chapter 634, Laws of 1932) separate boards of commissioners were generally abolished and the powers of separate boards were transferred to town boards. Accordingly, most of the special improvement districts now in existence were established under general provisions of Articles 12 and 12-A of the Town Law and are administered by their respective town boards rather than separately elected boards. Some have been created by special act of the State Legislature."² However, the 1932 legislation "permitted existing special districts to hold referendums in which district residents could decide to maintain a

¹ Office of the New York State Comptroller, Division of Local Government Services and Economic Development. (2007). *Local Government Issues in Focus: Town Special Districts in New York*. Vol.3, No.1. Accessed online at: <http://www.osc.state.ny.us/localgov/pubs/research/townspecialdistricts.pdf>; p.3.

² *Local Government Issues in Focus*, p.3.

commissioner-run district structure. As a result, many Nassau commissioner-run districts were maintained.”³

“In 1936, the Nassau County charter was approved, creating the basic layout of today’s county government. The charter provided for the continued existence of special districts, although some oversight powers, such as the right to audit district operations and to approve district extension petitions, were granted to the county government.”⁴

2.1. Overview of Solid Waste Facilities and Waste Generation in Nassau County

Figure 2-1 shows the permitted municipal solid waste (MSW) transfer/disposal facilities in the County; blue indicates a transfer station, yellow indicates a construction and demolition debris facility, and red indicates a waste-to-energy facility. Appendix B of this report provides a list of municipally owned solid waste facilities in Nassau County including recycling facilities. This information was provided by the State Department of Environmental Conservation (NYSDEC).

As illustrated in Figure 2-1 and summarized in Appendix B, there is only one disposal facility in Nassau County (the Hempstead Resource Recovery Facility), the remaining facilities consist of either transfer stations, drop-of centers or yard waste facilities. It is also noted that there are no municipally owned materials recovery facilities for processing commingled recyclable materials for sale to end-users. The recyclable material processing and marketing to end-uses is managed primarily by the private sector.

³ Nassau County Office of the Comptroller. (2005). *Nassau County Special Districts: A Case for Reform*. Accessed online at: <http://www.nassaucountyny.gov/agencies/Comptroller/Docs/PDF/05Dec19-SpecDistRpt.pdf>; p.1.

⁴ *Nassau County Special Districts*, p. 2.

Figure 2-1: Permitted MSW Disposal Facilities in Nassau County



*Red identifies solid waste disposal facility, blue identifies transfer stations and yellow identifies construction and demolition debris (CD&D) facilities in Nassau County.

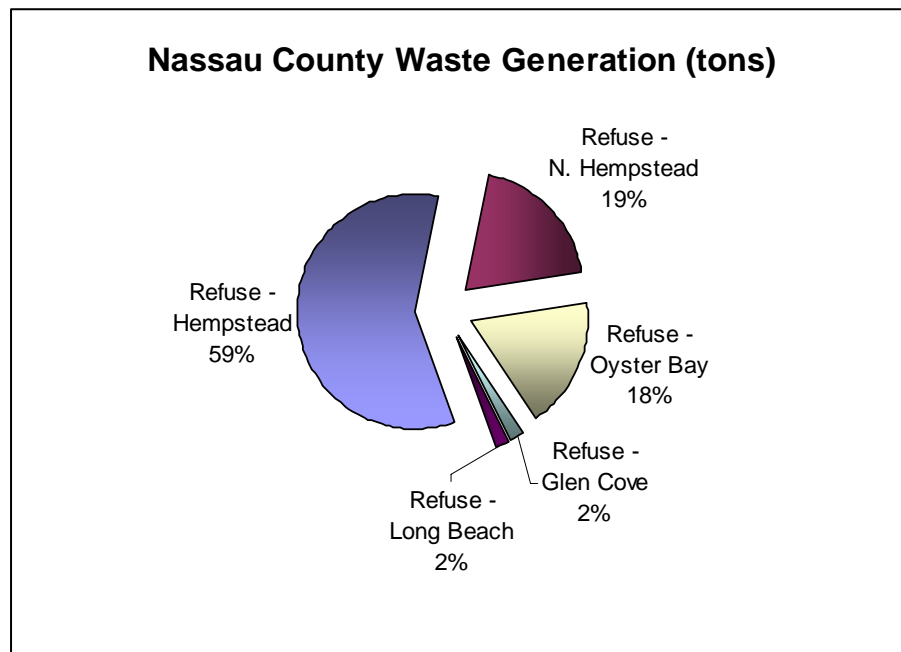
The Municipal Solid Waste (MSW) Assessment Nassau and Suffolk Counties Long Island New York 2006 Report prepared by the Waste Management Institute at Stony Brook University indicates that the quantity of MSW managed by the County's town, village, and city solid waste departments and the Sanitation Districts is about 1.4 million tons annually. This includes waste generated primarily by residents, municipal government, public schools and a few commercial establishments. The majority of the commercial waste is managed by the private sector and as such is not reported in the above quantities. Commercial waste can represent 30 to 50% total waste stream, potentially increasing the total waste generation in the County by more than an additional 0.6 million tons annually.

The Long-Island MSW Assessment Report also identified the following:

- The reported waste generation rate in Nassau County is on average of 5.6 pounds per person per day and as much as 3 tons per household per year. (Note: this rate is high in comparison to New York State and national averages which are in the order of 3 to 4 pounds per person per day and 1 to 1.5 tons per household per year.)

- The reported recycling rate in Nassau County is on average 20% of the waste generated. (Note: the reported recycling rate is low in comparison to surrounding counties and national averages. Suffolk County’s recycling rate is reported to be 33%, Westchester County reports a recycling rate of 42% and the United States Environmental Protection Agency (USEPA) reports a national average rate of 30%.) The State has raised its goal from 40% to 50%.
- Approximately 32% of Nassau waste is exported off Island as compared to 9% in Suffolk
- As illustrated in Figure 2-2, of the total quantity of residential waste disposed in the County, almost 60% is generated in the Towns of Hempstead. Oyster Bay and North Hempstead each have about 18% of the waste disposal generated and the cities comprise less than 4% of the waste disposal generated

Figure 2-2: Nassau County Waste Generation (tons)



2.2. Town of North Hempstead

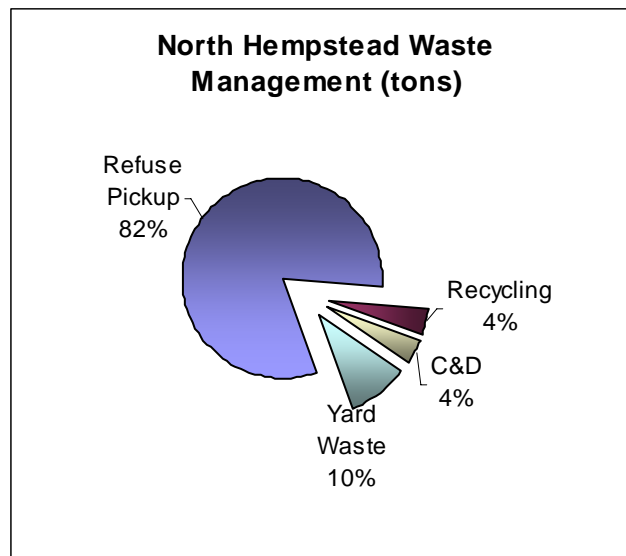
The following provides an overview of solid waste practices in the Town of North Hempstead. This information is based on information published by the Stony Brook Waste Management Institute, information provided by the Town and the responses received to the survey request issued to the Town and each of the sanitation providers located within the Town. A tabular summary of supporting data is provided in Appendix C.

2.2.1. Description of System and Service Area

The Town of North Hempstead represents approximately 17 percent of the population (approximately 224,000 residents) of Nassau County according to US Census Bureau statistics for 2006 and about 19% of the waste (residential and small commercial) generated (approximately 240,000 tons per year) based on a 2006 survey conducted by the Stony Brook Waste Management Institute. This results in a per capita generation rate of more than 5.5 pounds per person.

Figure 2-3 provides a breakdown of the reported waste generation quantities. As illustrated, the reported recycling rate, including yard waste, in the Town of North Hempstead is approximately 14 percent of the waste generated.

Figure 2-3: North Hempstead Waste Management (tons)



There are 41 communities, including 28 incorporated Villages located in the Town of North Hempstead. The communities are serviced by 8 sanitation/refuse districts and 13 Village departments. These districts provide for waste collection services within their

district boundaries. The Town of North Hempstead runs 5 of these 8 sanitation/refuse districts.

**Table 2-1.
Town of North Hempstead Collection and Disposal**

District/Village	Disposal Location	Collection Method
Carle Place Garbage District	TNH Transfer Station	Private
Port Washington Garbage District	TNH Transfer Station	Private
Roslyn Garbage District	TNH Transfer Station	Private
Albertson-Searingtown-Herricks Refuse and Garbage District *	TNH Transfer Station	Private
Great Neck Refuse and Garbage District*	TNH Transfer Station	Private
Manhasset Garbage District*	TNH Transfer Station	Private
New Cassel Garbage District*	TNH Transfer Station	Private
New Hyde Park-Garden City Park-Floral Park Centre Refuse and Garbage District*	TNH Transfer Station	Private
Village of East Hills	TNH Transfer Station	Municipal
Village of Great Neck	TNH Transfer Station	Municipal
Village of Manorhaven	TNH Transfer Station	Private
Village of Mineola	TNH Transfer Station	Municipal
Village of Munsey Park	TNH Transfer Station	Private
Village of New Hyde Park	NA	Municipal
Village of Roslyn	TNH Transfer Station	Private
Village of Roslyn Estates	TNH Transfer Station	Private
Village of Heights	TNH Transfer Station	Private
Village of Russell Gardens	TNH Transfer Station	Private
Village of Saddle Rock	TNH Transfer Station	Private
Village of Westbury	Omni of Babylon	Municipal
Village of Williston Park	TNH Transfer Station	Municipal

* Administered by the Town of North Hempstead (TNH)

The majority of the collection services in North Hempstead are franchised to private contractors with 6 villages providing collection services by municipal employees. The

collected waste is brought to the North Hempstead Transfer Station for waste consolidation and ultimate disposal. The North Hempstead Transfer Station is owned by the Town and has a permitted capacity of 1,090 tons per day. The Town of North Hempstead is the permit holder of the North Hempstead Transfer Station.

The Town of North Hempstead contracts out the operations of the transfer station and the long-haul of waste for disposal outside of the County. The current transfer station operation and long-haul agreement expires in 2010.

2.2.2. Solid Waste Management Practices

Planning: The Town of North Hempstead Solid Waste Management Authority handles regulatory reporting and preparation of the Solid Waste Management Plan (SWMP) for the Town of North Hempstead. The SWMP is updated bi-annually. The Town has an E-Waste and Stop Throwing Out Pollutants (S.T.O.P.) program that is available free of charge to all Town of North Hempstead residents.

Collection: The Town and the Villages primarily contract out for all solid waste and recyclable materials collection to various carters including Meadow Carting, Jamaica Ash, National Waste, Waste Management and Dejana. The Town uses Meadow Carting in their five Town-operated garbage districts.

Residents in the Villages of Old Westbury and North Hills contract individually with private carters. The Villages of East Hills, Great Neck, Mineola, New Hyde Park, Westbury and Williston Park are serviced by municipal collection crews. The level of collection service varies from community to community. Some receive once per week pickup while others receive up to three times per week pickup.

Recycling: All recyclable materials collected from the Town goes to Omni Recycling of Westbury. In 2006, they collected 28,500 tons of recyclables which includes yard waste, construction & demolition debris, paper, bulk metal and commingled plastics/glass/cans. Of that 28,500 tons, 1,300 tons were paper, 235 were bulk metal and 1,200 were commingled plastic/glass/cans. In 2006, they received approximately \$30 per ton of newspaper and \$40 per ton of metals, but paid to recycle commingled plastics/glass/cans. The price paid or received for recyclables is based on market conditions and varies accordingly.

