Advancing Resource Management at Stop and Shop (Dorchester, MA)

1. OVERVIEW

Stop & Shop is a multibillion-dollar corporation and the largest food retailer in New England with more than 315 stores. The chain has stores located in five Northeastern states including Connecticut, Massachusetts, New Jersey, New York, and Rhode Island. Established over 85 years ago, Stop & Shop employs 41,000 associates in its network of stores, distribution centers, manufacturing plants and offices in more than 180 communities. In 1996, Stop & Shop became a wholly owned subsidiary of Royal Ahold NV, the fourth largest food retailer in the world.

This case study focuses on one facility—Stop & Shop Store 10—a large Boston Division[1] retail location in Dorchester, Massachusetts. Specifically, the analysis baselines the store's current integrated solid waste management program, including existing contracting practices, and provides an assessment of how Resource Management (RM) contracting may help Stop & Shop optimize its recycling/diversion efforts. The Store is a full-service supermarket with bakeshop, deli, and pharmacy. The 50,000 square foot store employs approximately 400 people and has annual sales of greater than $52 million.

2. BASELINE SOLID WASTE AND RECYCLING SERVICES AND LEVELS

As with all other Boston division stores, the trash and recycling contract for Store 10 is negotiated and managed by the Stop & Shop Recycling Office, a central entity consisting of two employees that acts as a "gatekeeper" to coordinate daily service requests from all stores. This commitment of resources to manage the Boston Division's waste and recycling is a product of top-down support from Stop & Shop management, who are concerned with being resource efficient and creating cost savings where possible.

Responsibilities for trash movements and corrugated consolidation and compacting is distributed among many Store 10 employees, and thus the level of effort could not be quantified with any degree of accuracy. To request trash or recycling pick-up, a designated Store 10 employee calls in its requirements for either trash or cardboard pick-up to the Stop & Shop Recycling Office when container capacity it reached. Furthermore, the Recycling Office requires that service orders be placed no more than 24 hours in advance[2] in order to avoid unnecessary service calls, and help maximize pick-up weights and minimizing haul costs. Each service request (trash and recycling) is assigned a container service record (CSR) number and logged into a database. The next day's service schedule is printed and faxed to the hauler every afternoon. To close the CSR, Stop & Shop receives both weight slips for trash and recycling hauls, and monthly invoices summarizing all services rendered and charges.

At Store 10, Stop & Shop has in place a single contract for standard trash hauling/ disposal and corrugated cardboard recycling services. For its trash services, Store 10

[1] There are approximately 110 stores in the Boston Division.
[2] An exception is that on Fridays stores may call for either Saturday or Monday pick-ups.

rents a 35-yard self-contained compactor for all waste, which is serviced by the contractor on an "as required" basis per the above system. The number of pick-ups required per month ranged from 5-7 in 2000, including periodic hauling of temporary open top containers rented for disposal of special wastes. Store 10 disposed of 496 tons of material in 2000 under this contract.

The same contractor provides corrugated cardboard recycling services. Stop & Shop rents a 50-cubic yard breakaway container with 4-yard compactor, which is also serviced on an "as required" basis. In total, 784 tons of corrugated cardboard was recycled at Store 10 in 2000 (Figure 1). It should be noted that waxed and wet cardboard is currently diposed of as trash. The contractor's invoicing process provides Stop & Shop with monthly summaries by container service record (CSR) detailing the date, weight, and applicable charges for each service call for both trash and corrugated cardboard recycling services.

Store 10 also receives regular pick-up of organic waste by local farmers who use the materials as direct animal feed. This service occurs on a three times a week schedule, and approximately 15 barrels (each with a 55-gallon capacity) are taken each trip. Over the course of a year, this amounts to approximately 482 tons diverted.[3] An additional organics diversion program is in place, in which the Greater Boston Food Bank removes products that are not saleable, but are still fit for human consumption. It is unknown how much is diverted through this program, and this specific program was not included in calculation of recycle rates.[4] The estimated net recycle rate for Store 10 in 2000 (including direct feed organics only and corrugated cardboard) was an impressive 72%.