Hauling/Transfer/Disposal: In 2006, there was a total of 240,000 tons of MSW, Yard Waste, Recyclables & Demolition/Construction Debris collected at the town's transfer station; this includes both commercial and residential sources. Out of the 31 villages in the Town, all but two use the transfer station; the Villages of Westbury and New Hyde Park dispose of their waste elsewhere. The Town's transfer station is operated by Winter Brothers. The operating contract includes loading, disposal and transport; however, the scale is operated by the Town of North Hempstead. The transfer station accepts

commercial and municipal solid waste, yard waste and construction debris from medallion holders. All waste is disposed of off Island via truck/long-haul and rail. Winter Brothers has multiple contracts with disposal facilities and disposes of the town's waste in upstate New York (Seneca Meadows) and out of state (one of the sites being the Ohio Apex landfill). The Town is currently charged \$65.87 per ton for hauling and disposal. The cost per ton is incrementally increased each year using an escalator based on the Consumer Price Index (CPI) and Producer Price Index (PPI), roughly equivalent to approximately three to four percent per year. The cost of the operation of the transfer station was not available. The Town is nearing the end of the 15 year contract with Winter Brothers (contract expires April 30, 2010), and is currently in the process of awarding a new 25 year contract (valid for one 10-year term with three 5-year renewals).

2.2.3. Current Solid Waste Management Costs

Of the 38 survey requests issued to each of the communities within the Town of North Hempstead, 8 responses were received. Table 2-2 provides a list of the respondents and a summary of the reported solid waste collection costs. A detailed summary of the responses is provided in Appendix C to this report. As illustrated in Table 2-2 and Appendix C, limited data was made available to allow an analysis of the cost of service to customers for receipt of solid waste services.

**Table 2-2.
Solid Waste Survey Responses**

Respondent	Collection Practice	Average Annual HH Cost
Carle Place Garbage District	Contracted Private	\$265
Village of Manorhaven	Contracted Private	NA*
Village of Great Neck Plaza	Contracted Private	NA*
Village of North Hills	Homeowner Contracted	NA*
Village of Roslyn Estates	Contracted Private	NA*
Village of Russell Gardens	Contracted Private	NA*
Village of Thomaston	Contracted Private	NA*

* The budget information presented by the villages could not be broken down to separate out and assess solid waste collection costs.

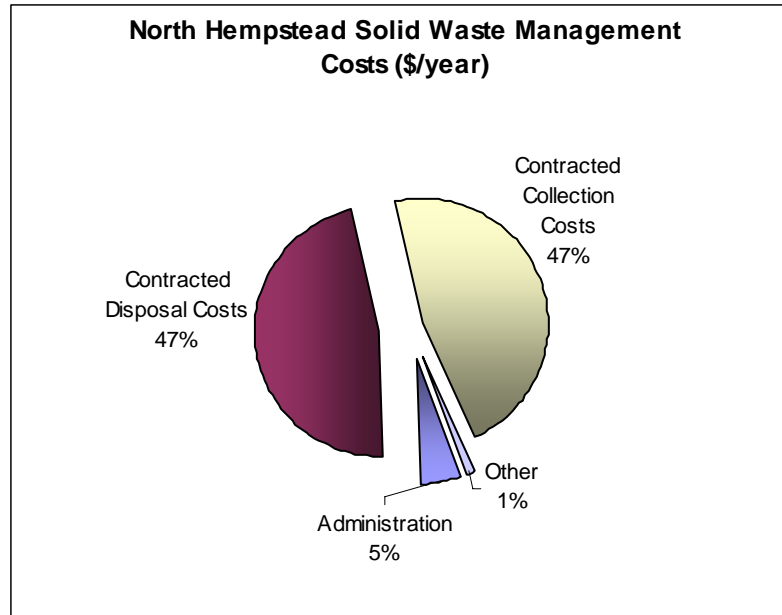
As such, in an effort to establish an understanding of potential costs, general budget data was obtained from information available through internet searches and other published sources for the following communities:

- Albertson-Searington-Herricks Garbage District
- Carle Place Garbage District

- Glenwood Garbage District
- Great Neck Garbage District
- Manhasset Garbage District
- New Cassel Garbage District
- New Hyde Park / Garden City Park Garbage District
- Port Washington Garbage District
- Roslyn Garbage District
- Village of Great Neck Plaza
- Village of Kings Point
- Village of Manorhaven
- Village of Russell Gardens
- Village of Sands Point
- Village of Thomaston

The above communities cumulatively budgeted approximately \$13 million in FY07 for solid waste services. A summary breakdown of the budget is presented in Figure 2-4. In sufficient information was available on a community basis to assess the level of service, number of customers, and/or the types and quantities of waste managed to allow for a comparison of typical solid waste performance metrics used to assess efficiency and effectiveness.

Figure 2-4: North Hempstead Solid Waste Management Costs (\$/year)



2.3. Town of Hempstead

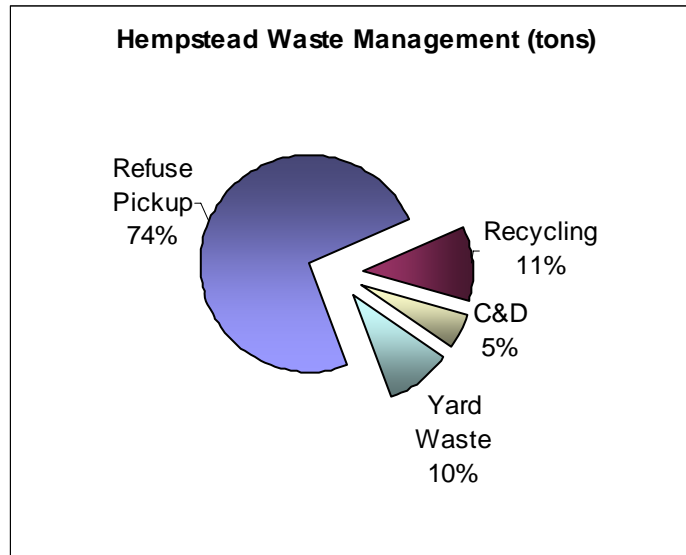
The following provides an overview of solid waste practices in the Town of Hempstead. This information is based on information published by the Stony Brook Waste Management Institute, information provided by the Town and the responses received to the survey request issued to the Town and each of the sanitation providers located within the Town. A tabular summary of supporting data is provided in Appendix C.

2.3.1. Description of System and Service Area

The Town of Hempstead represents approximately 59 percent of the population (approximately 764,000 residents) of Nassau County according to US census bureau statistics and about 59% of the residential (and small commercial) waste generated (approximately 800,000 tons per year) based on a recent survey conducted by the Stony Brook Waste Management Institute. This results in a per capita generation rate of more than 5.7 pounds per person.

Figure 2-5 provides a breakdown of the reported waste generation quantities. As illustrated, the reported recycling rate, including yard waste, in the Town of Hempstead is approximately 21 percent of the waste generated.

Figure 2-5: Hempstead Waste Management (tons)



There are 53 communities, including 20 incorporated villages located in the Town of Hempstead. The communities are serviced by 8 sanitation/refuse districts and 3 Village departments. These districts provide for waste collection services within their district boundaries. The Town of Hempstead runs 3 of these 8 sanitation/refuse districts. Table 2-3 presents a summary of the Town of Hempstead collection methods and disposal locations.

**Table 2-3.
Town of Hempstead Collection and Disposal**

District/Village	Communities Served	Disposal Location	Collection Method
Town Board District 3	Bellmore, Bellrose Terrace, East Garden City, East Meadow, Levittown, North Bellmore, North Wantagh, Seaford, South Westbury, Uniondale, Wantagh	HRRF*	Municipal
Town Board District 4	Merrick, North Merrick	HRRF	Municipal
Town Board District 5	Bay Park, Island Park (uninc.), Lido Beach, Point Lookout	HRRF	Municipal

District/Village	Communities Served	Disposal Location	Collection Method
Sanitary District 1	Cedarhurst, Hewlett, Hewlett Bay Park, Hewlett Harbor, Hewlett Neck, Inwood, Lawrence, South Valley Stream, Woodmere, Woodsburgh	HRRF	Municipal
Sanitary District 2	Baldwin, Roosevelt, South Hempstead	HRRF	Municipal
Sanitary District 6	Elmont, Franklin Square, Garden City South, Lakeview, Malverne (uninc.), North Valley Stream, South Floral Park, West Hempstead	HRRF	Municipal
Sanitary District 7	Oceanside	HRRF	Municipal
Sanitary District 14	Atlantic Beach (uninc.)	HRRF	Municipal
Village	Atlantic Beach	HRRF	Private
Village	Bellrose	HRRF	Private
Village	East Rockaway	HRRF	Municipal
Village	Floral Park	HRRF	Municipal
Village	Freeport	HRRF	Private
Village	Garden City	HRRF	Municipal
Village	Hempstead	HRRF	Municipal
Village	Island Park	HRRF	Municipal
Village	Lynbrook	HRRF	Municipal
Village	Malverne	HRRF	Municipal
Village	Rockville Centre	HRRF	Municipal
Village	Stewart Manor	HRRF	Municipal
Village	Valley Stream	HRRF	Municipal

* Hempstead Resource Recovery Facility (HRRF) operated by Covanta

The majority of the collection services in Hempstead are provided by municipal collection crews. The collected waste is either brought to one of two transfer stations owned and operated by the Town of Hempstead or transported direct to the Hempstead Resource Recovery Facility. The Hempstead transfer stations have a combined permitted capacity of 2,800 tons per day. The waste is consolidated and then hauled and disposed of

at the Hempstead Resource Recovery Facility, which has a permitted capacity of 2,500 tons per day. The current disposal agreement with the contract operator (Covanta) of the Hempstead Resource Recovery Facility expires in 2009. Upon expiration of the agreement the Hempstead Resource Recovery Facility becomes a privately owned and operated facility by Covanta. It is our understanding that the Town of Hempstead has negotiated a new agreement for disposal capacity with Covanta.

2.3.2. Solid Waste Management Practices

Planning: Solid waste management within the Town is administered by the Town Department of Sanitation in accordance with Chapter 128n of the Town Code. The Town has sole responsibility for directing the disposal of solid waste generated within its borders. The Town of Hempstead handles regulatory reporting and preparation of the Solid Waste Management Plan (SWMP) for the Town of Hempstead. The Town has an agreement with Covanta for long-term disposal of waste at the Hempstead Resource Recovery Facility and provides disposal capacity to its customers and the villages and districts within the Town boundaries. As discussed above, the current disposal agreement is scheduled to expire in 2009. The Town of Hempstead is in the process of negotiating a new long-term agreement with Covanta for continued disposal of waste at the Hempstead Resource Recovery Facility. It is our understanding that a tentative agreement has been reached, however, the details of this agreement are not available to us at this time. The Town also administers a Stop Throwing Out Pollutants (S.T.O.P.) program and an E-Cycling program that are provided free of charge to Town residents. These programs are offered at various sites throughout the year on a pre-determined schedule. There are 10 S.T.O.P. dates and 2 E-Cycling dates scheduled for 2008.

Collection: The Town provides refuse collection to approximately 240,000 households in Hempstead using municipal collection crews. Each of the solid waste jurisdictions within the Town maintain their own collection schedules. The majority of the Villages and Sanitation Districts within the Town also utilize their own in-house municipal collection crews to provide collection services. Three Districts: Atlantic Beach, Bellrose and Freeport, contract out for all garbage collection to various carters.

Recycling: All residential recycling from the Town goes to Omni Recycling of Westbury. As with the Town of North Hempstead, the price for recyclable materials is market driven and varies accordingly. Revenue is normally received for paper and plastic material recovered and a fee is charged for commingled bottles and cans.

Hauling/Transfer/Disposal: In 2006, there was a total of approximately 800,000 tons of municipal solid waste (MSW), Yard Waste, Recyclables & Demolition/Construction Debris collected and processed either at the town's transfer stations or by direct transport to the Hempstead Resource Recovery Facility.

All waste generated within the Town is processed through the Hempstead Resource Recovery Facility under the conditions of a long-term agreement with Covanta. As stated earlier, this agreement is scheduled to expire in 2009. The Hempstead Resource Recovery Facility currently charges \$68 per ton for solid waste disposal and is anticipated to increase to approximately \$88 per ton under the terms of the newly negotiated agreement.

2.3.3. Current Solid Waste Management Costs

Of the 45 survey requests issued to each of the communities within the Town of Hempstead, 5 responses were received. Table 2-4 provides a list of the respondents and a summary of the reported solid waste collection costs. A detailed summary of the responses is provided in Appendix C to this report.

**Table 2-4.
Solid Waste Survey Responses**

District/village	Collection Practice	Level of Service	Average Annual HH Cost
Sanitary District 1	Municipal	Rear-yard, 5 collections every 2 weeks	\$590
Sanitary District 2	Municipal	Curbside, 2 collections per week	\$577
Sanitary District 6	Municipal	Curbside, 3 collections per week	\$671
Village of Freeport	Private	Curbside, 2 collections per week	\$420
Village of Garden City	Municipal	Rear-yard, 2 collections per week	\$621

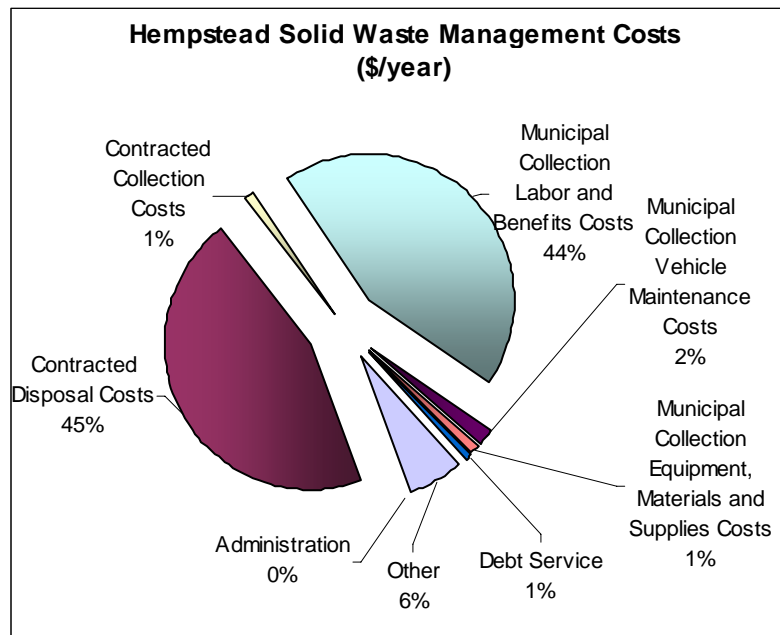
In addition, to the survey responses general budget information was available for:

- Town Sanitation Department
- Town Refuse Disposal District
- Sanitary District #1
- Sanitary District #2
- Sanitary District #6
- Sanitary District #7
- Sanitary District #14
- Village of Cedarhurst
- Village of Garden City

- Village of Lynbrook
- Village of Rockville Center
- Village of Stewart Manor
- Village of Valley Stream

These budgets represent an annual expenditure in FY07 of more than \$200 million for solid waste services. A breakdown of the budgeted expenditures is presented in Figure 2-6.

Figure 2-6: Hempstead Solid Waste Management Costs (\$/year)



2.4. Town of Oyster Bay

The following provides an overview of solid waste practices in the Town of Oyster Bay. This information is based on information published by the Stony Brook Waste Management Institute, information provided by the Town and the responses received to the survey request issued to the Town and each of the sanitation providers located within the Town. A tabular summary of supporting data is provided in Appendix C.

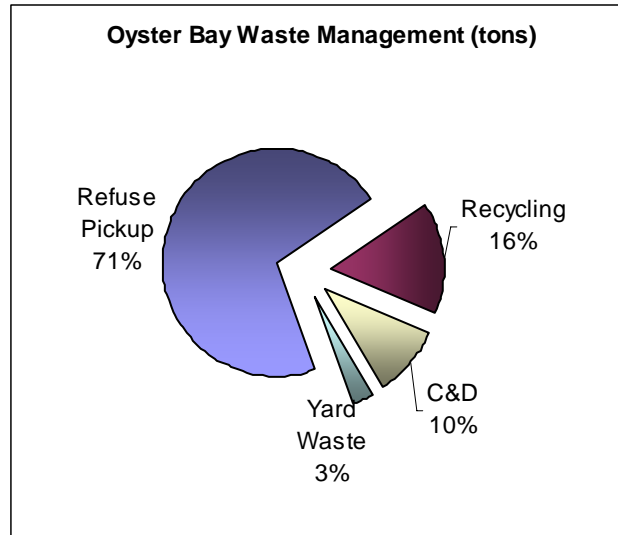
2.4.1. Description of System and Service Area

The Town of Oyster Bay represents approximately 23 percent of the population (approximately 301,000 residents) of Nassau County according to US census bureau statistics and about 18% of the waste (residential and small commercial) generated (approximately 226,000 tons per year) based on a recent survey conducted by the Stony

Brook Waste Management Institute. This results in a per capita generation rate of approximately 4.1 pounds per person.

Figure 2-7 provides a breakdown of the reported waste generation quantities. As illustrated, the reported recycling rate, including yard waste, in the Town of Oyster /Bay is approximately 19 percent of the waste generated.

Figure 2-7: Oyster Bay Waste Management (tons)



There are 33 communities, including 13 incorporated Villages located in the Town of Oyster Bay. The communities are serviced by 3 sanitation/refuse districts and 3 Village departments. These districts provide for waste collection services within their district boundaries. The Town of Oyster Bay runs 1 of the 3 sanitation/refuse districts. Table 2-5 presents a summary of the Town of Oyster Bay collection methods and disposal locations.

**Table 2-5.
Town of Oyster Bay Collection and Disposal**

District/Village	Communities Served	Disposal Method	Collection Method
Oyster Bay Solid Waste Disposal District	Bayville (uninc.), Bethpage, East Massapequa, East Norwich, Farmingdale, Glen Head (portion), Greenvale (portion), Hicksville, Jericho, Locust Grove, Locust Valley, Massapequa, Massapequa Park, North Massapequa, Old Bethpage, Oyster Bay, Plainedge, Plainview, South Farmingdale, West Amityville, Woodbury	Old Bethpage Solid Waste Disposal Complex	Municipal
Glenwood-Glen Head Garbage District	Glen Head, Glenwood Landing	NA	Private
Syosset Sanitation District	Syosset	NA	Private
Village of Bayville	Bayville	NA	Municipal
Village of Sea Cliff	Sea Cliff	NA	Municipal
Village of Matinecock	Matinecock	NA	Private

A number of the low-density communities in the northern portion of the Town (e.g., Old Brookville) procure solid waste removal services through individual private contracts with homeowners.

The solid waste collected by the Town municipal crews is brought to the Old Bethpage Solid Waste Disposal Complex (SWDC) for processing and ultimate disposal. The SWDC facility is owned by the Town and has a permitted capacity of 28,500 tons per month. The Town of Oyster Bay is the permit holder of the SWDC facility.

The Town of Oyster Bay contracts out the operations of the transfer station and the long-haul of waste for disposal outside of the County. The current agreement expires in 2010.

2.4.2. Solid Waste Management Practices

Planning: The preparation of the Solid Waste Management Plan, regulatory reporting, education/outreach, and the collection of E-Waste, Bulk Waste and Special Waste are done on a Town level. The Town collects solid waste and recyclables from all of the properties located within its Solid Waste Disposal District.

Transfer and Disposal of solid waste and recyclables are contracted out. All waste is disposed off the Island. Seventy five percent is trucked to transfer facilities in New Jersey and then put on rail to Ohio. The remaining is hauled to Pennsylvania.

Bottle and can recyclables are sent to Brookhaven under the terms of an intermunicipal agreement. Paper recyclables are contracted out and eventually end up in Canada. The Town currently pays an average of \$70 per ton for disposal. They're in year 8 of a 10 year contract (expires in 2010) and the disposal fees increase every year; the town estimates that the disposal fee will be approximately \$74 per ton in 2009.

The Town also operates a recycling program called Separate Oyster Bay's Recyclables Today (SORT). The SORT facility also has collection routes, and they have more stops because they also service properties that contract out their collection. In addition, the Town also operates a Stop Throwing Out Pollutants (S.T.O.P.) program for the collection of household hazardous wastes as well as an E-Cycling program. Collection dates are established throughout the year at various locations within the town. This program is offered free-of-charge to Town residents.

Collection: The town collects approximately 214,000 tons of MSW annually. Their collection frequency is 2 times per week, curbside, servicing about 90,000 properties. MSW collection vehicles are staffed with 3 collection workers (1 driver and 2 handlers).

The recycling SORT program utilizes 2-man crews and compartmentalized vehicles on a collection frequency of once per week. The recycling collection vehicles are equipped with dual steering wheels so either worker can control the vehicle from either side of the vehicle.

Maintenance: Central Vehicle Maintenance has a dedicated department for the maintenance, cleaning and repair of Sanitation Department Vehicles. This department is staffed 24 hours per day, 5 days per week. The total cost charged for sanitation maintenance, repairs, cleaning and fuel is approximately \$2,000,000 per year, representing approximately 36% of the entire Central Vehicle Maintenance budget.

Recycling: Recycling collection is done through the SORT facility. They collect recyclables with 2 man crews and bring the recyclables to the SORT facility. The Town provides residents with a 20 gallon yellow recycling container at no charge. In 2006, they collected 7700 tons of newspaper, 7900 tons of co-mingled glass/metal/plastic, 8800 tons of yard waste and smaller amounts of other miscellaneous materials. The co-mingled recyclables are disposed of through an intermunicipal agreement with Brookhaven – the recyclables go to their Materials Recovery Facility (MRF). Paper is contracted out and goes to a mill in Canada. Yard waste is composted by a private facility.

Disposal/Hauling: Total MSW going to the transfer station is approximately 214,000 tons. All MSW is disposed off the Island through a private contractor. The Town sends about 75% of its waste by rail to the Ohio Apex landfill. Their 10 year contract expires in early 2010. They are currently paying \$69.84 per ton, in 2008 it will be \$72.28 per ton and in 2009 it will be \$74.80 per ton. These costs include operating the transfer station, hauling and disposal. The remaining 25% of its waste currently is trucked to Pennsylvania. The same contractor is used for both the Ohio and Pennsylvania disposal. For those municipalities that are not participating in the Oyster Bay SWDD, they have 2 options – they can use the Resource Recovery Facility in Hempstead or they can use the City of Glen Cove Transfer Station. The City of Glen Cove uses the same contractor as the Town of Oyster Bay for disposal.

2.4.3. Current Solid Waste Management Costs

Of the 33 survey requests issued to each of the communities within the Town of Oyster Bay, 2 responses were received. Table 2-6 provides a list of the respondents and a summary of the reported solid waste collection costs. A detailed summary of the responses is provided in Appendix C to this report.

**Table 2-6.
Solid Waste Survey Responses**

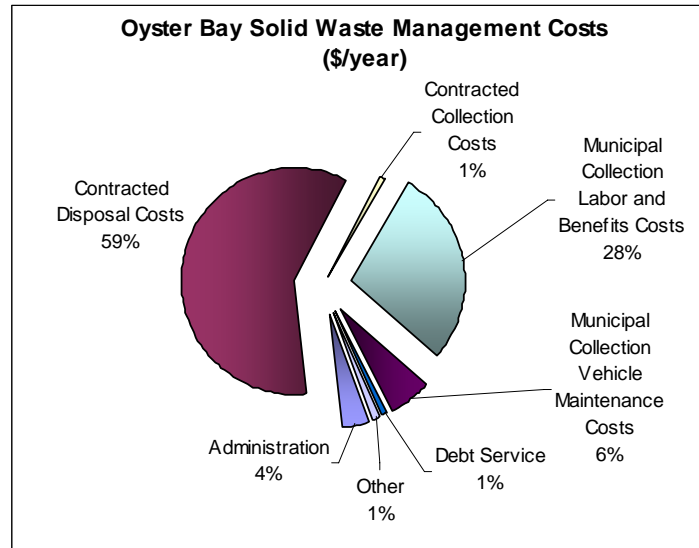
District/Village	Collection Practice	Annual HH Cost
Glenwood-Glen Head Garbage District	Contracted Private	\$300
Village of Old Brookville	Private Individual Contracts	NA

In addition to the survey responses, general budget information was available for:

- Town Sanitation Department
- Town Solid Waste Management District
- Town SORT Facility
- Glenwood-Glen Head Garbage District
- Village of Oyster Bay Cove

These budgets represent an annual expenditure in FY07 of more than \$41 million for solid waste services. A breakdown of the budgeted expenditures is presented in Figure 2-8.