Both division and store level reports generated from CSRs are provided to the Recycling Office by the contractor, and provide waste disposal summaries, average tonnage per haul, and period and year to date (cumulative) recycling metrics. The Stop & Shop recycling coordinator uses this data to ensure that all Boston division stores are meeting minimum performance and cost standards for their services. For instance, after the recycling coordinator receives these reports, appointments are scheduled with stores that are not meeting the quota of 5 tons minimum per haul for cardboard and 8-10 tons for trash to correct service inefficiencies. As a result, there are very few store-level responsibilities for managing trash and recycling—the majority of these duties are handled through the Recycling Office.

While services received from its contractor are fairly typical (hauling and disposal/ processing with superior billing/reporting), the added value and success of Stop & Shop's program comes from committing internal resources to managing contracts in the name of cost and resource efficiency. The coordination and alignment services of the type provided by Stop & Shop's Recycling Office (which can be supplied by an RM

[3] This assumes 45 full 55- gallon barrels a week at a density of 412 lbs. (0.206 tons) per barrel. Sources for density: USEPA Solid Waste and Emergency Response, 1997, *Measuring Recycling: A Guide for State and Local Governments*, EPA530-R-97-011

[4] Assuming an additional 400 tons are diverted through this program, the recycled rate would increase by 5%. In reality, this tonnage is likely to be much lower.

contractor) may be of even greater benefit to organizations with a more diversified waste stream.

Table 1: Stop & Shop Store 10 Trash and Recycle Service Levels, 2000

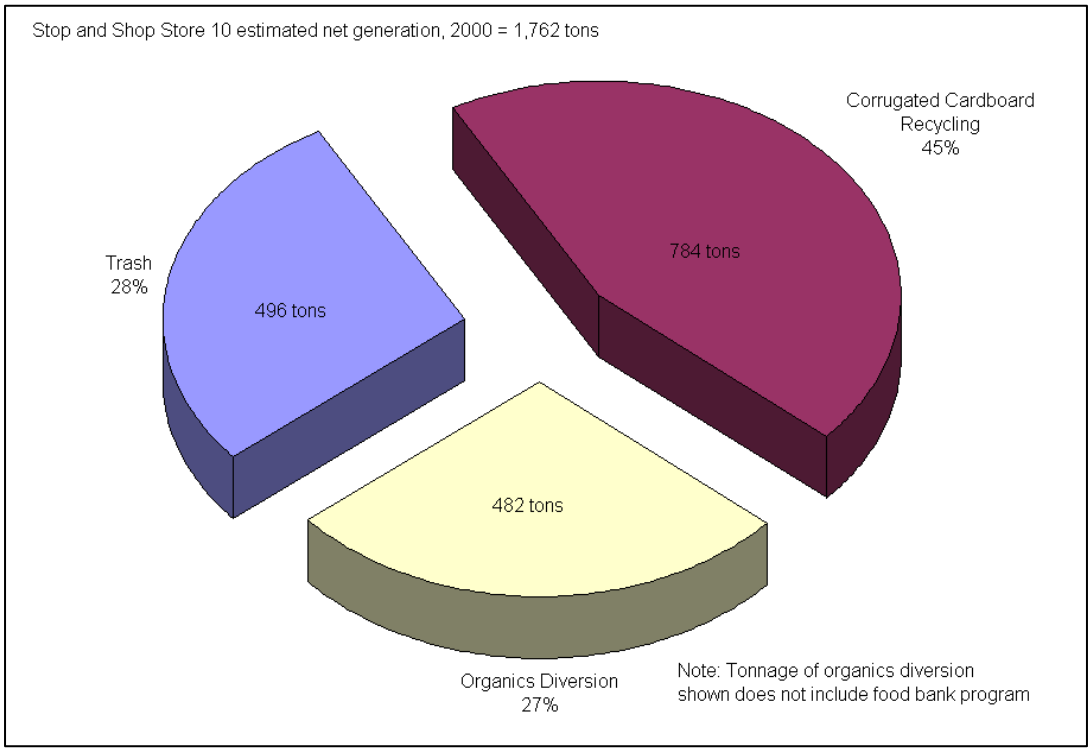
Month	Trash Tons	Trash Hauls	OCC* Recycle Tons	OCC* Hauls	Organics Diversion Tons	% Recycle
January	50.4	7	69.03	18	~40	68.4%
February	46.2	6	58.17	18	~40	68.0%
March	39.5	5	63.55	18	~40	72.4%
April	38.1	5	57.77	17	~40	72.0%
May	45.0	5	90.431	18	~40	74.4%
June	42.2	5	64.69	17	~40	71.3%
July	41.5	5	66.02	18	~40	71.9%
August	43.2	5	68.12	18	~40	71.5%
September	36.6	5	62.3	18	~40	73.7%
October	35.9	6	58.48	17	~40	73.3%
November	39.0	6	63.38	18	~40	72.6%
December	38.2	5	61.83	19	~40	72.7%
TOTAL	495.9	65	783.771	214	482	71.9%