Figure 2-8: Oyster Bay Solid Waste Management Costs (\$/year)

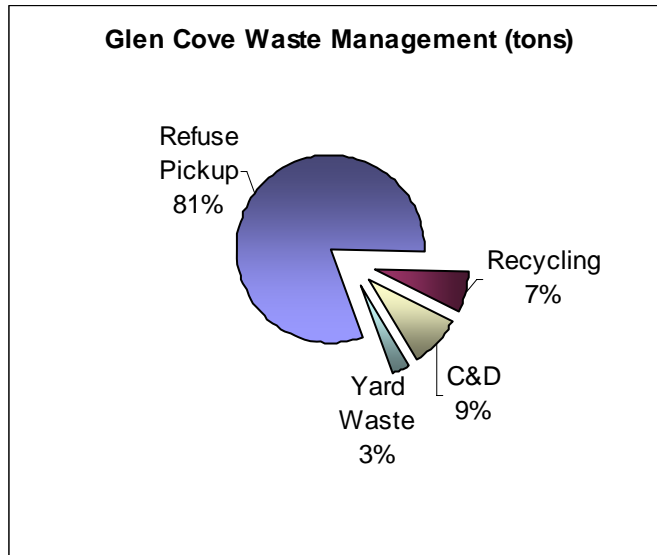


2.5. City of Glen Cove

The City of Glen Cove represents approximately 2 percent of the population (approximately 27,000 residents) of Nassau County according to US census bureau statistics and about 2% of the waste (residential and small commercial) generated (approximately 20,000 tons per year) based on a recent survey conducted by the Stony Brook Waste Management Institute. This results in a per capita generation rate of about 4.2 pounds per person.

Figure 2-9 provides a breakdown of the reported waste generation quantities. As illustrated, the reported recycling rate, including yard waste, in the City of Glen Cove is approximately 10 percent of the waste generated.

Figure 2-9: Glen Cove Waste Management (tons)



No cost information was available for the City of Glen Cove.

The City of Glen Cove provides collection services to its residents using municipal collection crews on a frequency of two collections per week. Collected waste is brought to the Glen Cove transfer station for consolidation and ultimate disposal at an out-of-County landfill. The Glen Cove transfer station has a daily maximum capacity of 1,200 tons and a maximum average capacity of 800 tons per day. Glen Cove uses the same disposal services contractor as the Town of Oyster Bay.

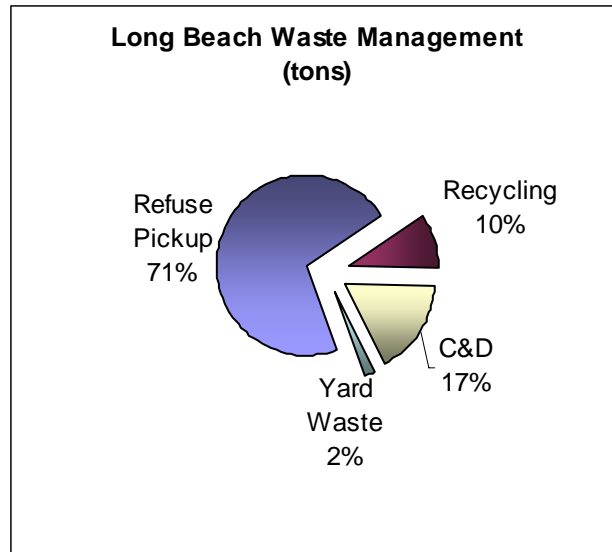
Recyclables are collected by separate municipal crews and are transported directly to private recycling processors.

2.6. City of Long Beach

The City of Long Beach represents approximately 2.7 percent of the population (approximately 36,000 residents) of Nassau County according to US census bureau statistics and about 2% of the waste (residential and small commercial) generated (approximately 27,000 tons per year) based on a recent survey conducted by the Stony Brook Waste Management Institute. This results in a per capita generation rate of more than 4.1 pounds per person.

Figure 2-10 provides a breakdown of the reported waste generation quantities. As illustrated, the reported recycling rate, including yard waste, in the City of Long Beach is approximately 12 percent of the waste generated.

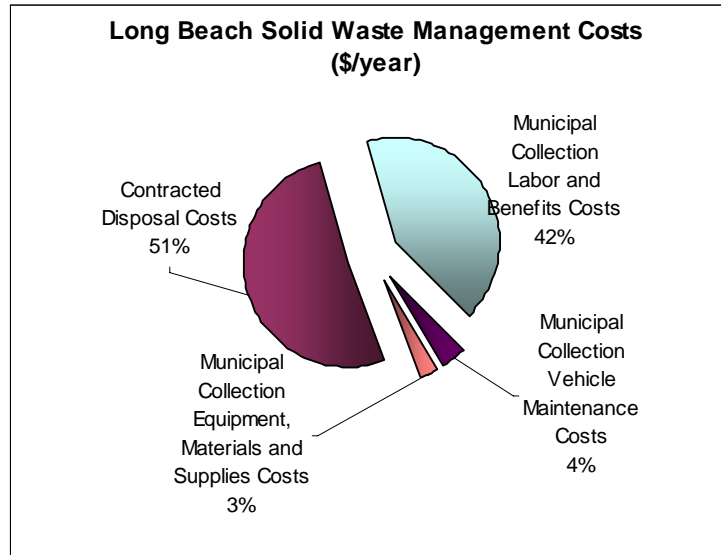
Figure 2-10: Long Beach Waste Management (tons)



The City of Long Beach provides collection services to its residents using municipal collection crews on a frequency of two collection per week. Collected waste is transported directly to Omni Recycling of Babylon for ultimate off-island disposal. Recyclables are collected once per week and processed by a private vendor.

Figure 2-11 presents an allocation of the City of Long Beach's annual solid waste management costs. The following cost information for the City of Long Beach is based on 2007-2008 recommended budget.

Figure 2-11: Long Beach Solid Waste Management Costs (\$/year)



This may not reflect all solid waste costs. For example, the solid waste budget does not include and administrative costs or debt service costs. These may be budgeted elsewhere by the City.

2.7. Current Debt and Planned System Improvements

Currently, there is little existing debt associated with the solid waste operations throughout the County. The debt for the Hempstead Resource Recovery Facility will essentially be paid off concurrently with the expiration of the current agreement in 2009. Any future debt associated with the resource recovery facility will be the responsibility of Covanta, the private owner and operator of the Facility upon contract expiration. Recyclable material processing, other than some preprocessing at the municipal transfer stations and the Oyster Bay SORT facility, is essentially provided by the private sector.

As such, the current debt is limited to the debt associated with the municipally owned transfer stations/SORT facility and any municipally owned solid waste collection equipment including any related equipment storage and administration facilities. Based on the limited data received, it appears that most of the sanitation districts or departments do not carry a significant amount of outstanding debt. It is estimated that the current debt represents a very small percentage of the total annual cost of services (i.e. less than a few percent). However, there may be associated debt (for example, through municipal general obligation bonds) which is not directly attributed to sanitation departments/districts but

did provide capital necessary to purchase new collection vehicles or fund other capital needs.

With respect to planned system improvements, information regarding the five-year capital improvement programs for the Towns or Villages or Districts was not readily available. To our knowledge, however, no new solid waste facilities are currently being permitted by the Towns, Villages or Districts

2.8. Rates and Financial Information

Across Nassau County, commissioner-run sanitation districts have recently been under the scrutiny of the County Comptroller. The Comptroller's office has issued a number of audits and reports including the 2005 report, *Nassau County Special Districts: A Case for Reform*, which cites "serious financial mismanagement, a lack of oversight, few written policies and procedures, overspending, faulty contracting and questionable employment and benefit practices."⁵ These reports, in addition to press conferences held by the Comptroller's office, have increased public concern that commissioner-run sanitation districts "operate largely outside the scope of government oversight and that they impose too significant a tax burden."⁶ Findings from an operating cost analysis are presented which suggest that "large town-run districts that contract out services are far more efficient and are less costly to operate than commissioner-run districts (District Nos. 1, 2, and 6 in the Town of Hempstead)."⁷

As illustrated above, limited detailed financial information is available regarding the cost of service for solid waste collection, recycling and disposal. Most of the available information has been extracted from available Town budget information and reports prepared by the County Comptroller. This information indicates significant price differential from community to community and Town to Town.

Based on the available information, it appears that the unit disposal costs are generally consistent from community to community. These unit disposal costs are similar to surrounding jurisdictions and reflective of current market rates. As such, the variation in the community solid waste management costs appear to be primarily associated with the collection operations and largely dependent on the service provider and to some extent the level of service. Section 3 provides additional information regarding an assessment of current costs and potential savings available through consolidation of services.

⁵ *Nassau County Special Districts*, p. i-ii.

⁶ *Local Government Issues in Focus*, p.9.

⁷ *Nassau County Special Districts*, p.11.

3. Solid Waste Assessment Summary

As previously discussed, detailed information regarding customer base, solid waste quantities, recycling practices, organizational structure, collection practices, disposal operations and revenues and expenses for each of the systems are not readily available. A survey was prepared and distributed to each of the communities in an effort to obtain such data. Only limited information was provided in response to the survey and subsequent requests. A copy of this survey is attached as Appendix B.

Responses to the surveys were limited. Only 15 responses representing approximately 12% of the communities were received. Only 8 of these responses included detailed financial information, as requested. It should be noted that no detailed survey responses were provided by the villages of Nassau County. A table summarizing the available data for each of the communities and the responses received to the survey are presented in Appendix C. The following assessment is based on the limited data that was made available from the survey responses and other existing sources and reports that were reviewed as part of this project (see Appendix A). As such, the findings of this assessment are subject to change pending the receipt of additional information.

From the existing reports, data sources and survey responses, we are able to make several observations regarding the potential opportunities for consolidation and benefits that may be derived. We were also able to compile benchmark data for other communities to serve as a reference and provide a basis of comparison. Our assessment is organized into three categories: Collection, Disposal and Administration.

3.1. Collection Services

3.1.1. Overview

Collection practices and level of service vary from Town to Town and community to community. Communities within the Town of North Hempstead primarily contract with private carters for the provision of collection services to their customers. Some of the communities in the Town of Oyster Bay also contract for services on behalf of their customers and in some cases the residents contract directly with private haulers. The Town of Oyster Bay, however, uses municipal collection crews to service its customers. The Town of Hempstead and the majority of communities in Hempstead also use municipal collection crews for provision of collection services to their customers. Appendix C to this report presents a summary of the collection practices and level of service for each of the communities in Nassau County to the extent that the survey responses and review of existing reports provided such information.

3.1.2. Savings Opportunities

While detailed information was not made available regarding collection practices and costs, a comparison of qualitative and quantitative performance measures can serve to identify saving opportunities and areas in which solid waste collection performance may be improved. This report references the *FY 2006 Data Report* from the International City/County Management Association (ICMA) Center for Performance Management and *The Benchmarking of Residential Solid Waste Collection Services* article by Jeremy K. O'Brien, P.E., from the Solid Waste Association of North America (SWANA), published in the September/October 2007 issue of "MSW Management".