Total Generation 1,761.7

Recycle Rate 71.9%

*OCC: Old Corrugated Cardboard

Figure 1: Stop & Shop Store 10 Waste/Recycling Profile and Estimated Waste Composition, 2000 (Note: All Cardboard is recycled)



3. BASELINE CONTRACTS AND COMPENSATION

Under the current three-year contract for trash and recycling services, Stop & Shop pays a fee of $95 per haul for its 35 cubic yard trash compactor, a container rental charge of $250 per month, and a $70 per ton landfill tipping fee.[5] This resulted in an average net cost of $3450 per month for trash services in 2000 at Store 10, or an average of $83.50 per ton on the 496 tons disposed. Internal labor costs for trash handling were not estimated.

For corrugated recycling, Stop & Shop pays a $225 per month fee for rental of the 50-cubic yard container and 4-cubic yard compactor, and is charged $130 per trip for hauling to the processor. In 2000, corrugated cardboard pick-up service levels ranged from 17-19 hauls per month. This resulted in a recycling cost of $30,500, or $39 per ton on the 784 tons recovered in 2000 for Store 10. Moreover, Stop & Shop received approximately $35 per ton for this corrugated cardboard in the form of a check from the waste/recycling company for all recycling at the Stop & Shop stores it handles. Stop & Shop estimates $25 per ton in labor costs to bail and transport this material, for a return of $10 per ton. It therefore costs Store 10 $29 per ton to recycle corrugated cardboard, making this the more economical option relative to disposal.[6]

Table 2: Stop & Shop Store 10 Trash/Recycling Monthly Summary, 2000

Month	Trash Haul Cost	Disposal Fees	Trash Compactor	Recycle Haul Fee	OCC Compactor	Organics Haul Cost	Total Cost
January	$665	$3,224	$250	$2,340.00	$225.00	$640.00	$7,344
February	$558	$2,957	$250	$2,340.00	$225.00	$640.00	$6,971
March	$475	$2,531	$250	$2,340.00	$225.00	$640.00	$6,461
April	$475	$2,440	$250	$2,210.00	$225.00	$640.00	$6,240
May	$505	$2,881	$250	$2,340.00	$225.00	$640.00	$6,841
June	$505	$2,701	$250	$2,210.00	$225.00	$640.00	$6,531
July	$463	$2,653	$250	$2,340.00	$225.00	$640.00	$6,571
August	$475	$2,762	$250	$2,340.00	$225.00	$640.00	$6,692
September	$475	$2,342	$250	$2,340.00	$225.00	$640.00	$6,272
October	$558	$2,299	$250	$2,210.00	$225.00	$640.00	$6,182
November	$558	$2,732	$250	$2,340.00	$225.00	$640.00	$6,745
December	$475	$2,677	$250	$2,470.00	$225.00	$640.00	$6,737
TOTAL	$6,188	$32,200	$3,000	$27,820.00	$2,700.00	$7,680.00	$79,588

Table 3: Stop & Shop Store 10 Trash/Recycling Cost Summary, 2000

Service	Container Charge/Month	Haul Charge/trip	Tonnage Charge	2000 Cost	Average Cost/ton
Trash	$250	$95	$70/$64/ton*	$41,388	$83.50
Corrugated Cardboard Recycling	$225	$130	NA	$30,520	$39.00
Organics	$0	$640 (month)	NA	$7,680	$15.93

* See footnote 5.