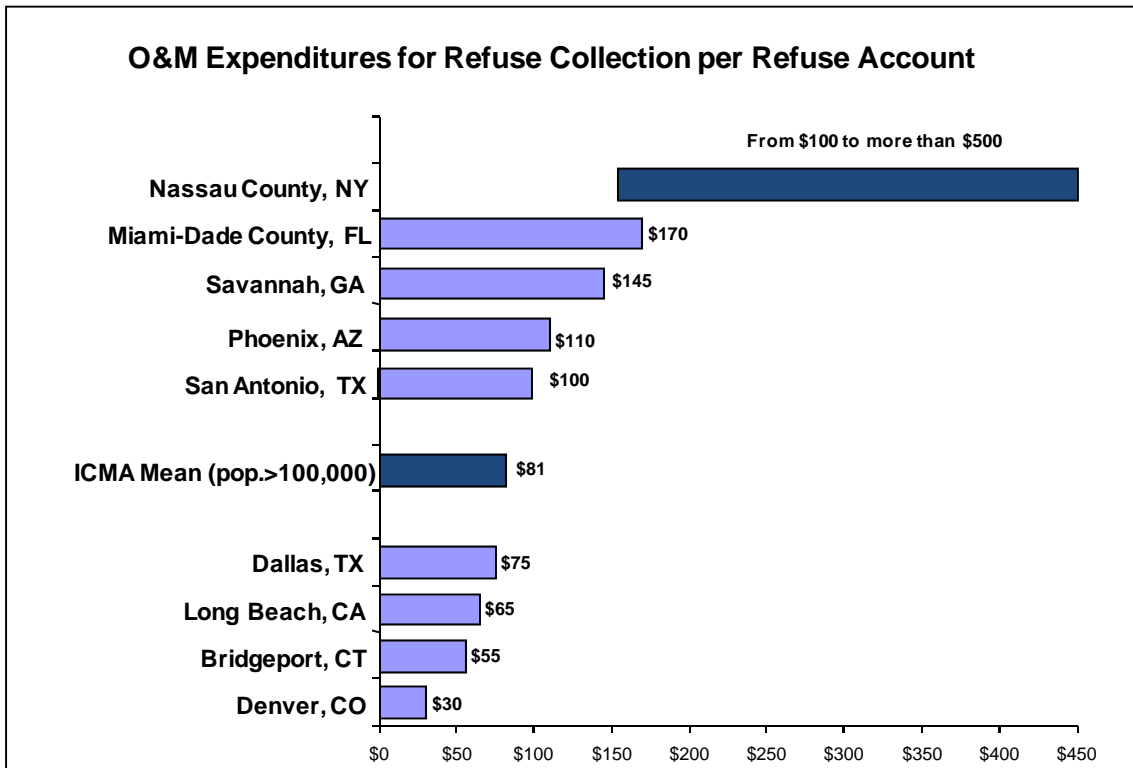
The data for the ICMA and SWANA reports was collected from municipalities across the country. It is important to note that there are several factors which may influence the comparability of these benchmarks to Nassau County, including:

- Collection frequency (solid waste, recyclables, yard waste, bulky items, etc.)
- Materials collected (residential waste, recyclables, yard waste, bulky items, etc.)
- Collection method (curbside or back door pickup, commingled or separate set out)
- Contracted services versus municipal employees
- Use of workday incentive programs
- Local ordinances and/or State laws mandating recycling participation

These benchmarks provide Nassau County with a useful framework against which current solid waste collection practices may be gauged. The data also provides a guideline for Nassau County to measure future performance, given the lack of performance data currently measured and tracked by solid waste collection agencies within the County.

Figure 3-1 presents a summary comparison of typical collection costs per customer account based on information presented in the ICMA FY 2006 Data Report and that available for Nassau County.

Figure 3-1: O&M Expenditures for Refuse Collection per Refuse Account



As shown in Figure 3-1, the average operation and maintenance expenditure for collection services in Nassau County is high relative to other municipalities included in the ICMA 2006 Data Report. While there are likely differences between levels of service, materials collected, and the costs of fuel, equipment and labor, among other issues, that may account for some disparities between average operation and maintenance expenditures on a municipal level, it is apparent that Nassau County and particularly the Town of Hempstead may be able to reduce the average cost of operation and maintenance per refuse collection account. The following presents a comparison of some additional benchmarks and data that identifies some of the opportunities for savings and reasons that the costs in Nassau County are generally higher than other communities.

Collection Practices

Table 3-1 presents a summary comparison regarding ICMA and SWANA benchmark performance data and an assessment of some solid waste agencies in Nassau County based on the limited available information and survey responses submitted and summarized in Appendix C.

**Table 3-1.
Collection Practices**

Other Factors	Municipal Refuse Collection Services	
	Nassau Estimate (1)	SWANA/ICMA
Crew Size (Employees Per Truck)	3+ per truck	< 2 per truck (2)
Vehicle Maintenance Costs (\$/truck/yr)	\$40,000 - \$60,000 (Manual)	\$40,000 (Automated) \$14,000 (Semi-Automated) \$8,000 (Manual) (3)
Number of Collection Stops per Shift	500-800 stops	700-1100 stops (3)
Collection Frequency (Refuse Collection Per Week)	2-3 times per week	1-2 times per week (2)

Notes:

1. Nassau County estimate is based on the available data received in response to the survey. See Appendix C.
2. The ICMA (International City/County Management Association) data is based on FY06 Data Report, Refuse & Recycling.
3. The SWANA (Solid Waste Association of North America) data is based on a 2007 Benchmarking Report.

As illustrated in Table 3-1, based on the available information, the level of service is greater and the collection efficiency appears to be less in Nassau County than in the benchmark communities. These findings are subject to change based on the receipt of additional information. In particular, the frequency of garbage collection in Nassau County is greater than average. The number of customers serviced per collection route per day, however, is less than average and the cost to maintain vehicles higher than average.

The following provides additional information regarding these performance indicators.

Labor

Table 3-2 presents a summary of estimated labor costs for employees providing refuse collection in the Town of Hempstead based on the limited information available from the survey responses and review of publicly available reports. As illustrated in the Table 3-2, employee costs in Hempstead are higher than in the benchmark communities. It is also noted that many of the solid waste agencies in Nassau County offer their collection employees a worker incentive program whereby the employee's work day ends once they complete their collection route. This often results in workers working substantially less than 8 hours per day. Information indicates that these workers often work on average 4-6 hours per day. These programs were historically implemented as a way to compensate for the low worker pay and to increase worker productivity. Current industry trends, however, indicate that many communities are looking to abolish these programs due to

increasing insurance costs and worker disability claims associated with employees not taking appropriate safety precautions in an effort to reduce the work-hour day.

**Table 3-2.
Labor Costs**

Entity	Labor Cost ^{1,2}	Employees ²	Average Cost/Employee
Hempstead Town	\$31,470,000	340	\$92,559
Sanitary District 1	\$9,881,400	100	\$98,814
Sanitary District 2	\$8,105,600	69	\$117,472
Sanitary District 6	\$19,932,200	187	\$106,589
Sanitary District 7	\$5,945,100	58	\$102,502
Typical Private ³	na	na	\$50k to \$80k
NYC Municipal ⁴	na	na	Low of \$47k to max of \$101k per employee

Notes:

1. Labor Cost includes salaries, benefits (e.g., health insurance, social security, etc.) and other attendant costs. Pension costs are not included.
2. Labor Costs and Employees have been adjusted to remove seasonal laborers.
3. While published data regarding typical private sector salary and benefits is not available, general industry knowledge and discussions with local providers indicate salaries in the \$40k to \$55k range with benefits adding 30 to 40% more.
4. New York City (NYC) in February 2008 published sanitation employee salaries with CDL driver's licenses starting at \$31k with max after 5 1/2 years of service of \$67k with employees that must reside in NYC, Nassau or Westchester County. This provides a range of \$47k to a max of \$101k assuming 50% benefit cost rate.

Consolidated labor provides for greater productivity and utilization of staff. For example, small systems may have work for only 3/4 of an FTE, but employees are hired full time. This results in underutilization of the employee. During peak periods and emergencies, unconsolidated systems would likely have to pay significant amounts of overtime. A consolidated entity could have better workload management, utilizing employees to their full potential and minimizing overtime during peak periods.

Table 3-3 presents a summary comparison of the collection costs in the Town of Hempstead based on available information. The Town of Hempstead, which currently has the greatest number of accounts, currently has the lowest reported cost of service for collection in the Town. While this is in part due to level of service and other factors (i.e., Hempstead provides twice per week curbside collection as compared to Sanitary District 6 which provides three times per week curbside collection, a significant portion of the lower costs is likely due to economies of scale.

**Table 3-3.
Hempstead Collection Costs¹**

Entity	Budget	Tons Collected²	Accounts	Cost/Ton	Cost/Account
Hempstead Town	\$37,129,750	147,675	84,000	\$251	\$442
Sanitary District 1 ³	\$11,197,000	40,950	18,975	\$273	\$590
Sanitary District 2	\$9,689,200	32,310	16,800	\$300	\$577
Sanitary District 6	\$23,486,000	65,758	35,000	\$357	\$671
Sanitary District 7	\$6,871,000	26,215	NA	\$262	NA

Notes:

1. Based on information provided by the Town of Hempstead in their budget and through District survey responses.
2. Tons Collected includes municipal solid waste and recyclables.
3. Sanitary District 1 provides rear-yard collection services. In addition, it is noted that the number of accounts reported by the Sanitary District 1 varies significantly from the number of parcel data in the Comptroller Office.

Vehicle Maintenance Costs

Solid waste collection in Nassau County is predominately performed with manual collection vehicles. As shown in Table 3-1, Nassau County spends significantly more on vehicle maintenance (per vehicle, per year) than the SWANA industry benchmark indicating significant opportunities for cost savings.

Nassau County also has a higher back-up collection vehicle ratio (on the order of 40 to 50%) than the industry typically recommended standard of one vehicle for every 3 or 4 vehicles (25 to 35%). In order to ensure that customers receive uninterrupted service, solid waste collection agencies typically maintain operational backup vehicles. The size of the backup vehicle fleet is largely determined by equipment reliability and the frequency of accidents; however, these vehicles represent an additional capital cost that is ultimately borne by the customer.

The data provided by the SWANA benchmarking report indicates a typical backup vehicle ratio of about 30 percent (i.e., about one backup vehicle for every three primary collection vehicles). The SWANA benchmark communities that provide manual collection have an average which is higher than this, which is surprising from a reliability standpoint – since manual vehicles are generally recognized as the most reliable of the vehicle types. However, collection service agencies sometimes keep older manual collection vehicles rather than salvage them as their salvage values are generally low.

Based on information available for the Town of Oyster Bay and the Village of Garden City it is believed that the backup vehicle ratio in Nassau County is higher than the SWANA average and recommended levels. The Town of Oyster Bay indicated that its backup vehicle ratio is approximately 43 percent. The Town of Oyster Bay reportedly maintains 44 manual packer trucks, servicing 44 collection routes, with an additional 19 operational manual packer trucks in its backup fleet. The Village of Garden City in the Town of Hempstead indicated that its backup vehicle ratio is approximately 46 percent; it maintains a total of 13 operational collection vehicles to service six routes per day.

The consolidation of sanitation/solid waste collection services amongst the communities reduces the need for backup vehicles and equipment and hence reduced vehicle maintenance costs and cost of purchasing new vehicles. In addition, vehicles and equipment can be stored in centralized locations which will reduce the cost of storage. Standard specifications and bulk purchasing reduces the cost of purchasing and maintaining vehicles. It is estimated that vehicle purchase, maintenance, and storage costs can be reduced by 25 – 50% over current costs for savings in excess of \$1 million annually.

3.1.3. Impact on Taxes

It is estimated that the majority of residents receive collection by municipal collection crews versus private carters. It is further estimated that more than \$75 million is spent annually on municipal labor, benefits and insurance for provision of the municipal solid waste collection services, with the majority of this amount being expended by solid waste agencies in the Town of Hempstead. In addition, it is estimated that another \$8 million is expended annually on vehicle and equipment maintenance. As illustrated in Table 3-3, Hempstead Town, which currently offers the greatest economy of scale, appears to have the lowest cost for provision of collection services. If the other districts in Hempstead were consolidated under the Town of Hempstead and were able to achieve the same cost of service (i.e., \$442 per account versus \$577 to \$671 per account as noted in Table 3-4), the annual savings would be on the order of \$13 million not including vehicle maintenance. Vehicle maintenance savings could be as much as \$1 million annually. Consolidation of the districts in the Towns of Oyster Bay and North Hempstead could potentially offer an additional \$3 million in annual savings in collection services. The sum of the above consolidation efforts could provide a potential savings of approximately \$17 million annually.

If the cost of service in those communities that provide municipal collection services could be reduced to that of communities that contract services to private carters on a consolidated scale the savings would be significantly greater (more than double the above savings estimate). For example, Miami-Dade County provides once per week sanitation collection services to a population of approximately 1,400,000, and spends an average of \$170 per refuse collection account as compared to Hempstead at \$442 per account.

3.2. Disposal and Recycling Services

3.2.1. Overview

In general, disposal services have already been consolidated at the Town level. The disposal of waste represents approximately 50% of the reported budget expenditures for solid waste management services and is provided primarily through contracts with the private sectors.

The Town of North Hempstead owns a transfer station where communities within the town can bring their collected materials for disposal. The Town of North Hempstead contracts out the long haul and disposal of waste from the transfer station to out-of-County disposal facilities on behalf of their communities. The Town of Oyster Bay and the City of Glen Cove also own transfer stations and contract out disposal for their participating communities similar to the Town of North Hempstead. The Town of Hempstead also owns two transfer stations; however, waste is disposed of at the Hempstead Resource Recovery Facility.

Currently, the reported per ton haul and disposal rates are similar throughout the County (i.e., \$65 to \$70 per ton). The average quantity of waste generated per customer, however, is not. This may be due to a variety of factors including handling of commercial waste and multifamily units. Table 3-4 presents a summary of current reported disposal costs and per capita waste generation rates.

**Table 3-4.
Town Contracted Disposal Costs and Estimated Per Capita Generation**

Town	Unit Disposal Cost	Per Capita Generation (1)	Disposal Cost Per Person Per Year
North Hempstead	\$66 per ton	6.3 lbs/pp/day	\$76
Hempstead	\$68 per ton	5.9 lbs/pp/day	\$73
Oyster Bay	\$70 per ton	4.1 lbs/pp/day	\$52

Note:

1. Expressed in pounds per person per day (lbs/pp/day),

The provision of recycling services has not been consolidated on the Town level. Typically, each community separately implements its own recycling program in general accordance with the goals and requirements of the Town’s Solid Waste Management Plan. Current recycling rates in Nassau County are low in comparison to surrounding communities and State goals. There are no publicly owned Material Recovery Facilities (MRFs) for processing commingled recyclable materials, although some communities have drop off centers with some upfront processing. Recyclable materials are primarily delivered to the private sector for processing and marketing to end users. Material

markets are currently stable and the sale of these materials can provide a significant revenue source especially when taking into account the offset of the disposal cost.

3.2.2. Savings Opportunities

The primary opportunities for solid waste disposal and recycling savings come from the contracting of services and from increasing recyclable material diversion rates to offset disposal costs and provide a source of revenue as discussed below.

Contracting Disposal/Recycling Services

Consolidation of contract services may result in additional savings for Nassau County taxpayers by providing increased flexibility and a stronger negotiating position. Currently, the solid waste generated in the Towns of Oyster Bay and North Hempstead is hauled off-Island while the waste generated in the Town of Hempstead is disposed of at a local waste-to-energy facility. Coordinated bargaining when negotiating haul and disposal fees may result in a lower cost per ton, and may enable the Towns of Oyster Bay and North Hempstead to minimize the need to haul all waste off-Island. A consolidated sanitation system may also result in the utilization of more recycling facilities, transfer stations and disposal facilities. Having these options available may reduce costs through eliminating the need for provisional back up disposal or recycling capacity; costs incurred for the diversion of waste may be avoided.

Recycling

The implementation and enforcement of a strong and consistent recycling program can provide reduced solid waste management costs and tax savings to residents. These savings are achieved through the sale of the recyclable materials and through the reduction in the quantity of waste requiring disposal. The consolidated entity can more cost effectively develop programs, provide increased public education and enforcement, provide data collection and program monitoring, provide consistency in implementation and support the development of markets and processing facilities. Such programs may include food waste recycling programs in all of the schools and facilities which have large cafeterias, commercial recycling programs, PAYT programs and single stream recycling where residential curbside recyclables are collected in a single container to increase participation and diversion, among others.

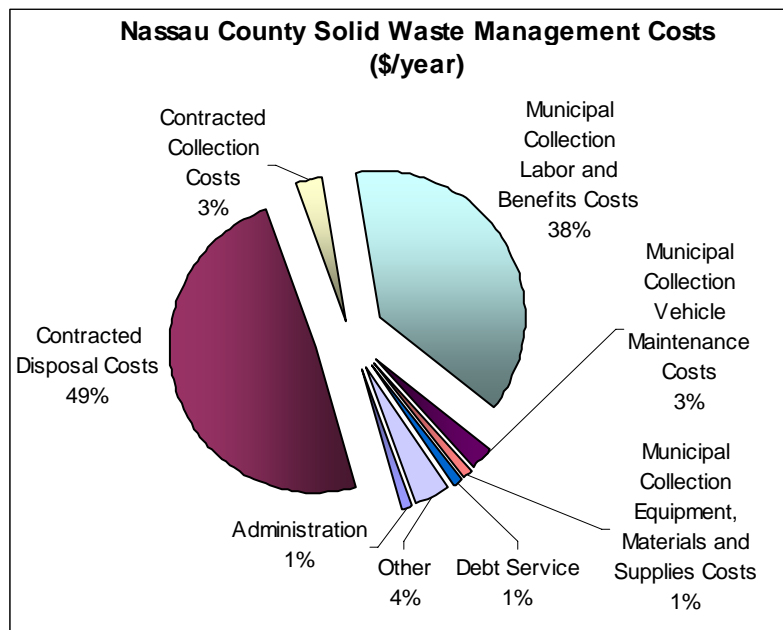
A program which is gaining increased popularity and is often implemented in conjunction with single stream recycling is RecycleBank. RecycleBank is a program where customers are rewarded directly based on their participation in recycling activities. Weighing and tracking devices are installed on collection vehicles and containers and customer participation in recyclable materials diversion is measured. Residents can receive up to \$35 per month in coupons back based on their level of participation. Currently over 250 businesses participate in the redemption of coupons including businesses such as

CocaCola company, CVS, Staples, Target, Rite Aid, etc. RecycleBank has been implemented in several communities in Pennsylvania, Massachusetts, Connecticut, Delaware, Vermont and New Jersey. The revenue generating capability of RecycleBank programs in New York are not as great as in other states due to the New York Bottle Bill legislation where ideally valuable materials such as aluminum cans should be redeemed directly for the deposit paid vs. placed on the curb for collection. Regardless of the type of recycling programs implemented, the successful development of such programs requires coordination with processing facilities and market outlets and is best accomplished under a consolidated effort.

3.2.3. Impact on Taxes

It is estimated that more than \$200 million is spent annually on solid waste services of which approximately 50% or \$100 million annually is spent on disposal as illustrated in Figure 3-2. The contracting of services under a consolidated approach could provide from 1% to 5% reduction in disposal costs resulting in an annual savings of \$1 million to \$5 million. Residential recycling rates current average approximately 10% of the waste generated. If recycling were increased to 14% - 18% of the waste generated from the current 10% level than the annual savings would be approximately \$4-\$10 million. Therefore, the total potential disposal/recycling savings through the above consolidation efforts would be from \$5-\$15 million annually.

Figure 3-2: Nassau County Solid Waste Management Costs (\$200M annually)



3.3. Administration Services

3.3.1. Overview

Consolidation can dramatically reduce costs associated with administrative services by reducing the number of management organizations. Services that can be merged between consolidated communities include: GIS, billing systems, annual financial audits, financial statements, solid waste management reporting, budgeting process, procurement offices, human resources departments, information technology departments, fleet maintenance departments, administrative office buildings, legal departments, procurement and selection of consulting services, telecommunications contracts, office supply contracts, uniform laundering contracts, capital improvement plans, insurance carriers, and solid waste services websites, among others. In addition, a consolidated entity is better able to implement optimization programs such as those discussed in the subsequent section.

3.3.2. Savings Opportunities

The following presents a summary of areas of savings that could be achieved through consolidating administrative services.

Administration – Eliminate duplicative administrative services and including eliminate or reduce the number of commissioner boards, though these generally represent less than 1% of the district’s budget.

Bulk Purchasing - Economies of scale can reduce cost of fuel through procuring bulk purchasing. A centralized fleet can also provide the potential for the use of alternative fuel, such as natural gas and bio-methane.

Utilities - A consolidated entity would realize savings in utility costs due to the decreased number of buildings and vehicles needed. Consolidating sanitation collection services on a Town level would effectively remove the need for additional office and meeting space for sanitation districts, eliminating the cost of heating, cooling and lighting for those spaces.

Technology - The use of technology such as GIS, collection system routing software, and record keeping software has the potential to provide significant reduction in time and money developing collection routes, minimize time spent “off-route,” and record keeping. Routing software can track collection points, type of equipment, crews assigned, and historical tonnage data on each collection route. In addition, GIS and routing software can help to respond to fluctuations in workload by identifying and adjusting to inefficient routes or crews. GIS can help pinpoint the address of a customer service request to expedite a quick response.

Budget Protocols and Cost Allocation/Full Cost Accounting – Adopting a more uniform and business-like approach enables supervisors to better assess costs/benefits, resulting in more efficient/effective decisions. This can improve tracking of utilities, administration, vehicle maintenance, workers’ compensation and vehicle acquisitions.

Performance Measurement and Benchmarking Protocols – Performance measurement assesses an organization’s efficacy, productivity, timeliness and quality. Performance measures are typically used to improve decision-making, assess organizational and individual performance, improve accountability, monitor service delivery and encourage public interest in government operations. To develop a valuable performance measurement/benchmarking protocol, two general strategies are recommended:

- Establish a cooperative with comparable New York/Long Island municipalities to gather specific qualitative and quantitative data for benchmarking purposes. This data may include the type of equipment used, crew size, routes per day/per week, household units served and tons collected by category.
- Collect additional metrics to assist in comparing performance to regional or national benchmarks. These metrics may include: population of area served, percentage of residential accounts served by contract, number of pick ups per week from individual residential customers, number of complaints received about refuse collections per 1,000 residential accounts, tons of refuse collected from residential accounts, average tons of refuse collected per individual residential account, expenditures for refuse collection for individual residential accounts. (Information about the ICMA’s benchmarking activities can be accessed through www.icma.org)

Specifications – Developing uniform specifications to procure optimally configured equipment and vehicles to improve performance and reduce on the job injuries and costs or require the use of recycled material content in new construction to meet public demand for becoming more “green” and to increase recyclable material markets.

Public Education; Recycling Program Development – Educating the public on allowable recycling, yard waste and bulky waste materials can result in increased compliance, ultimately improving service efficiency and effectiveness. This may also include, but would not be limited to, development of programs such as food waste recycling program for schools, single stream recycling, recycle banks, and assistance in implementing commercial recycling programs.

Policies and Procedures - A consolidated entity may also standardize labor union contracts, ensuring uniform, fair and equitable provisions. Additionally, provision of low-cost training for laborers and supervisory staff may result in improved efficiency and reduced on the job stress and injuries. Standardization of policies including health insurance contribution, overtime, sick time, and disability, among others could offer savings potential.

3.3.3. Impact on Taxes

The reported administrative costs associated with the solid waste operations appears to represent less than 5 percent (i.e., less than \$10 million annually) of the total budgeted expenditures in Nassau County. This amount is based on limited detailed data and appears low. This may be due to a number of factors including budgeting of certain administrative expense as a disposal or collection expense and/or inclusion of shared administrative expenses in the general budget. As such, the savings associated with consolidation of administrative services is only anticipated to provide on the order of \$1 million in actual administrative savings. It is further anticipated, however, that the implementation of the above optimization programs under a consolidated entity could provide up to an additional \$5 million in annual savings which represents approximately 2.5% of the annual expenditures.

3.4. Summary of Savings Opportunities

While solid waste disposal services are already generally consolidated under each of the three Towns in the County, significant consolidation and efficiency savings opportunities remain through provision of administrative services, recycling services, and material collection services. Table 3-5 provides a summary of the savings potential.

**Table 3-5.
Summary of Savings Opportunities**

Savings Opportunity	Annual Savings Potential (2008 dollars)
Consolidation of Contracted Services	\$1 - \$5 million
Consolidation/Enhancement of Recycling Programs to Increase Diversion and Decrease Waste Disposal Requirements	\$4 - \$10 million
Consolidation of Special District Waste Collection Services in Hempstead under the Management of the Town of Hempstead	\$13- \$14 million
Consolidation of Waste Collection Services in Oyster Bay and North Hempstead under the Management of the Towns, respectively	\$3 - \$4 million
Consolidation of Administrative Services and Optimization of Service Delivery (i.e. bulk purchasing, utilities, full cost accounting, benchmarking, specifications, education, etc.)	\$1 - \$5 million
TOTAL	\$22 - \$38 million

Note:

1. Estimated savings based on limited available cost information, projections relative to industry benchmarks, and assumptions identified previously in Section 3.

4. Consolidation Alternatives and Benefits

This section of the Report discusses alternatives available for consolidation of services and their advantages and disadvantages. It is noted that legislation is currently being proposed by the New York State Commission on Local Government Efficiency and Competitiveness to reform commissioner-run special districts. A review of this legislation and the consolidation benefits is discussed at the end of this section. Implementation of any of the alternatives will require guidance from the County's legal counsel.

4.1. Organization Alternatives

Consolidation of sanitation/solid waste collection and disposal services within Nassau County could involve either an asset transfer from the town, village, city or special district to a consolidated entities, or a lease agreement between entities. New York State Town Law (Article 12 and 12-A) requires a mandatory referendum to transfer system assets to the regional entity, or the Town could execute an asset lease agreement.