[5] This tip fee increased over the life of the contract: from 11/98-11/99 it was $59/ton, from 11/99-11/00 it was $64/ton.
[6] Including trash handling labor charges would make recycling even more financially attractive.

Finally, for the organics barrels, the Store pays a flat rate of $640 per month for pick-up three times a week of the 15 barrels that are used ($7,680 per year), averaging approximately $16 per ton on an estimated 482 tons disposed in 2000. Internal labor costs for this program were not estimated. There is no additional cost associated with the foodbank program.

In addition to contractual and other compensation for disposal and recycling/diversion services, Stop and Shop incurs other "hidden" costs for its trash and recycling/diversion programs, including the recycling department's contract management, monitoring and oversight tasks, database development/maintenance costs,[7] and unaccounted labor costs at Store 10. However, given the fact that trash and recycling is managed centrally, and that these costs are "distributed" across the 110 division stores, they are expected to be minor relative to contract costs.

4. OPPORTUNITIES FOR COST SAVINGS AND ENHANCED RECYCLING SERVICES

Stop and Shop has achieved a high recycle rate estimated at 72% for Store 10 in 2000. The 1266 tons of corrugated cardboard and organics diverted represents over $96,000 in avoided trash hauling and disposal costs. When one factors in recycling revenue and recycling contract costs, the current recycling/diversion program saved Store 10 around $66,000 in 2000 (shown as "total savings" under baseline in Table 5).

As a result of top management support for the program, Stop & Shop has dedicated internal resources to staff a Boston Division Recycling Office that manages and aligns its waste and recycling services. As a result, the Stop & Shop Recycling Office is performing many activities typically carried out by an RM contractor. For example, the Recycling Office is effectively acting as a gatekeeper to manage contracts and ensure that each is aligned to reduce costs and increase diversion. For each store, the scope and level of services, contract and compensation methods, and some performance benchmarks and goals for waste service minimization have been documented and are regularly tracked. The outcome has been a high recycle rate and an exceptional job in managing waste management costs.

Presently, the burden of recovering materials and managing all vendors rests solely on Stop & Shop Recycling Office. The question that Stop & Shop could ask is: what is the most effective means to reach the next level of resource efficiency? Because the current focus is on diverting organics and corrugated cardboard, which are essentially maximized, additional resources will be required for Stop & Shop to expand the scope of recycling and engage in other source reduction and supply chain management activities like those identified above. Stop & Shop has two options to mobilize these required resources: (1) continue to perform RM activities internally through its Recycling Office, while expanding its range of activities to increase diversion and waste minimization, (2) outsource these activities to an external RM provider. Stop & Shop's decision with regard to these options will rest on the comparative cost-effectiveness of increasing

[7] Within the Stop and Shop recycling department, there are 2 full time employees who support the Boston Division trash and recycling programs (110+ stores).

resource efficiency by each means, and the value of adding services offered by an outside RM vendor.

Generally, RM contracting is most applicable in cases where:

(1) Waste and recycling activities are largely *ad hoc* and unmanaged, with few resources being dedicated to monitoring or ensuring continuous improvements to meet explicitly stated goals

(2) An outside contractor has specialized knowledge and expertise that allows it to perform RM tasks more efficiently than the customer (competitive advantage)

(3) A contract can be fashioned to create a strategic and equitable arrangement with the vendor to identify, assess, and—where feasible—implement diversion and source reduction opportunities such as those identified above, allowing the customer to focus on its business mission.