There are several forms of government that could be considered for consolidating sanitation/solid waste collection and disposal systems within Nassau County. These include creating one or more public authorities, county districts, or town districts. In addition, some consolidation could be achieved through regional cooperation. A brief summary of these alternatives is provided in the following sections. However, it is recommended that legal counsel for the County and all the other entities be consulted to ensure compliance with all applicable New York State laws including, but not limited to, Town Law, County Law, Municipal Home Rule Law and Local Finance Law.

4.1.1. Town Sanitation District

This alternative consists of reducing the number of sanitation service providers within Nassau County by consolidating the collection and disposal services within the Towns of Hempstead, North Hempstead, and Oyster Bay, including villages and hamlets/special districts within the Towns. Town Law Article 12 and Article 12-A state that Towns may establish a refuse and garbage district and provide for sanitation collection and disposal or may contract with a private entity to provide such services. There is a 10 year maximum contract for collection, and a 20 year maximum contract for hauling/disposal services. However, Town districts are established within a single town and may not be established in a city. Referenda may be required in establishing a Town district since a Town district may not be established in a village without the village's consent.

The Town Sanitation Authorities or Town Sanitation Districts that could be governed by an independent board of directors made up of Town, village and hamlet representatives. The service area would be based on existing Town boundaries.

Advantages:

- By reducing the number of entities managing sanitation services to three, significant administrative, management, capital and operational redundancy would be reduced.
- Each agency could implement a uniform rate structure, taking into consideration the local residential (single family homes as well as multi-family dwellings such as condominiums or apartment complexes) and commercial (businesses, schools and other non-residential entities) base within each service area. Collection services for multi-family and non-residential entities may be provided by the Town.
- A uniform customer class rate within the service area could improve the understanding and acceptance of rates as all residential customers within the service area would pay the same rates.
- Three separate sanitation agencies would allow greater local control and autonomous operation and management.
- The entity could be given the right to exercise waste flow control over all waste within its boundaries and direct such waste to a publicly owned facility(ies).
- The Town agencies may further expand or enhance Town responsibility through either intermunicipal agreements or legislatively to obtain greater economies of scale. A unified approach in negotiating long-haul contracts or waste-to-energy contracts may result in a lower cost per ton for disposal. This option may also include securing disposal capacity for all districts, mandating recycling programs, enhancing recyclable material market development, providing solid waste and recycling enforcement power, and managing special wastes including disposal and planning services.
- The savings potential of this alternative is \$22 to \$38 million as summarized in Table 3-5.

Disadvantages:

- Some redundancy of personnel and services between the three agencies would remain, reducing the potential savings from economies of scale.
- Other alternatives may be better suited to facilitate regional solid waste management.
- Other alternatives can result in cost savings through consolidation that are greater than that identified in Table 3-5.

4.1.2. Nassau County Sanitation District or Authority

This alternative consists of reducing the number of sanitation service providers within the County by establishing a single sanitation district or authority within the County. Creating a county special district is another structural alternative that may be considered. Article 5-A of the New York State County Law states that county districts do not have the same geographical limitations as town districts and are capable of crossing municipal boundaries to be regional in scope. County districts are also empowered to contract with private or municipal corporations to provide solid waste collection/disposal services. The County legislature is solely empowered to create the district, define its territory, determine the manner on which it will be financed and manage its operations. Additionally, the County legislature may divest communities of all local decision making authority, accountability, and control over services without guaranteed representation of the district's governing body. Referenda may be required in establishing a County district since no county refuse service may be provided to any properties within a city, village, or district which operates a similar service without the consent of such city, village, or district.

The County-wide District or Authority could be governed by an independent board of directors made up of town, city, village and hamlet representatives.

Advantages:

- By reducing the number of entities managing sanitation services to one, significant administrative, management, and operational redundancy would be reduced. This could maximize the realization of potential cost savings through consolidation.
- Provides the ability to adopt a regional solid waste management approach and could facilitate making management, capital and operations decisions that are optimal for the region rather than the sub-locality. The entity could be given the right to exercise waste flow control over all waste within its boundaries and direct such waste to a publicly owned facility(ies). Additionally, a unified approach in negotiating long-haul contracts or waste-to-energy contracts may result in a lower cost per ton for disposal.
- Regionalizing disposal and recycling services within Nassau County would provide backup processing capacity and facilities, and provide greater flexibility for special waste management (bulky items, white goods, construction and demolition debris, etc.).
- A uniform rate within the service area could improve the understanding and acceptance of sanitation collection and disposal rates if all residential customers within the service area pay the same rate for utilizing the sanitation services provided through the County.
- Sanitation system jurisdiction would more closely match County jurisdictional boundaries, and improve operation and maintenance efficiencies.

- Maximizes in-county cost savings opportunities that could result in savings significantly in excess of that identified in Table 3-5.

Disadvantages:

- This structure could result in reduction in local control over sanitation collection service levels.
- Implementation of a uniform rate across the service area could be a challenge due to differences such as the amount of debt service and capital reinvestment in each existing sanitation district, contract disposal method (long haul or on-Island waste to energy facility), and potential variations in the service currently provided to customers.

4.1.3. Long Island Sanitation Authority

This alternative consists of reducing the number of sanitation service providers on Long Island by establishing a single Long Island Sanitation Authority. Public authorities are corporate instruments of the State created by the legislature to further public interests. Each public authority is governed by a separate board of directors. While public authorities are generally legally and administratively autonomous from the State, they vary in their degree of fiscal autonomy. The benefits of public authorities include their ability to finance public improvements without increasing taxes, to assess fees on users to cover the costs of construction or operation, to avoid the use of broad-based dedicated revenue streams, to finance the public takeover of private enterprises, to avoid improperly politicizing public services by removing certain entities and associated operations from the direct control of elected officials and to provide a more flexible management environment than is typical of government. Public Authorities are required to provide their basic financial statement, annual procurement contracts, and annual investment reports and audits to the New York State Office of the Comptroller.

The Regional Authority could be governed by an independent board of directors made up of representatives of town, city, village and hamlets in both Suffolk and Nassau counties.

Advantages:

- By reducing the number of entities managing sanitation services in both Nassau and Suffolk counties to one, significant administrative, management, and operational redundancy could potentially be reduced. This could maximize the realization of potential cost savings through consolidation.
- Provides the ability to adopt a Long Island-wide regional solid waste management approach, and could facilitate making management, capital and operations decisions that are optimal for Long Island rather than the sub-locality. The entity could be given the right to exercise waste flow control over all waste within its boundaries and direct

such waste to a publicly owned facility(ies). Additionally, a unified approach in negotiating long-haul contracts or waste-to-energy contracts may result in a lower cost per ton for disposal.

- Regionalizing disposal and recycling services on Long Island would provide backup processing capacity and facilities, and provide greater flexibility for special waste management (bulky items, white goods, construction and demolition debris, etc.)
- A uniform rate within the service area could improve the understanding and acceptance of sanitation collection and disposal rates if all residential customers within the service area pay the same rates for utilizing the sanitation services on Long Island.

Disadvantages:

- Would likely result in reduction in local control over sanitation collection services.
- Implementation of a uniform rate across the service area would be more challenging due to the differences between sanitation collection and disposal systems, such as the amount of debt service and capital reinvestment in each existing sanitation district, contract disposal methods (long haul or on-Island) and potential variations in the service currently provided to customers.
- Potential to maximize savings opportunities both in the County and on the Long Island.

4.1.4. Regional Cooperation

Regional cooperation could be used as a strategy to achieve economies of scale with minimal change in the existing governance structure, and employment, and may result in less resistance from constituents opposed to full consolidation. Under this option some, but not all, functions of the sanitation service providers could be unified, such as purchasing, billing and bill collection, human resources, information technology, etc., which could result in overall cost savings. Often intermunicipal agreements (IMAs) are used to achieve regional cooperation.

General Municipal Law Section 119 and Article IX, Section 1(c) of the New York State Constitution set forth the powers and limitations of entities created through IMAs. The legislation states that municipalities may enter into agreements for the performance among themselves or one for the other of their respective functions, powers and duties on a cooperative or contract basis or for the provision of a joint service.

IMAs are typically limited to five years duration based on existing legislation. The term can be renewed, or extended by operation of law where bonds have been issued and remain outstanding. The typical limitation of five years, however, can impact the future stability of an entity since it is based upon independent decisions by participating

municipalities. Also, an IMA typically allows for withdrawal of participants on short notice, threatening long term stability and long term regional effectiveness.

As such, regional cooperation would require a much higher level of voluntary cooperation, which could increase the likelihood of disagreements between officials and would continue to result in duplication of functions as not all functions could be functionally consolidated. In addition, regional cooperation would not likely achieve the same level of solid waste management effectiveness as a fully consolidated entity. However, regional cooperation may be an effective first step toward developing a fully consolidated solid waste agency within the County.

Advantages:

- Maintains local control.
- Minimal change in existing systems.

Disadvantages:

- Requires a high level of voluntary cooperation.
- Difficult dispute resolution.
- Cannot achieve the same level of savings as full consolidation.

4.2. Proposed Consolidation Legislation

The New York State Commission on Local Government Efficiency and Competitiveness (LGEC) has proposed legislation pertaining to reforms for commissioner-run special districts which are included in Article VII of the Governor's 2008 Executive Budget. These reforms include abolishing (to the extent allowed by applicable law) wages, fringe benefits including insurance, retirement benefits, gratuities, vehicles and other compensatory items for special district commissioners; commissioners will be reimbursed for actual expenses incurred in the performance of their duties. Also, independent sanitation districts would be subject to Town management. This is anticipated to increase accountability and transparency and can help reduce costs.

The proposed legislation would effectively involve a seamless transition of solid waste collection and disposal services from the special districts to the Towns. The districts, commissioners, level of service, tax disparities, and other factors would not be subject to change. The operations would change with employees of districts becoming employees of Towns and with the Towns absorbing purchasing and other administrative services to reduce the burden on districts and obtain transparency and minimize duplicative efforts. However, there are some potential limiting factors with the proposed legislation.

The advantages of the proposed legislation are that it maintains local control, while achieving the majority of the consolidation savings identified in Table 3-5. Specifically, it achieves the collection cost savings and some of the administrative and other savings for an annual savings from \$16 to more than \$20 million annually. It also serves to increase accountability and transparency.

The disadvantages of the proposed legislation are that it does not address the villages and cities and does not maximize the potential savings achievable under full consolidation.

5. Conclusions and Next Steps

The study identified that solid waste disposal services to a large extent are consolidated under each of the three Towns in the County. Significant consolidation opportunities, however, remain through provision of administrative services and refuse and recyclable materials collection services. The following presents a summary of the studies key findings:

- Currently there are at least 70 separate sanitation/refuse districts, village departments and cities providing collection services to customers within their jurisdiction. While limited detailed information was available regarding customers and cost and level of service on a customer basis, the data that was available indicates potential cost savings of between \$20 million and \$40 million annually could be realized through consolidation as summarized in Table 3-5 of this Report. This corresponds to an annual tax and user charge savings to residential customers for solid waste management services of approximately 10 percent to 20 percent per year.
- The current annual residential cost of solid waste management, collection and disposal in Nassau County varies from \$300 per year to \$800 per year based on data available from the Nassau County Comptroller and information provided in response to the survey issued in support of the study. These rates are generally higher than that of other solid waste systems within the Northeast and U.S. However, differences in service levels and disposal methods make comparing solid waste rates among providers difficult.
- The total estimated annual cost to manage, operate and maintain the residential solid waste services within Nassau County is estimated to be in excess of \$200 million annually and represents a significant portion of a resident's annual tax bill.
- The reported average rate of recycling in Nassau County is significantly lower than that of neighboring communities including Suffolk and Westchester Counties and is approximately half of the State's recycling goal. In addition, the reported average quantity of waste generated in Nassau County on a per person basis is significantly higher than these neighboring communities and the State's average.
- A benchmark comparison of solid waste collection services indicates that vehicle maintenance costs are higher and worker productivity lower for municipal collection services in Nassau County then for the benchmarked communities. In addition, the cost of municipal collection services in Nassau County is two to three times more than the average of the benchmarked communities (refer to Figure 3-1). This high cost is due in part to level of service, collection efficiencies, economies of scale and high labor costs.