Certainly, the first condition is not the case with Stop & Shop, as resources are being applied, through the Recycling Office, to manage recycling and trash services. Whether the last two conditions are met is up for debate, and would require further assessment by Stop & Shop. To create an equitable arrangement with a contractor, there should normally be a reasonable potential for immediate sharing of savings (known as gain sharing) to launch the program and provide a solid foundation for collaboration to tackle gain sharing opportunities further up the supply chain through source reduction.

To provide an initial estimate of the value and impact of increased recycling, Store 10's waste stream composition was estimated based on supermarket waste stream profiles adjusted to high Store 10 recycle rates for corrugated and organics.[8] This data may not perfectly match the composition of Store 10 current waste stream, but is a reasonable estimate based on best available information. Previous studies have documented percentages of organics in supermarket waste streams from 40-45%, however we will conservatively assume 20% of Store 10 waste is organics (primarily food). Previous studies also show that up to 70% of the 496 tons currently disposed of by Stop & Shop is recyclable/divertable material including paper, plastic (shrink/stretch wrap and other recyclable plastics), and very small amounts of organics and corrugated cardboard that are not currently being captured.

Tables 4 and 5 present three scenarios for higher rates of diversion for corrugated cardboard (recycled), organics, and waxed and wet corrugated cardboard (composted) from Store 10, and for an expanded recycling programs that incorporates mixed paper and plastics. These scenarios focus on increasing recovery rates of materials already being recycled, and expanding diversion to other recoverable components of the Store 10 waste stream. It is estimated that there is little room for improvement on uncoated corrugated cardboard diversion, with over 90% currently being recycled. The only other material currently being diverted is food, which is handled in the two organics diversion

[8] California Integrated Waste Management Board[8] waste profiles for Standard Industrial Classification (SIC) code 54 – Retail Trade: Food Stores. Also Grocery Industry Committee on Solid Waste, 1991, Composting Task Force Report.

programs, referred to above. However, organics diversion (excluding foodbank program) is currently estimated at 83%, suggesting once again that there is little "low hanging fruit" in this case.

Jointly, avoided disposal and hauling costs, along with revenues from recyclables would produce marginal costs savings of between $3,780 and $10,550, representing between 5% and 13% of the affected annual service base of approximately $80,000. There may also be opportunities to further decrease the number of corrugated cardboard hauls (see Table 1), which are not fully optimized.

The above represents an estimate of the potential costs savings that can be pocketed by Stop & Shop and reapplied to internal resource management activities to provide incentives for current contractors and stakeholders (managers and employees), or to earmark as gain sharing incentives as part of an RM contract with an external provider. However, activities further upstream in the supply chain may create cost savings and resource efficiencies, including:

- New information technology advancements, such as Efficient Consumer Response (ECR) and Electronic Data Interchange (EDI), by which supermarkets share sales data with their suppliers in real time for just-in-time (JIT) supply, reducing waste and responding more quickly and efficiently to meet consumer requirements (product availability), achieving savings of up to 30% from the supply chain.[9]

- Partnering with suppliers to use returnable plastic or wooden containers and totes, and reduce other transport packaging, resulting in reduced waste, cost, and improved operations. Two examples warrant mention—in a 1993 pilot, by substituting reusable plastic shipping containers for corrugated containers, a supermarket chain with 46 stores was able to reduce its waste generation by 70%. Another study has shown that switching from corrugated boxes to tray/shrink packages[10] can result in a 25% packaging cost reduction and a reduction by 50% (by weight) in packaging material used. [11]

[9] Source: *Supply Management*, Feb. 12, 1998, v.3, no.4, p.9. Cost savings in this respect include avoided costs of carrying excess inventory and lost purchase costs for expired/waste goods.
[10] Where goods placed on corrugated trays and sealed with shrink wrap.
[11] Source: Minnesota Office of Environmental Assistance and American Plastics Council, 1998, *Transport Packaging: Cost Effective Strategies for Reducing, Reusing, and Recycling in the Grocery Industry.*

Table 4: Effects of Increased Recycling/Composting on Stop & Shop Store 10 Contract Costs based on 2000 information

Material	Scenario Name (1)	Capture Rate of Material	Tonnage of Material Recovered	Avoided Landfill Tip Fee (2)	Avoided Hauling Cost (3)	Revenue (4)	Recycling Costs (5)	Savings from Baseline
Corrugated Cardboard (uncoated)	Baseline	95.0%	783.8	$54,863	$4,891	$7,838	($30,519)	NA
	Scenario 1	96.0%	792.0	$55,440	$4,942	$7,920	($30,840)	$390
	Scenario 2	97.0%	800.3	$56,018	$4,994	$8,003	($31,162)	$780
	Scenario 3	98.0%	808.5	$56,595	$5,045	$8,085	($31,483)	$1,171
Corrugated Cardboard (waxed and wet)	Baseline	0.0%	0.0	$0	$0	NA	$0	NA
	Scenario 1	25.0%	3.1	$217	$19	NA	($121)	$116
	Scenario 2	50.0%	6.2	$434	$39	NA	($241)	$231
	Scenario 3	65.0%	8.1	$564	$50	NA	($314)	$301
Paper	Baseline	0.0%	0.0	$0	$0	$0	$0	NA
	Scenario 1	25.0%	23.9	$1,675	$149	$718	($932)	$1,610
	Scenario 2	50.0%	47.9	$3,350	$299	$1,436	($1,863)	$3,220
	Scenario 3	65.0%	62.2	$4,355	$388	$1,866	($2,422)	$4,187
Recyclable Plastic	Baseline	0.0%	0.0	$0	$0	NA	$0	NA
	Scenario 1	25.0%	24.8	$1,736	$155	NA	($965)	$925
	Scenario 2	50.0%	49.6	$3,471	$309	NA	($1,931)	$1,850
	Scenario 3	65.0%	64.5	$4,513	$402	NA	($2,510)	$2,405
Organics	Baseline	82.9%	481.8	$33,726	$3,006	NA	($7,677)	NA
	Scenario 1	85.0%	494.0	$34,580	$3,082	NA	($7,871)	$736
	Scenario 2	87.0%	505.6	$35,394	$3,155	NA	($8,056)	$1,437
	Scenario 3	90.0%	523.1	$36,614	$3,263	NA	($8,334)	$2,488

(1) Scenarios were developed based on capture rates for different materials within the different types of organizations, thus capture rates vary by organization. Incremental gains for a material with a relatively high capture rate in one organization would be more modest than for organizations with lower capture rates of the same material. Readily available sector based waste composition data was used to estimate the capture rates. When actual waste composition data was not available California Integrated Waste Management Board standards were used. Scenarios were calculated showing incremental gains for each chosen material. Materials such as paper, cardboard, glass, plastics and organics with readily available secondary markets were chosen.

(2) Estimated on a landfill tip fee of $70/ton.

(3) Estimated assuming 50% variable costs.

(4) Assumes $10/ton ($25/ton labor to bail, $35/ton return) for corrugated cardboard based on Stop and Shop Recycling Division data, and $30/ton mixed paper return based on experience with other partners.

(5) This is the net cost for recycling at the specified level assuming 100% variable unit (per ton) costs derived current contract costs (hauling and container rental). These rates are also assumed for the materials not currently recycled (paper, plastic), and for waxed and wet corrugated cardboard that would be composted. Organics costs assume the same rates as under the current organics diversion program, and that an increase in organics diversion would result in commensurate cost increases (i.e., we assume 100% cost variability).