- The municipal collection crew size is greater in Nassau County than in the benchmarked communities and the labor and benefits to workers is high in comparison to neighboring communities including Westchester County and New York City (refer to Table 3-2). The savings potential in the County would be greater than that summarized in Table 3-5 if such labor issues were directly addressed.
- Increased recycling and consolidated municipal collection services present the greatest opportunities for savings.
- Disposal costs in Nassau County are currently in the range of \$70 per ton, whereas net recyclable material revenues are in the range of \$20 per ton. As such, a savings of as much as \$90 per ton can be achieved for each ton of waste diverted from disposal and recovered for recycling.
- The consolidation of solid waste collection services provides for significant administrative, financial and service delivery benefits and the consolidation legislation currently being proposed by the LGEC appears to be a first step towards achieving consolidation and enhancing services.

A consolidated entity minimizes redundancy, facilitates planning, and provides consistency. Instead of dozens of individual special districts and village, town and city sanitation departments, sanitation services may be optimized through a consolidated approach, thereby reducing the usage of utilities, materials and supplies, and merging contract, administrative, and other shared services. Consolidation also provides greater buying power for employee benefits, materials, supplies, equipment, chemicals, energy, insurance, and office supplies, among others.

Consolidation Benefits and Challenges. There are many benefits and challenges associated with establishing and managing a more consolidated sanitation collection system within the County. As discussed previously, benefits include elimination of redundancy, greater buying power, economies of scale, ability to pool resources, improved education and recycling programs, improved solid waste collection programs and reduced maintenance costs among others. Challenges include addressing the perception that there will be loss of jobs other than through attrition, perceptions of diminished levels of service, the potential loss of influence by people who have been in power, union / collective bargaining restrictions, potential costs associated with acquiring solid waste collection fleets, and the up-front cost of organizational design, planning and integration efforts.

Consolidated capital and facilities planning can help ensure that the revenues collected for system improvements are spent on the most critical overall system needs, reducing unnecessary redundancies. Consolidation can result in a uniform standard for service without lowering the level of service any municipality within the consolidated entity desires. A unified approach may also result in a more equitable and transparent rate structure, and may ameliorate many of equity issues found in the current system.

- Increased recycling and waste reduction food waste in schools universities,
- Refuse and recyclable material collection labor, benefit and insurance cost control
- Energy and fuel cost saving opportunities
- Vehicle purchase and maintenance savings
- Property and other insurance cost savings
- Standard full cost accounting and budgeting procedures
- Development of performance measurement and benchmarking protocols
- Increased use of technology

5.1.1. Consolidation Alternatives

The evaluation of the alternative methods for consolidating solid waste services within Nassau County support the LGEC’s proposed legislation. The legislation being proposed by the LGEC uses a form of functional consolidation to consolidate the responsibility of performing a function or providing a service without changing the structure of the existing governments. Implementing functional consolidation is an effective first step toward developing a fully consolidated sanitation agency within the County. Functional consolidation could be used as a strategy to achieve economies of scale with minimal change in the existing governance structure, and employment, and may result in less resistance from constituents opposed to full consolidation. Functional consolidation would require a much higher level of voluntary regional cooperation, and would continue to result in duplication of functions as not all functions could be functionally consolidated.

Consolidation on a Town level appears to be the most readily achievable option to reduce costs while increasing transparency and accountability. It also provides for a generally seamless transition for residents since they will not see any impact in the level of service or the face of their current service provider. Some of the potential issues are that many of the cost disparities will remain and that the savings potential associated with this alternative may be limited unless labor issues are addressed. The proposed legislation also does not address the villages. As such, it is recommended that villages and, to the extent allowable by law, cities are included in Town solid waste consolidation efforts to maximize the realization of potential cost savings from consolidation.

In addition to the proposed legislation, the County may consider forming a regional solid waste and recycling board. The board would provide a mechanism for greater shared services and economies of scale including mechanisms for intermunicipal agreements or further consolidation among each other and the villages and cities. The board could be comprised of County, Town, Village and City sanitation representatives to provide

management coordination, assist municipalities with implementing cost saving opportunities, and foster shared services.

Oversight and assistance activities could include:

- Developing and implementing effective recycling programs including dissemination of public information and education on solid waste and recycling
- Developing specifications for “green” buildings and use of recycled material content to bolster recyclable material markets and for vehicles such as compressed natural gas or biodiesel vehicles
- Leverage resources from academia including the Institute of Waste Management at Stony Brook University which currently compiles solid waste information in the County, Long Island and elsewhere
- Reducing labor and benefits costs through performance enhancement and/or managed competition
- Negotiating uniform collective bargaining agreements
- Coordinating cost effective shared service programs
- Coordinating further consolidation with villages and cities
- Obtaining bulk contracts for vehicle purchases, containers, materials, supplies, equipment, fuel, insurance, office supplies, telecommunications, and other items
- Developing performance indicators; measuring and tracking performance through internal and external benchmarking efforts
- Maintaining records, providing information resources and issuing reports
- Providing assistance to the commercial sector
 - Increases research, grants, disclosure
 - Leverage Long Island Sanitation Associations

The Board could provide the ability to adopt a regional solid waste management approach and could facilitate making management, capital and operations decisions that are optimal for the region rather than the sub-locality including provision of backup processing capacity and facilities and greater flexibility for special waste management (bulky items, white goods, construction and demolition debris, etc.)

The Town of North Hempstead currently operates an Office of Intermunicipal Cooperation. In addition, there currently exists a Long Island Sanitation Officials Association. This Office of Intermunicipal Cooperation and Association can provide a regional board with a viable mechanism to coordinate or leverage the proposed oversight responsibilities.

5.1.2. Next Steps

This Study was based on an assessment of alternatives and review of costs as available to identify and quantify potential cost savings that could be achieved through consolidation of services. Additional considerations including customer preferences, County-wide vision, interdepartmental impacts and legal implications and requirements should be further addressed and incorporated into developing the best implementation strategy for the Community. As such, it is recommended that the County continue to meet with stakeholders to review and discuss the findings of this study, confirm the anticipated benefits, and identify the most appropriate implementation strategy.

Should the County decide to proceed with consolidation through a regional solid waste management approach as discussed above, the following next steps are recommended:

- Support the legislation being proposed by the LGEC's office for consolidation of management services under the Towns.
- Develop and implement a community outreach strategy in order to obtain public support for the proposal and prevent speculation and mitigate negative perceptions to consolidation such as diminished local accountability and responsiveness. Local media can stimulate public understanding and generate support for the plan.
- Develop a steering committee to develop a framework for the consolidated entity or entities, its governance, determine its powers and organizational and operational procedures, and develop a plan for implementing best management practices throughout the County.
- Engage County, Town, City and Village legal counsel to determine the legal issues and hurdles that will need to be overcome.
- Meet with local and state officials to discuss steps necessary to transfer personnel from one government entity to another. Section 70(2) of the NYS Civil Service Law details procedures that must be followed to transfer personnel.
- Develop a strategy for addressing labor union issues and considerations.
- Identify potential grant funding opportunities.

Appendix A

List of Reports and Surveys

Reports

- Available New York State Department of Environmental Conservation (NYSDEC) Records for Solid Waste Management Plans, Permits, Recycling Reports
- Available Audits by County and State Comptrollers Offices for 2005
- State Comptroller Report on Town Special Districts in NY (Background, Trends and Issues)
- Nassau County Office of Comptroller Cost Disparities in Special Districts in Nassau County, December 18, 2007
- Nassau County Special Districts: A Case for Reform, December 2005 prepared by County Comptroller
- Nassau County Special Districts: Cost Saving Ideas, July 2007 prepared by County Comptroller
- Information by Assessor's Office (2004 tax rate information)
- Outline of Levinson Special Taxing District Proposal, July 2007
- Reports by Waste Reduction and Management Institute at Stony Brook University:
 - Long-Island Garbage Index (overview dated 2005)
 - Municipal Solid Waste Assessment Nassau and Suffolk Counties, Long-Island New York 2006, dated August 2007
- Solid Waste Association of North America (SWANA) Benchmarking Residential Solid Waste Collection Services: Annotated Bibliography and Research Activity Report dated August 2002
- SWANA Benchmarking Article/Report, "The Benchmarking of Residential Solid Waste Collection Services", MSW Magazine June 2007
- North Carolina Local Government Performance Measurement Project "Final Report on City Services For Fiscal Year 2004-2005."
- ICMA Center for Performance Measurement FY2003 Data Report for Refuse and Recycling
- ICMA Center for Performance Measurement FY2006 Data Report for Refuse and Recycling

Survey Responses

- In September distributed questionnaires to 126 solid waste providers (Towns, City, Villages, Districts)
- 12 responses received to date however, only 6 (<5% of those surveyed) provided financial and technical data
- The following provides a list of the respondents:

Town of Hempstead:

1. Sanitary District 1
2. Sanitary District 2
3. Sanitary District 6
4. Village of Freeport
5. Village of Garden City

Town of Oyster Bay:

1. Glenwood-Glen Head Garbage District
2. Village of Old Brookville

Town of North Hempstead:

1. Carle Place Garbage District
2. Village of Manorhaven
3. Village of Great Neck Plaza
4. Village of North Hills
5. Village of Roslyn Estates
6. Village of Russell Gardens
7. Village of Thomaston

Appendix B

List of Municipal Permitted Solid Waste Facilities

Name	Permit/Reg. #	Owner	Operator	Materials	Capacity
Mayflower Place	30M46R	Floral Park	Floral Park	Recyclables	40 cy/wk
Parking Field 15	30W29R	Freeport	Freeport	C & D	200 cy
Freeport TS	30R01R	Freeport	Freeport	Recyclables	1,000 cy
Garden City Composting	1-2820-01235/00001	Garden City	Garden City	Leaves	60 cy/d
Glen Cove TS	1-2805-00105-00001	Glen Cove	Waste Mgmt.	MSW/C&D	800 tons/d
Great Neck TS	30T14R	Great Neck	Great Neck	YW, Street	
Hempstead Resource Recovery Facility	1-2820-01727/00031	Hempstead Town	Covanta	MSW	975,000 tons/yr
Merrick TS	1-2820-01318/00001	Hempstead Town	Hempstead Town	MSW	1,000 tons/d
Oceanside TS	1-2820-00435/00008	Hempstead Town	Hempstead Town	MSW, White	1,800 tons/d
SD-1 Materials Recovery Facility	1-2820-01335/00001	Sanitary Dist. 1	Omni Recycling	MSW, C&D	400tons/d
SD-1 Yard Waste TS	1-2820-01335/00002	Sanitary Dist. 1	Sanitary Dist. 1	YW	100 tons/d
Hempstead YW TS	30T93R	Hempstead Village	Hempstead Village	YW	6,400 tons/yr
Island Park DPW	30R06R	Island Park	Island Park	YW, Street	200 cy
Lawrence Composting	1-2820-01121/00001	Lawrence	Lawrence	Sewage	10 dry tons/mo
Long Beach TS	30M32R	Long Beach	Long Beach	Recyclables	
Lynbrook DPW	30T95R	Lynbrook	Lynbrook	Rubbish (non-	180 cy
Pinebrook	30R03R	Malverne	Malverne	YW	40 tons/d
New Hyde Park DPW	30R04R	New Hyde Park	New Hyde Park	Recyclables	17.6 tons/d
North Hempstead SWMA	30R07R	N. Hempstead	N. Hempstead	Street Sweepings	50,000 cy
North Hempstead SWMA	30M36R	N. Hempstead	N. Hempstead	Recyclables	100 tons/d
Old Westbury	30T18R	Old Westbury	Old Westbury	Recyclables	10,000 cy/yr
Old Bethpage Solid Waste TS	1-2824-00528/00005	Oyster Bay Town	Oyster Bay Town	MSW, Recyclables	28,500 tons/mo
Old Bethpage Wood Waste Facility	30W13R	Oyster Bay Town	Oyster Bay Town	Wood Quarantine	5,000 sf
Old Bethpage Yard Waste Facility	30T97R	Oyster Bay Town	Oyster Bay Town	YW	12,000 tons
Plandome DPW	30T20R	Plandome	Plandome	YW	500 cy/yr
Rockville Centre TS	1-2820-00752/00001	Rockville Centre	Rockville Centre	MSW	2,700 tons/mo
Valley Stream TS	1-2820-00884/00002	Valley Stream	Valley Stream	MSW, Recyclables	115 tons/d
Westbury TS	30R02R	Westbury	Westbury	Recyclables, C&D	10,000 cy/yr

Appendix C

Summary of Solid Waste / Sanitation Service Areas

See matrix on the following pages.