Table 5: Summary of Potential Stop & Shop Cost Savings for Increased Recycling of Mixed Paper, Cardboard, Plastics, and Organics at Store 10

Scenario	Tonnage Material Recovered	Avoided Landill Tip Fee	Avoided Hauling Cost	Revenue	Total Recycling/ Diversion Costs	Total Savings	Total Savings from Baseline	Savings as % of Total Contract Costs	Resulting Net Recycle Rate
Baseline (00)	1,266	$88,588	$7,897	$7,838	($38,196)	$66,126	NA	NA	71.8%
Scenario 1	1,338	$93,647	$8,348	$8,638	($40,729)	$69,903	$3,777	4.7%	75.9%
Scenario 2	1,410	$98,666	$8,795	$9,438	($43,254)	$73,645	$7,519	9.4%	80.0%
Scenario 3	1,466	$102,640	$9,149	$9,951	($45,064)	$76,677	$10,551	13.3%	83.2%

While it cannot be said definitively that Stop & Shop would not benefit from an external RM contract, the Recycling Office is currently performing similar work to that that would be performed by an RM contractor. Because the Recycling Office has already developed expertise in managing suppliers, it may be more practical to implement some additional resource management practices and coordinate supplier incentives through the Recycling Office, as discussed in the next section.

5. REALIZING COST EFFECTIVE RECYCLING AND REDUCTION POTENTIAL WITH RM CONTRACTING

While Stop & Shop has partially implemented several RM practices, additional practices can be followed to further institutionalize RM (Table 6). These practices align customer and contractor incentives for resource efficiency by establishing a compensation mechanism based on performance and continuous service improvement. The first practice, baselining current cost, performance, and service levels has largely been completed by Stop & Shop, and is supplemented with data in this memo. This baseline provides the foundation for implementing Practices 2-6, which are essential components of developing a full-scope RM program.

Table 6: Summary of Standard RM Practices

RM Practice	Description	Present
1. Establish Baseline Cost, Performance and Service Levels	♦ Define scope and service levels	X
	♦ Identify existing contract and compensation methods	X
	♦ Validate service levels with total costs	X
	♦ Establish cost and performance benchmarks and goals	X
2. Seek Strategic Input from Contractors	♦ Convene pre-bid meetings with contractors to articulate goals and address questions	
	♦ Allow or require bidders to submit operations plans for achieving specified improvements in existing operations	
3. Align Waste and Resource Efficiency Services	♦ Coordinate, integrate, and formalize all contracts and services included in the baseline scope identified in Practice 1	X
	♦ Ensure that contractor has access to "internal" stakeholders that influence waste management and generation	
4. Establish Transparent Pricing for Services	♦ Delineate pricing information for specific services such as container maintenance, container rental, hauling, incineration, etc. (This allows variable price savings, such as "avoided hauling and incineration" to flow back to generator and/or be used as means for financing performance bonuses, etc…)	X
5. Cap Compensation for Garbage Service	♦ Constrain waste hauling/incineration service compensation by capping or changing to "on-call service."	X
	♦ De-couple contractor profitability from waste generation and/or service levels by setting decreasing cap based initially on reasonable estimates of current hauling and incineration service and costs as per practice 1.	
6. Provide Direct Financial Incentives for Resource Efficiency	♦ Establish compensation that allows contractor to realize financial benefits for service improvements and innovations.	
	♦ Assess liquidated damages for failing to achieve minimum performance benchmarks or standards	

Based on the practices identified above, an assessment was conducted to determine the extent to which RM practices were part of existing contracting at Store 10. There is potential to adopt the remaining RM contracting practices to focus on recycling/diverting a broader scope of materials, and realize source reduction opportunities as a cost neutral (or even cost saving) proposition to Stop & Shop. Incentives can be provided to suppliers and other stakeholders (i.e., recycling office and individual stores/store managers) to seek their strategic input and collaboration on source reduction activities.

1. *Establish baseline cost, performance, and service levels.* The service baseline and cost structure for trash service has been well established and tracked by Stop & Shop's Recycling Office. The contractor provides receipts (CSRs) for each trash and recycling service call specifying date of service and weight of material hauled. In addition, monthly reports for each store are received from the contractor. Stop & Shop: Store 10 has less well developed information on the tonnage of organics being diverted in their direct livestock feed and foodbank programs.

Stop & Shop has established corporate goals for the tonnage per haul for both recycling (~ 5 tons) and trash (8-10 tons per haul). However, Stop & Shop has not to our knowledge established quantified waste reduction or recycling rate goals (i.e., specific targets such as tonnage or % improvement over a given period of time) or other normalized resource efficiency metrics (e.g., disposal per $ sales).

2. *Seek strategic input from prospective contractors.* Providing diversion and source reduction goals and soliciting input in the pre-bid period would allow Stop & Shop to explore the extent to which vendors are willing and able to identify and provide cost-effective improvements to existing recycling, source reduction, and other services.

3. *Align garbage, reduction and recycling services.* The Stop & Shop Recycling Office has done an admirable job of aligning and coordinating trash and recycling services to minimize disposal and hauling costs and maximize recycling. However, there are no *contractual* mechanisms that synchronize services in support of resource efficiency goals. Currently, trash service is not capped, although Stop & Shop has established a trash contract that seeks to constrain its waste costs by establishing a service request system to minimize each store's haul costs on trash and corrugated cardboard (see section 2). Similarly, the contractor simply picks up whatever material is recovered, while the burden of recovering materials rests solely on Stop & Shop.

   Under RM, all services are under the same umbrella, and compensation is provided for aligning these services to achieve cost savings from increased recycling or source reduction and resulting decrease in disposal service. RM presents an alternative to managing contracts and pursuing source reduction by redistributing these responsibilities to a contractor who is experienced in these specific areas. The functioning assumption is that the contractor will be able to add value and perform the same tasks more cost-effectively while freeing up Stop & Shop to focus its resources elsewhere.

4. *Establish transparent pricing for services.* Under its current trash and recycling contract, any efficiencies on trash hauling/disposal reduction flow back to Stop & Shop. These savings can be used to provide incentives for other desired service improvements and finance performance bonuses as described in practice 6.

5. *Cap compensation for disposal service.* Stop & Shop might use its baseline trash cost information to negotiate a cap on what it is willing to pay for hauling/incineration service under an RM contract. This amount would decrease gradually over time based on reasonable estimates of current and expected service. Providing direct financial incentives for resource efficiency (practice 6) might be another *de facto* constraint on disposal service by reward for disposal <u>reduction</u>.

6. *Provide direct financial incentives for resource efficiency*. Currently, there are only indirect incentives to increase recycling (i.e., it is cheaper for Stop & Shop to recycle than dispose of material as waste). Direct incentives may be implemented to capture estimated savings in two ways: (1) as an incentive or "gain-sharing" component of outsourcing RM to an external provider; or (2) as potential savings available to Stop

& Shop's Recycling Office by improving already impressive recycling and waste service minimization[12], and working more closely with suppliers on additional resource efficiency opportunities. In the first case, an RM contractor would take over the Recycling Office function, and would be supplied a portion of the savings as gain-sharing compensation. In the second case, the Stop & Shop Recycling Office would be recognized as an RM provider, and would have the opportunity to work with suppliers on resource efficiency initiatives, splitting any achieved cost savings.[13]

Stop & Shop has effectively captured much of the "low-hanging fruit" from improved recycling by dedicating internal resources through the Boston Division Recycling Office to managing and aligning its recycling and waste services. The company may want to consider whether Stop & Shop can continue to dedicate resources to achieve the next level of resource efficiency, or whether it would be more economical to enter into a contract for RM services with a supplier that may be able to accomplish current work more effectively while bringing additional services and value to the table. While the cost savings for Store 10 are not astronomical, the opportunity provided by several stores in a small pilot program may be sufficient to entice a contractor to bid on a project. This would provide Stop & Shop with a low risk means to investigate RM potential.

[12] This can be achieved by recycling of a wider array of materials and diverting a larger fraction of organics and cardboard, as the scenarios above suggest.

[13] Some of the cost savings would go to Recycle Office as a performance bonus, the rest could be reinvested on recycling program or other resource efficiency improvements.